

Preface

The International Foundation of Fashion Technology Institutes (IFFTI) is an international apex body comprised of leading fashion institutes from all over the world. IFFTI was established in the year 1999 with the objective to foster the development of global fashion industry and institutes permitting the exchange of thoughts, ideas and researches across the world. Fu Jen Catholic University is one the prestigious institution in this arena and is constantly taking initiatives to promote the IFFTI goals.

The 12th Annual IFFTI Conference was hosted by the Department of Clothing and Textiles, Fu Jen Catholic University, Taiwan from 23rd – 26th April 2010. It has attracted over (total number of participants) delegates from world wide. It was a courageous commitment for the department to accept the challenge of hosting the 2010 conference and was successfully organized. The chosen theme for the conference was “Fashion: Sustainability and Creativity” with related sub-themes of: sustainable fashion philosophies and policies; sustainable ethical business practices; sustainable fashion creativity; innovative sustainable technology, sustainable fashion and textile education, and the boxes. The three dimensions of the conference theme were inter-related, one challenging the other.

Focusing on the current ecological, economic and financial crises world wide, this conference made everyone to re-think the meaning, role and contribution of fashion to sustainable development in the context of 21st century. Since fashion is an integral part of the global system, it is an immediate need to modify the designs, technologies and education systems so as to proceed towards the human, social, cultural and ecological well being. Therefore, this conference helped in promoting the new consciousness and providing a platform to develop mutual understanding / consensus about the ‘sustainable fashion world’.

During the conference, (total number of papers presented) research papers were presented from researchers, educationalists and students from all over the world. In addition to research paper presentations, keynote speeches, panel discussion and cultural activities captured the interest of the participants and delegates. The highlights of the conference are mentioned below.

- Keynote speeches by Dr. Satoshi Onuma, President of Bunka Fashion College; Mr. Andy Rubin, CEO of Pentland Brands plc.; Mr Hua Der Huang, President of DAAI Technology Co. Ltd. (Founder of TEXMA International Co. Ltd.) and Mr. Jack Chen, General Manager TONY WEAR Apparel Co. Ltd.
- Panel discussion – **if any**, give title and what was discussed and who headed the session (I don’t have any information about this, so you have to write)
- Special Lecture – (this also, I have no information)
- Fu Jen Students’ Degree Fashion Show and Exhibition “Being Fashion”, organized by the final year students.

- Functional and performance textile exhibition organized by four well known local textile manufacturers committed to promote environmental sustainability.
- Chinese Textiles and Clothing Culture Centre Exhibition “Heartbeats from the Taiwan indigenous loom” to provide a glimpses of Taiwanese aboriginal culture and textiles.
- Industrial and cultural tour arranged for the delegates to enjoy the charismatic beauty of Taiwan.

Besides research paper presentations, a design competition was organized for students of IFFTI members and the awards for which were being sponsored by Far Eastern Company and House of Pearl (if anymore detail about sponsors, you can mention here).

In addition, 5 junior faculty and 3 researchers were sponsored by IFFTI to present papers at the conference as a part of IFFTI initiatives.

In the end, I would like to take this opportunity to thank Dr. Li Bernard, President Fu Jen Catholic University, Dr. Guoo-Shyng Wang Hsu, Dean College of Human Ecology, Dr. Ching-Yi Cheng, Chair of the Department of Textiles and Clothing for organizing 2010 conference. I would like to congratulate and thank the organizing committee members for successfully shouldering the responsibilities of the conference. I would further like to thanks Commodore Vijay Chaturvedi (Retd.) for his constant supervision and guidance.

My special thanks to Dr. Su-Lee Tsai, Chair of 2010 IFFTI conference, for her sincere efforts, hard work and commitment for this conference. Also, my sincere thanks to the sponsors for providing us support and funds for holding this conference.

*Dr. Satoshi Onuma,
President, Bunka Fashion College,
Vice Chairman, Bunka Gakuen Education Foundation, and
Chair of IFFTI*

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Sustainable development and the end of usefulness in fashion

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Keywords

Use, aesthetic, experiences, socialization, needs

Abstract

Fashion design is fundamentally ambivalent. On the one hand, like design, fashion involves production that has zero autonomy whose *own* laws are determined and oriented *for* the end user - under the common terms of use, ergonomics, well-being, satisfaction and enjoyment -, that is to say the consumer, and in the interest of the producer. On the other hand, the formal and aesthetic attributes of fashion take precedence over the practical characteristics. Getting beyond this ambivalence, we wish to show that fashion prospers fundamentally at the cost of the practical characteristics. How does function end up taking a back seat? First of all, taste, in the aesthetic sense, is a spur to purchase, and dictates that one enjoys the look of an object regardless of its use, and to an even greater extent as needs become more and more sophisticated as society evolves materially and morally. Then, all predictions (analysis of uses and desires) about well-being by producers are problematic: we can't conclude anything about use based on technical properties. Technical possibilities are incapable of reproducing all of the experiences of the end user. Actual use and the perception of objects are one thing, the range of technical characteristics another. Use and desire are not included in instruction leaflets. Objects depend on the interests and taste of those who see and use them, meaning more complex processes of socialization and appropriation.

Finally, against sustainability consumerism obliges us to treat objects we use as ephemeral goods. With the growing substitution of consumption for use, doesn't the accelerated rotation of fashion objects make fashion design exist *for* the consumer and in a way in its rightful place, for the needs of the market?

Introduction

First of all, I must confess that the global economic crisis led me to look at my chosen subject in a totally different way. In fact, I had initially decided to talk about the superfluous nature of fashion as opposed to the practical attributes of objects with actual functions. Fashion is deliberately located in the economy of leisure. In other words, we keep hearing

that the pleasurable aspect might have to go, due either to the recession or the demands of sustainable development. The argument can be both economic and moral: it would appear that it is becoming indecent to give in to the fun of fashion.

But what is true of fashion is also true of all of the cultural and creative industries: the crisis limits spending on leisure. Even in a period of ecological balance (which is far from the case today) a moralist could criticize the ostentatious, immoral nature of spending on leisure. But this puritanical vision omits certain things. First of all, human society can not be reduced to a few biological functions such as food, drink, sleep and shelter. This is why culture exists and fashion, despite our feelings about it one way or another, is part of that culture. But just because fashion is a form of cultural expression doesn't necessarily mean that we must blindly approve all of its expressions. On the contrary, it must be examined and evaluated from a critical point of view. The task is immense.

Secondly, use is not confined to the technical question: what is it for? Of course, use ensures protection against cold and heat, guaranteeing more comfort. But a garment can also be symbolically "useful" (carrying out a social function) or can provide pleasure (hedonism). Use can cover whole range of habits and social practices. As such, use in the technical sense is integrated into culture (one's relationship with the world and with others).

Coming back to the problem of the current condemnation of fashion, this is nothing new, it was already under fire before the recession and the ecological crisis hit. I will attempt to show to what extent the condemnation is linked to the exclusion of use in the technical sense. It also needs to be shown that fashion's exclusion of use is due to the development of an essentially consumerist capitalism that relies on continual "useless" consumption. These arguments are aimed at showing the limits of sustainable development when faced with fashion, the emblematic and symptomatic manifestation of consumption.

So the future of fashion is not as much at stake as the future of capitalism itself in fashion.

Society is a symbolic organization

Fashion goes beyond the organic, the natural constraint of needs. Beyond the vital necessities, fashion involves fulfilling secondary unlimited appetites compared to limited needs. To understand this point we need to refer back to theories – from Aristotle to Marx – that reflect on the relationship between need, wealth and morality. According to Aristotle, and Marx, a thing can be used in three ways: first of all, an object intended to have a utilitarian function such as a pair of shoes is made to be worn. Secondly, its acquisition from the actual producer can be justified by the necessity to acquire something that one needs but that one is incapable of producing oneself. This explains the social division of work and economic exchange: the exchange of the surplus of my work that is useless to me for the surplus of the work of other producers that is useless to them but needed by others. Then there is a third

route: trading goods to make a profit. This form of economy has no limits; it is the equivalent of finance and stock market speculation.

So, in theory, clothing has a protective function, it is not there to show off beauty or wealth, nor is it meant to be an object one trades. In its own way, from this perspective, criticizing fashion comes from the definition of what a society should be, that is to say, a social and economic system capable of implementing the distribution of wealth in moderation, with a certain idea of justice, within the strict limits of use. From this perspective, fashion is at odds with ordinary use. On a broader scale, entire swathes of culture and obviously the leisure economy are at odds with the simple functionalism of use. And it is precisely for this reason that fashion's defenders attempt to justify its existence using utilitarian arguments.

Critique of the functionalist vision of society

Any society established on the natural basis of needs alone posits that the aesthetic is superfluous. This approach could be used as a basis for the relationship between fashion and sustainable development. According to this theory, we should rid ourselves of ornamentation and decoration to reduce shape and form to functional necessities. This would mean choosing function over form. In the end, all culture would be deemed useless. However, it is impossible for any society to extricate itself from culture. While the need for culture is not as glaring as the need for safety and peace, "it is impossible to conceive of the absence of culture" according to Freud (*Civilisation and its discontents*).

We will see that the particularities of fashion and culture are to be found more in the distance from usefulness rather than in the adaptation of technical or social answers to uses for utilitarian ends. However, in the majority of economic and social theory, aesthetic pleasure is found in "the intellectual representations that make concessions, that is to say a demotion whose role is subsidiary. The most appreciable part of life is given as the condition - sometimes the regrettable condition - of productive social activity".

From this standpoint, in certain conditions, the function of fashion and luxury is essentially symbolic: the only necessity is pleasure, or an "art de vivre". As such, the less they correspond to need and a certain functionalism, the more they are part of the cultural domain. So the aesthetic, decorative or splendid enable us to draw the symbolic line between need and desire, between the animal life and the social life. What characterizes their relationship to use, is what I refer to as the abolition of usefulness in fashion.

Capitalism relies on symbolic consumption: Adam Smith

According to Adam Smith, in *The Theory of Moral Sentiments*, a taste for something is legitimate if the object is durable (not the current sense of sustainable development).

However, because textiles and thus fashion are more perishable than furniture, painting or architecture, they have less value than buildings or paintings. However, Adam Smith was to upset the established hierarchy and move fashion from the bottom to the top of the ladder. In an economic regime based on the renewal of merchandise, that which is destructible can take on an exceptional value due to the acceleration of consumption. Smith thus insisted on the unconscious rooting of taste in habits. Taste is a question of habit and as such can be freely changed. Smith reduced the heritage of tradition to an aesthetic notion that was arbitrary enough to be changed. He was in fact preparing the way for aesthetic consumption, including fashion, which was diversified as freed from aesthetic traditions.

So, the hierarchy of objects can be legitimately inverted: fashion went from the bottom to the top of the ladder: a chronic disaffection for objects led to almost unlimited trade opportunities. Consumption was renewable on condition that it was surprising. The reign of the “new” began.

From this point of view, fashion and luxury are exemplary: they involve the production of merchandise that is not aimed at satisfying vital, practical or even secondary needs. Technically equivalent objects, capable of fulfilling the same function, like a pair of shoes, are available for less. But luxury objects are luxurious precisely because they are not useful: uselessness is essential to luxury. “Useless” meaning something that is not necessarily for use even if it serves certain social trends of distinction, power or representation. At this stage, fashion is in tune with the capitalist economy whose development relies on the destruction or renewal of traditions to boost sales. Indeed, in a capitalist economy, as the production of merchandise is constantly superior to the limited needs, the solution consists of treating useful objects as consumer objects. So we can then “consume” a chair or a table as quickly as we do an item of clothing, and an item of clothing almost as quickly as we do our food. Design as a style is used to boost consumption. Various categories of objects – chair, dress, food – enter limited life cycles. Producers make obsolescence a positive thing, a spur to purchase. By marginalizing the criteria of use, they must build another relationship to the objects, a relationship that is not about use but about shape and appearance.

Hannah Arendt posits that the principle of the destruction of use is essential to an industrial economy based on the diversification of consumption: “These appetites may become more refined, to the extent that consumption is not defined by need but, on the contrary, concentrates on the superfluous”.

We understand better why fashion blends nicely into this plan for marginalizing use: fashion by definition excludes all durable attachment to an ephemeral object. Obviously, this lays the ground for a conflict between sustainable development and fashion.

So it remains for us to describe the characteristic traits of fashion in order to better understand how fashion converges with the capitalist consumer system.

The symbolic trajectory of fashion

Historically, fashion has evolved by progressively getting rid of constraints (like the abolition of the corset) in the name of comfort. Luxury itself has gone from magnificence for aristocrats (the obligation of representation) to a luxury of comfort for the bourgeois (a more individual pleasure).

At the same time, the modern obligations of comfort are not an end in themselves but a minimum condition: an object is not in fashion just because it is comfortable. The uses (comfort, perspiration, lightness) are necessary conditions today but not enough to characterize fashion. Fashion remains defined by criteria of style. Proof of this is the fact that the rotation of the collections has nothing to do with the technical functions of the clothes. It is defined by an aesthetic principle and not by an obligation to protect the body.

This is what Adolf Loos wanted to correct in *Ornament and Crime*: he wanted to reduce form to the function of the object, by abolishing the arbitrary nature of pure ornamentation. But fashion is ornamentation. And this is why it excludes use. Adolf Loos says perfectly that architecture and design, even in his time, were more about style than use.

Today, fashion is bringing the designer back to his role as decorator. The designer materializes the style necessary to the sale of products that are comparable in terms of function – coffee maker, spoons, furniture – using the decorative aspect of the object. Making a designer object from a mass consumer object, using aesthetic properties leads indubitably to the marginalization of its functional obligations. In addition, its presence in art galleries confirms this mechanism of the exclusion of use.

If fashion is not linked to use in the technical sense, it is linked in the cultural sense.

From consumer to lover

The question is not whether to prescribe uses (to ensure the optimum sales flow for consumer goods) that are acts of consumption but to free use up in the long term. We must distinguish the amateur/lover from the consumer: the amateur is active due to his or her in-built capacity for the evaluation and discernment of his or her pleasure. However, historically the development of industry relies on the production of consumers according to the model developed by Ford at the start of the 20th century. He said “We have standardized the consumer”. Use is more complex than accelerated consumption.

In general, the time necessary for the development of use is longer than that of consumption. This, in addition signifies that fashion, as a quick consumer object, doesn't leave time for use. Strictly speaking, use concerns those we refer to as fashion lovers (amateurs) and more rarely consumers. An amateur is an individual who develops skills in a certain domain. It is someone who can judge, appreciate and

criticize.

In fact, the amateur is an original figure: he or she is capable of getting beyond the fascination with cost and advertising, in other words the two elements linked to the urge to buy. In reality, what is in fact disappearing today is the vertical authoritarian figure of the expert, the critic and marketing prescriptions. This indicates the appropriation by the individual of activities (production of norms and products) that were once the preserve of businesses, advertising agencies and experts.

In addition, the amateur is not merely an evolved consumer: he calls into question the very principle of the 20th century division between production and consumption. We should not confuse mass-customization that does not suppose a skill with coproduction. Coproduction can occur only if the co producers have variable and unique skills. Obviously this rarely happens.

What marks the passage from consumer to amateur is that the issue of sustainable development must be dealt with simultaneously at production and consumption levels. It is from consumption – or the attachment to an object – that a lasting relationship can be built with a fashion object. This is the only way to avoid reducing sustainable development to a moral, an issue of conscience, buzz words or a simple market segment.

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What goes around come around: Intellectual property rights, sustainability and the fashion world

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Keywords

Creative Commons, intellectual property, sustainability, consumption, innovation, trends, fashion.

Abstract

It has long been recognized that the fashion industry is one of the least protected producers of innovative product design. While the brand and name of the designer can be trademarked and two-dimensional textile designs and innovative new fiber and cloth can be copyrighted, in many countries fashion designs cannot be protected. Subsequently new designs are rapidly sampled, copied, referenced and plagiarized, driving the fashion industry to produce new products to replace these now highly reproduced and therefore less desirable items. John Wood (Chapman and Gant, 2007) wrote in his essay "Relative Abundance: Fuller's Discovery That the Glass is Always Half Full" that "our egotistical attitude to innovation" is more or less responsible for the environmental mess we are currently in, suggesting that our desire for the next new thing is driven by the rapid turn over of product, leading to the phenomenal volume of waste generated by the producers and consumers of the fashion world. Johanna Blakely in her keynote address at "Ready to Share: Fashion and the Ownership of Creativity" in 2008 argues that because the fashion world treats the majority of its products as commons, this lack of protection drives innovation and is the key to the success, democracy and diversity found in the fashion industry. Using my own work as a case study, and examples from the fashion milieu and the wider design world I discuss the dilemma between these two positions, asking what effect does this lack of protection have on the evolution of a sustainable fashion industry? Through an examination of my own experience as a sustainable designer I explore the advantages that the lack of copyright protection brings to the developing sustainable fashion theme and attempt to tackle the very real problems attributed to the rate of change generated by fashions innovative, precarious and unprotected state.

Introduction

The more ephemeral fashion is, the more perfect it is.

You can't protect what is already dead (Morand, 1976)



Figure 1: Carle Vernet's "Ah! Quelle Antiquité", "Oh! Quelle Folie que la Nouveauté!!!" satire

Cultural observers have long lamented the speed of change in fashionable dress. "Ah! Quelle Antiquité" exclaim the couple in Carle Vernet's (Figure 1) etching dressed in the height of 1793 French fashion - "Oh! Quelle Folie que la Nouveauté!!!" replies the couple dressed in fashionable 1778 dress. The exchange roughly translates to "Ah! What Antiquity!" and "Oh! What Madness of Innovation!" and illustrates the rapid changes occurring in fashion in post-revolutionary France - and as a result the remainder of the fashionable world. This "Madness of Innovation" is what still compels the fashion industry onward today. Barbara Vinken (2005) describes fashion as "the empire of the ephemeral" and cites Paul Morand as claiming, "the more ephemeral fashion is, the more perfect it is. You can't protect what is already dead" (Vinken, 2005). Such musings are all well and good, but when the ephemeral nature of fashion leads to seemingly mountainous deposits of undesirable fashion items relegated to landfill - perhaps another attitude needs to be encouraged.

My own great adventure with Intellectual Property (IP) rights began in two ways. First was an email I received from a good friend who was working for a fast fashion producer in London. She replied to an email I had sent her about my own work addressing sustainable fashion design, production and consumption systems. Describing the design process in the company she worked for she wrote -

"I don't actually design them. But, in the loosest sense of design, I 'adjust'. Are you laughing??? I do most days. I correct appalling fit, I decided on length / print / colourways. I rip out a Lacroix skirt (out of vogue) that I love with loads of lace and send it out to the factory with a line drawing and basic spec, cross my fingers and hope that something nice comes back. It's fast, and crazy-busy. That particular skirt was lovely but came back at £5-6.00, so out of price range for a lot of our clients" (Coote, 2008).

This correspondence raised two questions for me. When does an existing design become a new design? And how much does a process in which a £5 'Lacroix' skirt is too expensive contribute to fashion consumption? The second was a distressing incident with a woman who believed that she had invented zero-waste pattern cutting and that I had somehow copied her. I pointed out that zero-waste pattern cutting had been around for thousands of years in the

form of Kimono and other historical costume and more recently many designers worldwide such as Issey Miyake, Timo Rissanen, Mark Liu, Yeohlee Teng and Zandra Rhodes had been engaging with similar processes. Zero-waste garment creation is part of a long line of idea evolution and it shows that the fashion world is one big interconnected (if dysfunctional) family. Interestingly the incident also drew out a rather overwhelming desire to protect my own ideas.

Literature Review and Research method

Current law regarding the protection of fashion designs outside USA, in theory, allows designers to protect their designs, usually through the application of design patents or 'trade dress' and in the case of copyright automatically protects the patterns, textile design and sketches relating to any design and long as it is original (DITR 2003; Office of Public Sector Information and United Kingdom Parliament 1988; New Zealand Ministry of Commerce 1994; Standing Committee of the Ninth National People's Congress 2001; US Congress 1978). However many firms do not attempt to apply for design patent protection for their work for two reasons. The first lies in the term 'original'. The fashion zeitgeist can be described as a "continuous line" (Vinken, 2005), a progression of ideas for which most are traceable through a cyclical lineage which marries other contemporary designers work with historical dress and often street fashion. As a result the difficulty in proving originality of idea in its entirety is immense. An added complexity is the evolution of the fashion industry from being a relatively simple "trickle-down" procession of ideas to the non-linear system we have today where fashion ideas appear to come from anywhere. One blogger writes-

"What if every designer had to get clearances before they could begin the arduous task of launching a collection? The fashion industry would come to a grinding halt" (Racine, 2006) - an opinion shared by many in the blogosphere (eg. Boldrin and Levine; Lanman; Mencken; Miller 2009; Racine, 2006; Wilson, 2007).

The second issue is also related to time. Paul Morand (ref) resolves that the attainment of the ephemeral is the accomplishment of perfect fashion, going on to state "you can't protect what is already dead in fashion". In the music industry the 'dead' is routinely protected, indeed currently music can be protected for up to 70 years after the death of the composer - long after the song's 'moment' has passed. However in fashion the moment passes by so quickly as to negate much of the need to protect individual designs - by the time designers patent their work, the fashion value of that piece is likely to have diminished if not dissolved completely. As a result, Johanna Blakely (2008) argues, the majority of the fashion world treats their outputs as Creative Commons - "shared resources that can be freely reused, recreated and recombined" with a mostly self-governing 'shame-police'. Instead of legislating the rights of designers, fashion savvy consumers and observers can spot and through blogs 'out' (Figure 2) an overt copy or as

it is more euphemistically labeled “homage”. The loss of reputation can be damaging, so most high-end designers try to avoid intentionally or inadvertently referencing other designers work too heavily. However self-governance tends to only operate in a horizontal direction – between peers in the fashion world. The situation becomes much more complex when well known designers copy little known players in the industry (see Figures 3, 4, and 5). It has been argued that this “referencing” aids the original designer, by giving them publicity which they may have otherwise never received, a viewpoint which clearly benefits those with the power in the fashion industry.

Miucci Prada famously said:

“We let others copy us. And when they do, we drop it”.

This altruistic attitude only works when the copied designer is already desirable by fashion consumers and the designer has generated income from being the first to produce the design. However since the advent of the internet and improvements in manufacturing the translation from high fashion to high street now only takes weeks. This explains why copying is so much more of a problem now. Previously high fashion and couture houses were relatively

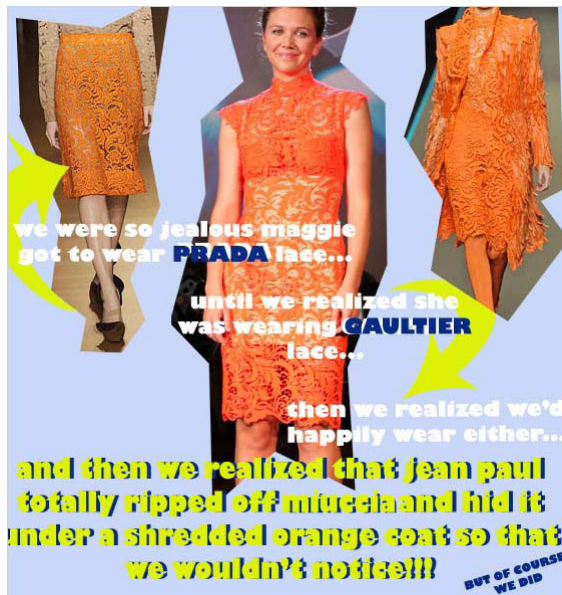


Figure 2: Example of a blog post on the popular “Adventures in Copyright” blog

Figure 3: Marrins boot on left and Chalayans boot on right

Figure 4: Balenciaga on the left and Wong on the right

Figure 5: East West Musical Instruments (original) on the left, Balenciaga centre and Urban Outfitters

(copy of Balenciaga) on the right.



unconcerned by copies as they would only be on the market after the original designs had had their moment and they had made a return on their investment. Indeed the copies indirectly drive later sales due to the obsolescence they induce. The internet, whilst making fashion more accessible to consumers worldwide, has also made it very easy for fast fashion houses to translate consumer interest into new variations (as shown in Figure 6). Once styles are gleaned from the internet and processed by the design room, manufacturing advances mean that fast fashion firms such as Zara can take as little as 14



Figure 6: Anna Sui dress on left, Forever 21 interpretation on right

days from design room to retail floor - consequently taking income away from the designers that invested in developing the idea in the first place. Fast Fashion defenders argue that this has provided fashionable dress for a market that in the past could not have afforded to participate in the fashion world. Detractors say however, "We spend a fortune researching and working up ideas, then Zara comes along and walks off with them for nothing," (Roux, 2005). The East West Musical Instruments, Balenciaga and Urban Outfitters example (Figure 5) is a particularly interesting due to the copier (Balenciaga) subsequently having their interpretation copied by high street (Urban Outfitters). It brings to mind the old adage "People in glass houses shouldn't throw stones". Despite this there has been a recent push by many fashion firms to change American intellectual property law to include fashion designs (United States Copyright Office, 2006) and if introduced, this law would give fashion designers in the US similar protection to their European cousins.

Findings and Discussion

As a fashion educator the standards to which we hold our students and ourselves in terms of referencing and plagiarism is very high. We teach our students the value of design and of original thought, whilst insisting that if they do reference others work or words they give proper credit where it is due. If caught referencing without giving acknowledgment they risk expulsion. Students are encouraged to keep 'workbooks' which trace their idea development and record the sources of their inspiration. While assisting in the design process it also serves to provide 'proof' of the origin of their ideas. It is therefore extremely ironic that once out in the 'real world' our graduates face a fashion industry that often doesn't respect the ideas of others. Indeed many students realize this well before leaving tertiary education and often question the relevance of keeping such records. Within academia it is acceptable and encouraged to reference other authors and designers when formulating arguments, generating new ideas, products and processes - so long as we credit the original author for their work and its contribution to our work. It seems that at the very least, where possible, this practice also needs to occur within the fashion world. This would in some cases prevent designers such as Nicolas Ghesquière benefiting from the ideas of others with impunity. However

the problem is larger than a matter of honesty.

“As fashion spreads, it gradually goes to its doom.” (Simmel, 1957)

The argument that a protected fashion industry would mean a less creative industry is driven primarily from an economic perspective. The term “Creative Economy” reveals the close link between economics and ‘innovation’. However can you really argue that the fashion industry is “creative” or “innovative”? One blogger writes disparaging that if fashion firms were not allowed to copy each other then the industry would “become much less creative. We’d see the same thing year after year. In other words, women’s fashion would look much more like men’s fashions – boring, boring, boring” (Varian, 2007). This observer seems to be arguing that if we can’t rip-off other designers’ work then we can’t be creative. When Wood writes of -

“Our egotistical attitude to innovation that has been responsible for much of the mess we are in” (Chapman and Gant, 2007)

He seems to view the majority of so-called innovation to be without reason. He asks, “what have designers achieved?” replying - “they created new fads...helped ‘de-future’ products by making them become artificially obsolescent” and become “fixers who guarantee a return on capital investment” (Chapman and Gant, 2007). In few other areas does this harsh critique ring truer than in the fashion world. George Santayana called fashion “barbarous, for it produces innovation without reason and imitation without benefit.” (Santayana, 1982). Even Lipovetsky (1994) wrote that -

“The fashion form is most radically manifested in the accelerated pace of product change, the instability and precariousness of industrial objects”.

So destructive is fashion that it devours itself to perpetuate itself - as Georg Simmel (1957) claims, “As fashion spreads, it gradually goes to its doom”. Baudrillard argues that society needs to destroy objects in order to be. He suggests that the mere use of objects leads only to their gradual disappearance and that their value is increased by their violent destruction (Baudrillard, 1998). To destroy an object when it is still useful is the height of luxury and wealth - in fashion our wastefulness is representative of our prosperity.

The offered solutions to the impact that the fashion industry has on the environment tend to focus around material use and second hand goods. Kate Fletcher points out:

“however we cannot radically cut consumption of clothing until we begin to understand its significance as a satisfier of human needs.” (Chapman and Gant, 2007)

The Los Angeles Times (2007) admits that “Sales of high fashion aren’t driven by the public’s need to be clothed but by the status an exclusive garment or handbag conveys”, and a garment is only exclusive in fashion if it is new, if everyone on the street is wearing it, the fashionable don’t want it. Innovation in the fashion industry manifests itself through the rapid copying and distribution of other people’s ideas so as the original idea becomes passé and undesirable - which drives new designs. The existence

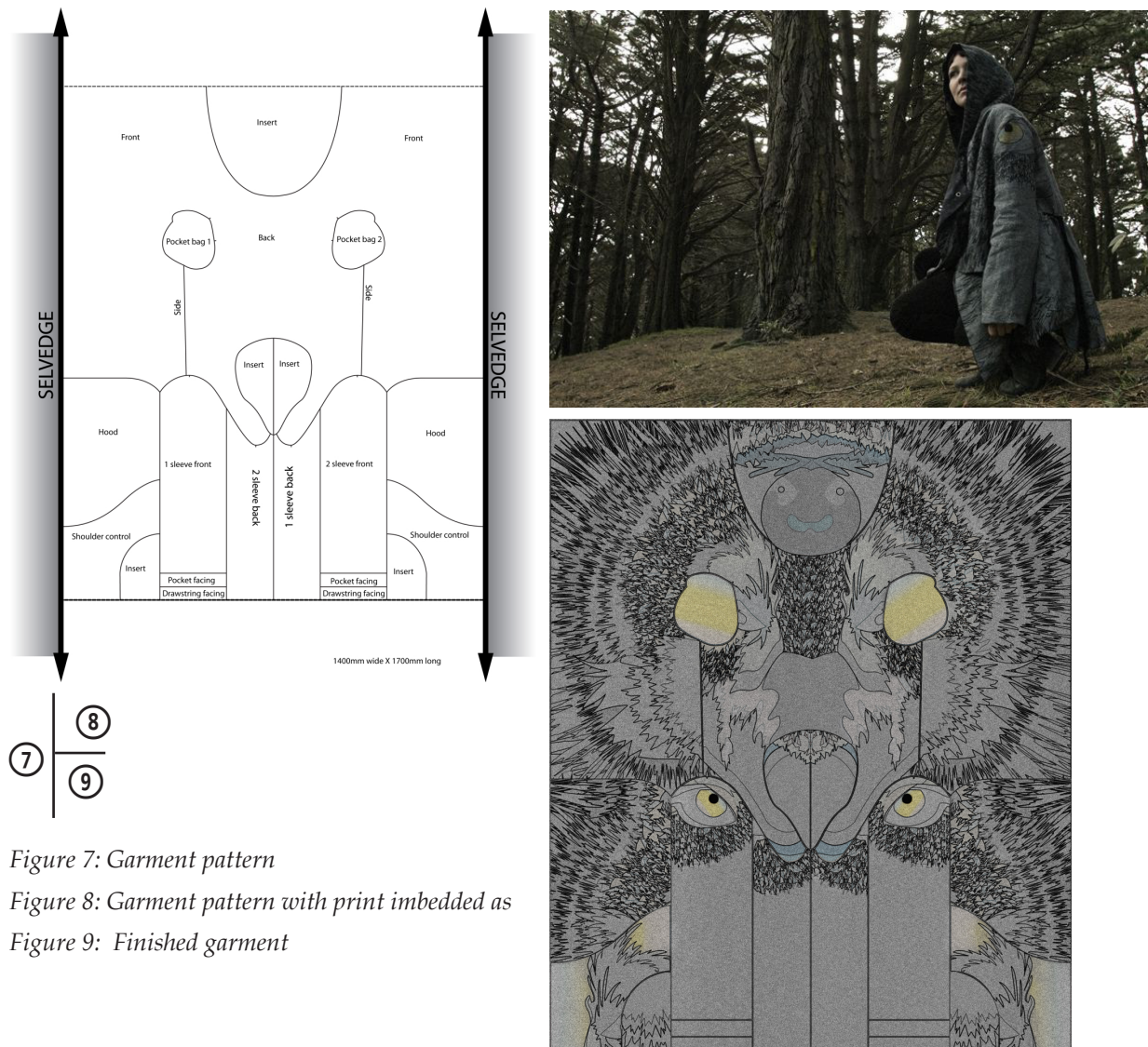
of the Forever 21 top seen in Figure 6 instantly makes the original Anna Sui dress less desirable therefore demanding Anna Sui invest in the development of new work to replace it in order to maintain their market share. This system makes fashion cheap and accessible – democratizes it (Lipovetsky, 1994) and generates innovation in production (Roux, 2005). But through this democratization fashion becomes a wasteful behemoth contributing as estimated 30% of landfill waste in the UK in 2008, up from only 7% in 2003, a startling increase blamed largely on the rise of fast fashion (Santi, 2008). The unholy alliance of industry, design and desire has created consumers who “believe they have an inalienable right to possess anything they purchase with their own money, and then to discard it in any way they choose” (Chapman and Gant, 2007). The fundamental conundrum to consider here is – does the fashion industry have no defensible IP rights because it changes so fast, or does the fashion industry change so fast because there is no IP rights available to effectively protect designers?

Recipes created by cooks and chefs have no IP protection so in this way the food industry functions similar to the fashion industry. Indeed the comparison between these two industries goes further when you look at the Fast Food and Fast Fashion industries (Doeringer and Crean, 2006; Ghemawat and Nueno, 2003; Schlosser, 2002; Tiplady, 2006; Thompson, 2009) and their associated speed of production, waste generation, resource use and over consumption – as Jose Maria Castellano CEO of Inditex, parent company of Fast Fashion giant Zara says “In fashion, stock is like food. It goes bad quick” (Ghemawat and Nueno, 2003). Just as Slow Food is the counter culture to Fast Food, Slow Fashion is the counter to Fast Fashion. But what role could stricter Intellectual Property laws play in bringing slow fashion to the fore? Raustiala and Sprigman (Raustiala and Sprigman, 2006) write, “If copying were illegal, the fashion cycle would occur very slowly. Instead, the absence of protection for creative designs and the regime of free design appropriation speeds diffusion and induces more rapid obsolescence of fashion designs.” The majority of the arguments for the continuation of the status quo is that they fail to address the impact that lax IP policing has on the consumption of fashion and the resulting waste.

Would slowing the transition from high fashion to mass market also slow the rate of fashion consumption – or would we all still consume the same as before? Can legislation slow consumption? If it slowed design and production – as critics of stricter IP laws argue – then I believe it would have a knock-on effect on consumption. If copying were illegal and strongly policed then the rate of change in the fashion industry would slow, resulting in fewer garments sent to landfill, and a reduction in the seemingly insatiable hunger for new things. The inherent problem faced by those of us who would wish to find a magic bullet to solve the overwhelming over production and consumption of clothing is that the current system benefits so many of its players. Santayana called it “Imitation without benefit” (Santayana, 1905) – he was wrong, there is benefit, if only financial.

Copyright law outside of the United States currently automatically protects any original drawn or sketch article and the 3 dimensional work derived from this is protected by association. New Zealand IP law determines that “behind every fashion design will first lay a design sketch or a dressmaking pattern. If sufficient skill and effort has gone into their creation and they are not themselves copied from somewhere else, copyright will exist in

these “underlying works”. Where an underlying work is for a three-dimensional article, such as a dress, copyright will protect the dress for sixteen years” (Batty and McCarthy, 2009). My own work builds entirely from the work generated in 2 dimensions (Figure 7) – therefore it can be copyrighted because the design is the pattern – and patterns are protected. An added assurance is the fact that in much of my work the 2D textile design (Figure 8) is an overwhelming component of the 3D form and aesthetic of the finished garment (Figure 9). So does knowing my work is protected stop me from being ‘creative’ or attempting to develop ‘innovative’ fashion products? No. The only designers that have anything to lose from the introduction of stricter IP law are those that ‘reference’ heavily from the aesthetics of others. The time required to research, develop and generate new designs in an authentic way is usually lengthy. The process I use forces the designer to consider all parts of the materials used in the garments creation, giving awareness to both the maker and the consumer of the impact that the garment industry has – by slowing down and making visible what is usually lost in a torrent of consumption. The concept of zero waste garment production cannot be copyrighted or trade dressed or design patented – it is a part of our cultural history – and for this I am grateful. The works of Timo Rissanen, Mark Lui, Yeolee Teng, etc all compel me to provide alternatives and to push the boundaries of what is possible using this technique. Innovative and ethical designers have little to lose from tighter IP law.



Conclusion and Suggestions

Despite the potential benefit to society there appears to be little motivation from either designers or consumers to slow down the rate of change and so called “innovation” in the fashion industry which, if applied and policed, a fashion specific IP law would result in. The financial benefit from the current system is great. The specter of the derivative driven fashion cycle is however, something that should concern sustainable fashion designers. Indeed if the fashion industry as a whole aims to eventually be ‘sustaining’ and follow best practice then the rampant excesses of consumption needs to be addressed, something that companies such as Mark and Spencer who, whilst making great leaps forward in providing organic product ranges and other sustainable initiatives, fail to address.

Other design fields seem to be moving more and more in the direction of free rights to reference, sample, and copy - as much as some parts of these industries attempt to prevent it from occurring. So it could be argued that the fashion industry should not be moving toward greater restrictions on copying. While it is stirring to see fashion being held up as a shining example of “democracy”, this seems ultimately to be a flawed democracy that benefits only a few and impacts on all of us. There are other ways to measure success - the fashion industry could protect and nurture up and coming designers, it could develop better pay and working conditions for the millions of its workers, it could move toward being an industry which values truly innovative design and prevents the proliferation of ‘new’ products purely for the sake of a quick return. The reality of the fashion industry being second only to the grocery industry in terms turns over of products in order to maximize profits needs to change. On the one hand critics contend that creative industries without copyright protection have decreased investment in innovation, on the other hand the fashion industry is employed as an example contrary to this - as it has no protection yet is considered very innovative. But what form does this innovation take? Fashion represents the “Madness of Innovation”. The more often products are released to the public the more often the consumers feel the need for change, the faster that consumers get bored with current offerings because (as Baudrillard states) we consume because we lack any other real purpose to our lives. So the answer isn’t only in IP protection for the fashion industry. What we ultimately need is a reason to live that doesn’t involve mindless consumption.

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Going Green: Are You Ready? - A Study of Designer and Consumer Perspectives on Sustainability

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Keywords

Sustainability, green, eco-design, aesthetic, Canada

Abstract

Over the last five years, 'sustainability' has become a hot topic in books, journals, business reports and blogs. There are ample evidence that environmental awareness is increasingly on the rise. Although modern consumers have become more environmental conscious, it is a daunting task for many designers to fully understand the needs and aspirations of their "green" consumer. Fiksel (2001) asserts that the concept of 'sustainability' is relatively new, complex and multifaceted. Indeed, it is a complex and multi-dimensional construct that cannot be explained in a simple linear fashion.

In order to gain a better understanding of 'sustainability', this study was undertaken to examine the relationship between designer's intention and consumer's response.

Semi-structure interviews were employed for the current study. According to our interviews with several young eco-designers (AIME and 3Sprouts), we found that they were faced with many challenges that include limited resources from 'green' suppliers. Moreover, many eco-designers lacked a sufficient customer base to economically sustain their business.

Based on our findings, it is evident that consumers react quite differently toward sustainability; and four consumer types clearly emerged in this study: the die-hard eco-consumers, the skeptics, the pragmatists and the laggards. In addition, some consumers purchased eco-products solely for its health benefits, which had little to do with sustainability. With this perspective, eco-designers must constantly search for new ideas and innovative solutions to address specific misconceptions and concerns and to meet different consumer needs.

To summarize, the purpose of this study is to investigate and reveal the challenges and issues of "going green". Through this study, we attempt to address some specific issues of concern, and to generate dialogue and discussion within, and beyond, the academic environment.

Introduction

Over the last five years, 'sustainability' has become a hot topic in many industries, especially in the fields of textiles and apparel. Fashion designers, manufacturers, marketers, and retailers have become exceedingly conscious about social, environmental and ethical issues, and have made vast changes in their business practices. For example, Wal-Mart recently offered the 100% organic cotton George Baby clothing, Levi's Eco featured organic-cotton jeans using natural dyes (Reena, 2006), and Nike's Reuse-A-Shoe program that has recycled more than 16 million pairs of shoes since 1993 (EPA, 2006). In 2008, Donatella Versace commented at *FutureFashion*,

"Not only was it exciting to use eco-friendly materials like hemp and cotton for an Atelier evening gown ... but also, it is about time all of us do whatever we can to go more green" (Glausiusz, 2008).

Although consumers have become more concerned about with environmental issues, it is a daunting task for many designers to fully understand their "green" needs and aspirations. Fiksel (2001) asserts that the concept of 'sustainability' is relatively new, complex and multifaceted. Indeed, it is a multi-dimensional construct that is difficult to define and cannot be explained in a simple linear fashion. According to a study (Young, 2008) conducted in four countries (the United States, the United Kingdom, Germany and China), many individuals did not know the meaning of "sustainability"; with many US shoppers mistakenly interpreting "sustainable" to mean durable or long lasting. In fact, "sustainability" is a difficult concept to define (McCool and Haynes, 1995; Thomas, 2008). In general, the meaning of this word can be interpreted in two different ways - lexical (grammatical and syntactical) and implicative (meaningful significance) (Shearman, 1990). Lexical meanings are found in dictionaries such as Merriam-Webster's Online Dictionary defines "sustain" as to keep up, prolong and support. As Shearman (1990) asserted, "there can be no debate" about the lexical meaning of sustainability. Therefore, the discussion about the definition of sustainability is primarily focused on its implicative meanings. In many cases, the meaning of sustainability could be varied according to the context in which it is applied (e.g., ecological, economical, social, etc.). According to the World Commission on Environment and Development, in 1987, "sustainability" was defined as

"... to meet the needs of the present without compromising the ability of future generations to meet their own need."

We will simply define this term to mean social, ethical and environmental responsibility for this paper. In order to gain a better understanding of "sustainability" in the context of fashion design and consumption, this study was undertaken to examine the mindfulness and readiness of "going green" specifically from the perspectives of Canadian designers. The relationship between designer intention and consumer response was also investigated.

Literature Review

Green style aesthetic

Simplicity and innovative design play an important strategic role on the eco-design process. The concept of “design for simplicity” and “less is more” has been advocated and embraced by many eco-designers or “sustainable” designers to reduce the use of additional materials by unnecessarily decorative features. However, this creates a challenge for many designers to strike a balance between simplicity and novelty. In today’s consumer market, consumers do not seek homogenous, monolithic or ordinary types of products. According to many prior studies (Kaiser, 1990; Piacentini and Mailer, 2004; Shim and Koh, 1997), it is evident that many consumers purchase clothing for its innovativeness and uniqueness, using distinctive design features to express individuality, rejuvenate self-image, or construct identity. Low aesthetic appeal could be a major obstacle on selling “green” to potential consumers. If a product is too plain or basic, consumers may not have the desire to buy or to retain it for a long time after purchase. As a result, this would create unwanted/undesired goods or waste. Therefore, the visual appearance and aesthetic values of a product indeed must play a critical role on eco-design (Charter, 1998; Tischner, 2001).

Aesthetic longevity

Zafarmand *et al.* (2006) asserts, “... product’s aesthetic durability promotes its sustainability”. The longevity of style and attractiveness to the consumer is as critical to its durability as its’ physical attributes of color fastness, seam strength, abrasion resistance, etc. An aesthetic product can stimulate and drive consumer’s cognition, interpretation and preference (Zaltman, 2002). In order to offer a product with positive and profound aesthetic impact, designers should consider those design elements (e.g., color, form and fabric) that could be used to prolong or create a longer lifespan for the product. For example, neutral colors and a standard regular fit may offer visual appeal and reduce the pace of product obsolescence. Along with this perspective, previous research (Solér, 1996) on sustainability have suggested that consumer behavior could also change – an ethical consciousness on consuming less could be the most ecological way to consume.

Price and real credence

According to Stisser (1994), price was one of the most important factors in shaping consumers’ purchase decisions, followed by brand’s environmental reputation. According to another study conducted by Joergens (2006), some focus group participants revealed that price was the most decisive factor – they would rather forego ethical issues in order to purchase more conventional items. Indeed, “green” consumption is a “trade-off” exercise for many consumers – in making choices between the environment/sustainability and their own personal needs/aspirations and financial capabilities. In general, eco-friendly products are relatively more expensive than conventional goods. Therefore, while many consumers agree with the notion of “green”, they may not actually consume eco-friendly products because of the additional cost. In addition, some individuals are not willing to pay the extra money

on “green” products simply because their benefits and pleasure enhancing qualities are not immediately apparent (Haanpää, 2007). Furthermore, the awareness of effect on environment by cloths consumption was generally less pervasive than other consumer products (Stephens, 1985). This paradox between what people say and how they act has been clearly reported in many apparel research studies (Joergens, 2006). This is also known as the “value-action gap” (Kollmuss and Agyeman, 2002).

Eco-design

Eco-design emphasizes environmental aspects such as efficient use of natural resources, and does not necessarily consider social and ethical issues. On the other hand, sustainable design has broader considerations (ethics, social responsibility, ecology) than merely “being green” (Charter and Tischner, 2001; Smith, 2001).

According to a study of environmental packaging (Young, 2008), many shoppers from the UK, Germany and China cited that a product’s functional benefits were more important to them personally than any impact to the environment. In other words, it must provide certain desired functions regardless of its eco-friendly properties. For example, a sustainable product should not go out of style before its expected life cycle. It is clear that modern consumption is a multi-dimensional construct; many individuals do not merely purchase eco-friendly products to feel good about making a contribution to sustainability, but it must also satisfy needs and desires. Sherwin (2006) describes sustainable design as people-centered, “... must match user needs, embody their values and connect to their aspirations and desires – as well as making products easy, pleasurable and fun to use or experience”. With this context, fashion designers must create a product consisting of multiple attributes and various benefits that may include eco-features (non-toxic, recyclable and reusable materials), functional usage (ease of use, warmth and protection), high quality (durable materials and fine workmanship), new sensations and experience (visual and tactile), and psychological fulfillment (sense of well-being). To summarize, a successful eco-design product must provide innovative solutions that embody aesthetic, psychological, experiential, functional and ecological attributes based on the intended user’s needs and aspirations (Dobers and Strannegård, 2005).






Thus, the purpose of this study is to investigate and reveal the challenges and issues of “going green”. In order to gain a better understanding of ‘sustainability’, this study was undertaken with following objectives:

- (1) To examine the relationship between designer intention and consumer response**
- (2) To identify the challenges of being environmental friendly**

Through this study, we attempt to understand the tripartite relationships between designer, consumer and eco-friendly product, to address specific environmental issues of concern, and to generate dialogue and discussion within, and beyond, the academic environment.

Research Method

Qualitative research method and semi-structure interviews were employed for the current study. Qualitative method is deemed an effective means in obtaining specific information about personal opinions, experiences, practices, and perspectives of a particular industry (Denzin and Lincoln, 2000). Semi-structure interviews were conducted with several fashion designers in Toronto - two from the contemporary and high-end women's market and two from the infants and children's wear market (as indicated in Table 1). These four informants were solicited for this study because of their environmental and sustainable consciousness. Each interview was lasted about one to two hours in length, and field notes, audio recordings and transcripts were employed for data collection and analysis.

Brand/ Designer	Product Type	Number of Years in Business	Eco-Friendly Products	Product Design
 Two designers	Infants/Children's wear accessories	10 years	95% of the products are organic cotton	organic hooded towel organic storage bin 
 One designer	Contemporary women's clothing	2 years	More than 50%	
paulhardy One designer	High-end women's ready-to- wear collection	8 years	"Intellectual purity" - S/S 2010 collection Approximately 10% (e.g., organic wool or bamboo)	 "Intellectual purity" - Spring/ Summer 2010 collection

According to our interviews with four Canadian designers, two informants used up to 95 percent organic cotton for their products (storage bin, towels, and placemats) and two informants used more than 30 percent of various eco-fibres (e.g., Tencel, bamboo) throughout their collection. It is clear that all the informants supported the notion of "green" and

sustainability to different levels or degrees. For example, Calgary-based designer Paul Hardy is actively involved in an innovative, sustainable and socially responsible manufacturing project in Africa. This project provides safe, socially responsible employment opportunities to victimized women in Africa called “Reversal of Fortune”. Through these examples, it is clear that all the informants supported and interpreted the notion of “green” and sustainability in a broad and multidimensional level of meaning. However, although all informants were socially and environmentally conscious, they would not specifically label themselves as eco-friendly designers. Simply, they did not want their product lines to cater only to eco-shoppers, but also to a much wider segment of the marketplace.

Findings and Discussions

Healthy and safety benefits of being Eco-friendly

Our interview with the designers at 3Sprouts found that their customers were concerned with health and wellness of their children, and purchased 3Sprouts eco-friendly products for this reason. In general, their customers were willing to spend a premium on the eco-friendly product. However, they found that if the price were 15% higher than the conventional products, they would have a tough time to sell. As Toronto Fashion Incubator (TFI, 2009) pointed out:

“Parents always look out for the well-being of their children, especially when they are in the early stages of growth. ... No parent wants their child to be subjected to toxins and chemicals, ...”

With this perspective, it is reasonable to state that parents were willing to spend a premium on organic/100% natural fibers and chemical-free treatments/natural dyes to ensure that their loved ones are protected from harmful materials. In particular, clothing items are intimate products next to the skin. This finding is consistent with many existing articles and reports supporting the premise that (Joergens, 2006), in many cases, concern for the outside environment was not the major reason for the purchase and consumption of eco-friendly products - many consumers buy them primarily for its health/safety benefits. In other words, consumer’s commitment on eco-friendly products is directly related to the influence on their own health rather than the ethical or environmental concerns.

Quality and aesthetic longevity

In terms of aesthetic longevity, M.C. (designer/owner of AIME) has expressed:

“I wanted to stay true to the ‘slow fashion’ concept, to create pieces that are truly timeless ... pieces that you would love for years to come”.

On the other hand, P.H. (designer/owner of Paul Hardy) supports the notion of green within the context of an uncompromising adherence to excellent fabric quality and/or craftsmanship in garment construction. Indeed, the quality of a product could play a vital role on the aspect of product consumption as well as product longevity. According to Ottman

(1998), 41% of consumers did not purchase “green” products because the perception of product performance was low. It is an on-going challenge for many designers to strike a balance between quality and aesthetic, minimalism and richness, simplicity and novelty. In particular, fashion clothing normally has a much shorter lifespan than many other products such as automobiles, electronic goods and appliances because of changing style trends, fabric quality, patterns, etc. The only fashion items that do have aesthetic longevity are those products deemed as “classic” (e.g., Chanel jacket, 5-pocket jeans in regular fit) or “basic” (e.g., socks, underwear). Therefore, “green” designers are developing clothing items that meet the needs of the fashion industry while transcending fast-changing style trends. In addition, two participants of 3Sprouts also pointed out that the hybridization of aesthetic, quality and functions could play a significant role on the longevity of a product.

Challenges

Price

It is a well-known fact that each fashion company operates with fixed, and sometimes, limited resources. In order to allocate those resources wisely, companies must consider consumer needs and aspirations as a top priority. As mentioned in the preceding section, designers cannot create eco-friendly products without considering other criteria such as additional functional capability, visual appeal, price, and functions. As one of our informants revealed, “the product has to be reasonably priced and affordable ... it cannot be more than 15% above non-eco-friendly products”.

Manufacturing practices and material procurement

Several informants expressed that it was not easy to find eco-friendly suppliers of certain textile materials such as fashion accessories and notions (e.g., ribbon, taping, lace). In many cases, only certain parts of a clothing item were considered to be “sustainable”, making it almost impossible to be claimed as an eco-friendly product. One of our informants also admitted that the fabrics of some merchandise were not environment friendly because of the dyeing methods utilized. Another informant also expressed, “Although I use a lot of bamboo fibers, there are some debates about it. The process of chemically striping bamboo has come under some debate – not sure it’s environment friendly or not ... I try to learn as much as possible”.

Customer base

Broadening the customer base was another challenge for our informants. As one informant responded, “Especially with younger and newer design labels, it is tough. In 2008, people were willing to try new things. Now everyone is so concerned about money, they want to know about our track record, and stores do not know if the customer will pay a little bit more

for eco friendly". Another informant also stated, "under this economic situation, we're taking a baby step at a time."

Consumer responses

Based on our informants' responses, it is evident that their consumers react quite differently toward eco-products; and four consumer types clearly emerged in this study: the Die-Hard Eco-Consumers, the Pragmatists, the Skeptics and the Laggards.

- The Die-Hard Eco-Consumers: Purchased eco-friendly products and were concerned about fiber content and manufacturing process (e.g., organic cotton, toxic and chemical free). Price was not a significant factor to this consumer.
- The Pragmatists: Primarily looked at the functional and concrete values/benefits of a product with regard to their own needs. Some consumers purchased eco-products solely for its health benefits (e.g., anti-aging, antioxidant), which may have little to do with environment sustainability. Price often played an important role in the evaluation and decision-making process.
- The Skeptics: Due to the inconsistency of industry standards and product labeling, these consumers were confused and doubtful about the benefits of eco-products. Therefore, it was difficult for them to make an environmentally responsible purchase decision. As a result, they were not willing to pay a premium for 'green' products because they didn't believe that "you get what you pay for".
- The Laggards: Paid no attention to the "green" issues. Basically, this group consumed what they wanted with no regard to their contribution towards environment or sustainability concerns.

With this perspective, eco-designers must constantly search for new ideas and innovative solutions to address specific misconceptions and concerns and to meet different consumer needs.

Conclusion and suggestions

According to this study, the aesthetic values and eco-friendly benefits (fashion and wellness) are important to most of the consumers. Designers cannot solely focus on one attribute and downplay the other.

It is evident that the evaluation of environment responsible product is a complex process. Consumers often consider and assess various product attributes including price, performance, quality, visual appeal and availability (Kashmanian *et al.*, 1990) before they make the purchase decision. However, in many cases, consumers cannot differentiate between environment responsible products and conventional products because they don't have enough information.

Not only do consumers themselves need to be educated on the concept of "green", but fashion designers and practitioners need to be well informed and to take a pro-active position to educate their consumers as well. As one of our informants admitted, "As a designer, I try

to keep up today as much as possible, and try to attend seminars as many as possible, so that I am more educated on 'green', and I can communicate with my customers. ... I think more educational material out there, more being read, ... consumers will become knowledgeable".

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What color is sustainable?

Examining the Eco-Friendliness of Color

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Keywords

Color, sustainability, green, perception, forecaster

Abstract

In recent years, 'sustainability' has received increasing attention from scholars across a wide range of disciplines. A substantial amount of research has been devoted to this particular topic encompassing sustainable packaging, eco-labeling, product life cycles, eco-products, 'green' consumption, and sustainable manufacturing and recycling systems. However, to the best of our knowledge, a study focusing on the relationships of sustainability and color has not yet been undertaken. In order to gain a better understanding of the relationship between color and sustainability, it is worthwhile to investigate and uncover what color(s) is/are more likely to be associated with the notion of 'green'.

Recently, many fashion companies have used various slogans such as 'green is the new black' and 'get hip, get green' to raise the 'green' awareness as well as to build corporate image. It seems that the color green not only represents nature, but it also carries multiple meanings for modern-day consumers. With this context in mind, the following research questions were posed to guide and direct this study: 'What color(s) is/are considered as eco-friendly?' and 'In what way and to what extent does color usage support the notion of sustainability?'

Based on the literature review, interviews with color experts and analysis of color trends the Color Association of the United States (CAUS), Color Marketing Group (CMG) and Pantone®, it is evident that certain colors are clearly viewed as more sustainable or eco-friendly than others. In other words, these colors are perceived to offer more 'green' benefits (both instrumental and abstract) in many aspects - psychological, functional, economical and emotional

Introduction

In the past, consumers have paid more attention on the aesthetic form and the benefits of a product rather than the ethical or moral imperatives. Therefore, many fashion companies

concentrated on the process of aestheticization (Böhme, 2003) and proliferation of style to satisfy their consumer's needs and aspiration, with little regard to the environmental impact that this increase of production and manufacturing practices incurred. According to a study conducted by Abernathy *et al.* (1999) -

“The average number of stock-keeping units (SKUs) per business unit rose from an average of 3,871 in 1988 to 6,304 in 1992. This mirrored by growth in the average number of new SKUs introduced per year by apparel business units, which increased from 2,368 in 1988 to 3,688 in 1992. ... This means that a large portion of each apparel firm's product line consists of new products”.

Even in the twenty-first century, many fashion marketers constantly drive consumers to search for new sensations and experiences through the continual consumption of fresh and recently developed products.

It is evident that the democratization and proliferation of styles is on the rise, however minute variations still render them indistinctive from others. As a result, many consumers are now unable to distinguish or differentiate a particular product/brand from a wide array of similar or homogenous ones. Due to the increasing confusion and fierce competition in the consumer market, color strategy has become an important tool that can potentially create more unique products - with results that could build a more recognizable corporate/brand image, sustain a competitive edge over rival companies, enhance sales and establish stronger connections with consumers.

Over the last two decades, many research studies have examined color psychology (Lind, 1993; Margulies, 1970), color perception (Chen and Chen, 2008; Grossman and Wisenblit, 1999; Strugnell, 2002), color emotion (Kaya and Epps, 2004; Terwogt and Hoeksma, 1995; Valdez and Mehrabian, 1994), and color marketing (Aslam, 2006). According to other studies, color is the most appealing element of design within objects (Myers, 1999; Rasband, 2001). It especially plays a significant role on fashion consumption - color can arouse consumers' emotional response, signify social status and influence the perceptions of product values. For example, consumers use color to infer gender to artifacts - pink for girls and blue for boys. It is evident that every color carries unique meanings in different times and socio-cultural contexts. Without a doubt, color is often considered as a significant evaluative criterion or trend indicator for many consumers.

However, does color have the potential to play a major role in sustainability, and is it imperative to understand what it may offer or how it can generate a long-term aesthetic appeal to clothing in general and eco-fashion in particular? According to our literature review, 'sustainability' has received increasing attention from scholars across a wide range of disciplines (e.g., architecture, engineering and marketing), with many of these studies being primarily focused on topics that are technical or behavioral - such as eco-products, 'green' consumption, sustainable manufacturing and recycling systems, product life cycles, sustainable packaging, and eco-labeling.

To the best of our knowledge, limited research has been devoted to color in relation to sustainability, or what we will term as “eco-color”. Therefore, the current study was designed to examine and explore this topic in order to fill this void. The objective of this study is two-

fold:

- (1) To understand the relationships between color and sustainability,
- (2) To understand emerging color trend through the lens of “sustainability”.

It is also important to note that the intention of this study is not to present a definitive theory of sustainable color but rather to stimulate discussion among and beyond its community.

Research motives and questions

It is a well-known fact that today's consumers do not merely consume clothing to protect the body from the elements or conform to societal modes of privacy and/or modesty. It is also used as a powerful form of expression to construct identity and to establish a sense of communal well-being. In a similar vein, a product's color is not solely to offer artful, playful and tasteful values to the intended users; it is also imbued with symbolic meaning and socio-psychological value. For example, the red color signifies passion, power and boldness, while red associates with happiness and prosperity in many Asian societies. A survey conducted by UPS (2006) in China, fifty percent of the female respondents stated that red for gift packaging was the most favorable color.

In order to understand the role of color in the quest for sustainability, it is necessary to examine its function, perceived meanings and socio-cultural values.

Recently, many fashion companies have used various slogans such as ‘green is the new black’ and ‘get hip, get green’ to raise the ‘green’ awareness as well as to build corporate image. Obviously, the color green does not only represent nature or vegetation, but it now carries multiple meanings for modern-day consumers. With this perspective, we raised a number of research questions to guide and direct this study: “In what way and to what extent does color usage support the notion of sustainability?”, “How does color transform a product into a concept of sustainability?”, “What color(s) is/are considered eco-friendly?”, “Is ‘green’ considered to be the main eco-color?”, and “How can color infuse new meaning into a product?”

Literature Review – The importance of color

Color and marketing

Color can be used as a marketing tool to distinguish a brand from its rivals. According to Tavassoli and Han (2002), color was a powerful cue assisting in brand recall and recognition. From the consumer perspective, people often use color as a cue to identify brand, and indicate quality (e.g., weight and temperature) (Tom *et al.*, 1987). For instance, red is associated with Coca-Cola and Sara Lee, blue with IBM and Pepsi, pink with Barbie dolls and green with 7-Up and Leap Frog (Cheskin and Masten Inc., 1987). Over the last decade, it seems the color green and natural, earthy colors have been intentionally or subliminally used as a marketing tool to

promote the notion of eco-friendliness within a product.

Color and aesthetics

Color is one of the most important and visible attributes of any apparel product (Rasband, 2001) and plays a significant role in the aesthetic appeal to the consumer. It is important to note that the desirability of a specific color may vary depending on product type, current color trend, specific context, culture and gender. In general, color is considered more important in highly visible or publicly consumed products than for less visible or privately consumed products (Sweeney and Soutar, 1993). However, it is one of the salient determining factors in purchasing decision made by female consumers (Miller, 1998), proving that color does play a critical role in modern consumption. Therefore, it is imperative to understand what color may offer or generate longer aesthetic appeal to clothing in general and eco-fashion in particular.

Color and emotion

Color is a salient cue that elicits specific emotional responses (Kaya and Epps, 2004). For many consumer products, color forms a state of strong feelings and physical or psychic reactions in our memory, and can be used as an instantaneous indicator or inference of relevancy (i.e., old versus new). For example, warm colors have been associated with excitement, passion and intensity; whereas cool colors have been associated with calmness, comfort, peaceful and restful (Ballast, 2002; Bellizzi *et al.*, 1983). Green has been found to have both positive and negative impressions such as quietness and naturalness, while conversely it can signify tiredness and guilt (Davey, 1998; Mahnke, 1996; Saito, 1996).

Colour and culture

Colour cues may generate compelling socialization effects, including self-symbolism and social symbolism. In many Asian countries, white or lighter skin is often associated with beauty and higher social class, whereas darker skin is associated with hard labor in the fields. The growth of the skin whitener market in China and India clearly indicates that color is closely associated with one's societal self (Kotabe and Helsen, 2001). However, it is important to note that the symbolic meaning of specific colors may not necessarily exist in diverse socio-cultural contexts, or the meaning may be entirely different (Geertz, 1973; Gage, 1993). For example, wearing a white dress (e.g., wedding gown) symbolically refers to purity in the West; while in Japan, white is worn as a color of mourning. In other words, consumers residing in different countries or societies may not perceive the same meaning and value toward a particular color.

The cross-cultural study on color is a complex interplay with many factors. With the present study being primarily focused on color and sustainability in North American culture, it is beyond the scope of our study to examine these relationships with a cross-national/cultural perspective.

Color and product appropriateness

Product type and color usage are interrelated; with the desirability of color and color values varying across different product types as well. For example, white, black and/or metallic silver (e.g., stainless steel) are frequently used for electrical and electronic commodities such as computer, audio-visual equipment and appliances. In terms of clothing, black is the most popular color for formal attire whereas blue is the most ubiquitous color for denim jeans. According to a summary by Crozier's (1999) of 16 studies conducted by different researchers from 1955 to 1997, blue was the most preferred color for adults (10 of 16 studies). However, dark blue jeans are acceptable for more formal situations while lighter blue shades remain worn mostly for casual daytime activities (DeLong *et al.*, 2002). In other words, the lightness or darkness of a color also plays an important part on a consumer's perceived values and usage.

Fashion and sustainability

Environmental awareness and concepts of sustainability have grown exponentially in the recent past. The popular term "sustainability" can be applied to almost every disciplinary and every facet of life and can be interpreted in many different ways. According to the Webster's dictionary, the definition of "sustainability" can be defined as

"... designating of, or characterized by, a practice that sustains a given condition, as economic growth or a human population, without destroying or depleting natural resources, polluting the environment, etc ...".

Over the last ten years, many fashion companies have developed eco-friendly apparel products using organically grown fibers or eco-fibers (bamboo, soy, hemp). In 2007, the Nobel Peace Prize was awarded to Al Gore for raising an awareness of global warming through his movie - "An Inconvenient Truth". This film further elevated the world's growing attention to the predicament of the environment and a greater emphasis for promoting sustainable practices. In the same year, global sales of sustainable apparel hit \$3 billion. Sales globally are now expected to reach \$11 billion by 2012 (Toronto Fashion Incubator, pp. 5). In 2008, Lindsey Strader's article entitled *Colors go Eco-Aware in '09*, the author reports that -

"... eco-awareness will be the single biggest influencer of 2009 color palettes, with the movement snowballing from a trend to a true lifestyle."

Research Method

Due to the complexities and limited scope of this study, clothing products were deliberately chosen over multiple product categories as the focus of this study. Longitudinal analysis and a questionnaire survey were employed to illuminate the salient impact of color over the course of the eco-friendly "green" movement. In order to understand these relationships, color trends from 2006 to 2010 were studied and analyzed based on several major color forecasts by CAUS, CMG, and Pantone®. Through the longitudinal review, emerging trends were identified that linked to the notion of eco-friendliness or sustainability. In addition, a self-administered survey was adopted to seek opinions from color experts and practitioners. Nominal and

open-ended questions were used to understand color and sustainability schema, consumer perception and significance of the color green, color trends (e.g., What role does color play in this 'green' movement?) and to define "basic" and "fashion" terminology. In order to allow our respondents to express their viewpoints and experiences in their own words, open-ended questions were employed throughout the questionnaire (see Appendix 1).

The samples of our respondents were recruited from various color associations and industries in North America - professionals that included educators, design practitioners, color forecasters and consultants. In total, thirty questionnaire surveys were delivered via email, with 22 experts/practitioners returning the survey - a response rate of about 73 percent.

Findings and Discussion

Colour and sustainability

According to the results of the questionnaire survey, 11 respondents agreed and 2 disagreed with the statement "Some colors are perceived as more 'sustainable' than others". Green (n=11) was the most frequently listed eco-color, followed by brown (n=9), blue (n=7) and natural (n=5). The reasons for the agreement by the majority of the respondents are closely related to the following aspects:

- (1) **Color perception:** Certain colors are more associated with nature and the environment. For example, botanical green, earthy brown and sky blue were frequently identified for such reason.
- (2) **Color production:** Colors such as beige, off-white and unbleached "natural" containing less pigments or colorants, and need fewer methods of production. In addition, the use of natural/vegetable dyeing and organic colors were often stated in the present survey to be eco-friendly practices. Relatively, they are more sustainable than colorants that use chemical dyes to produce a wide spectrum of colors and color values through synthetic means.
- (3) **Color longevity:** Colors that are considered "classic" or relatively long-lasting are "sustainable" in the sense that they seldom go out of style. The colors include black, white, grey, blue, red and beige are belonged to this category. According to one of our respondents, "Blues are the best selling colors in apparel, whatever is being forecasted. They are 'comfortable' colors for men, women and kids. Red is also a 'forever' sale. The third is beige. Whenever a group of non creative people have to make a color choice, they pick beige, because it's 'safe'".

Classic color (CC) and fashion color (FC)

The definition of "classic color" (CC) and "fashion color" (FC) were also elicited in this survey. Several definitions of CCs clearly emerged - color must endure the test of time, color could be used for multiple applications, and color should be easy to understand. Black (n=14), red (n=11), white (n=10), grey (n=10) and navy (n=9) were considered to be CC.

On the contrary, FCs were more trendy and temporary. Our findings are in line with Chu and Nemeth's (2009) definition, "Basic colors represent recurring color themes that appear

each season and change very slowly. ... Fashion colors are current which add freshness and uniqueness. ... Fashion colors are constantly changing”.

To summarize, many respondents suggested that CCs were more safe and sustainable whereas FCs were more seasonal and transitory. In total, 9 respondents agreed and 8 disagreed with the statement: “Classic colors are more sustainable”.

With this perspective, if CCs do not go out of style as quickly as FCs, it is reasonable to conclude that CCs are more sustainable, and that consumers may wear “classic” colors for a much longer time. In a similar vein, the environment could be sustained if fashion manufacturers and marketers produce and promote more CCs than FCs. However, only 50 percent of the respondents agreed with the statement: “More classic colors will be used in the future”, simply because FCs still play a vital role in fashion consumption. One of our respondents, a color analyst/forecaster pointed out that FCs could arouse interest and freshness, while CCs (e.g., black, grey and beige) are safe for coats, evening dress and suits.

Green color

In terms of the color green, 7 respondents agreed and 10 disagreed that “green is a fashion color” (FC). There may be a need to be cautious with this result because it depends on the hue, value and depth of the color. Interestingly enough, the vast majority of our respondents did not agree with the statement: “green is the new black”. Green is not a replacement for black. As one of our respondents expressed, “Black is black and green is green ... can you imagine the same success if it were ‘the little green dress’ ... ?” According to the comments from many respondents, green is only a catchphrase, a way to communicate the concept of environmentalism and sustainability, and an eco-marketing statement. Nevertheless, many respondents believed (14 agreed with and 4 disagreed) that consumers do perceive the color green as eco-friendly. In other words, the term “green” is associated with symbolic meaning and psychological values rather than any concrete and sustainable benefits (as indicated in Table 1).

Do you agree or disagree with this statement: “Consumers perceive the color green as eco-friendly”?	
Agree (n=14)	Disagree (n=4)
<ul style="list-style-type: none"> • “Natural” botanical color, links to nature: foliage, grass, trees • Healthy color • Retailers, marketers and manufacturers have been using “green” to shape and influence consumers’ perceptions through visual images and products 	<ul style="list-style-type: none"> • Some greens aren’t perceived as earthy and natural; therefore may not associate well with the eco-friendly or sustainability movement • Manufacturing process of green products may not be environmentally friendly, and the color attribute can not be the sole determinant

Table 1: Consumers’ perceptions toward color green

In total, 17 respondents agreed that “sustainability” or “eco-friendly” has been playing an important role on color forecasting over the last five years. It is evident that more “natural”

colors have been used, and is consistent with our longitudinal analysis of color forecast trends from 2006 to 2010. According to our study on three color forecasts (CAUS, CMG and Pantone®), there are clear indications that forecasters were more concerned with the environmental issues. For example, many directions proposed by CMG from 2006 to 2010 were strongly associated with eco-friendly issues including “Environment Sustainability” and “Safer Design/Green Design” in 2006; “Tech to Promote Sustainability” and “Rescue/Recycle/Reuse” in 2007; “Green 2 Clean” and “Aware of Carbon Footprint” in 2008; and “Green=Eco Performance” and “Environment & Lust for Luxury” in 2010. Other than CMG, CAUS also incorporated green and earthy colors in 2010 – “Green Green” and “Naturals Building Block”. Indeed, many color names were also related to nature such as “Lotus”, “Botanigreen”, “Bean Sprout” (green), “Enviro-Bleu” (blue) and “Bamboo”, “Sugarcane” (beige) (Table 2, 3 and 4).

According to our simple analysis of CAUS and CMG color forecast (Figure 1), it is obvious that the number of green and earthy colors have increased over the period from 2006 to 2010.

Table 4: Pantone® color forecast from 2006 to 2010

The vast majority of our respondents believed that today’s consumers were psychologically ready “to go green”. A number of interesting points mentioned in this study substantiate this statement. Although most consumers are ready to make this commitment, the difficult economic environment and additional cost has affected and impacted the consumption of eco-friendly products. In other words, even if consumers would like to go “green” they may not be able to pay the higher prices demanded from eco-products at this point of time.

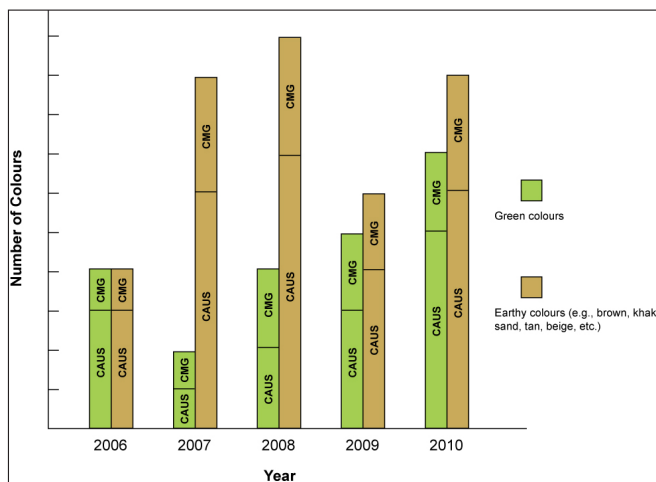


Figure 1: Analysis of CAUS and CMG from 2006 to 2010 - green and earthy colors

Conclusion and Suggestions

It is evident that the color green has been widely used for advertising, packaging and display (e.g., posters, shopping bags) over the last few years. It seems many green products/visual images have become a marketing tool to promote and convey the notion of “green” (environmental consciousness).

		2006		2007		2008		2009		2010	
		Colour Groups		Colour Groups		Colour Groups		Colour Groups		Colour Groups	
CAUS	Colours - Fall/Winter and Spring/Summer	Pretty (SS)	Willow Forget-Me-Not Peach Blossom Daffodil Wisteria Peony	Sea Shells (SS)	Oyster Mother of Pearl Tahitian Sand	Seasoned (SS)	Wit Poise Mystery Pompeii Potpourri Parchment	Green Peace (SS) Ghost (FW)	Sprout (SS) Clover (SS) Palm (SS) Veil (FW) Shadow (FW) Linger (FW)	Corals (SS) Reeds (FW)	Cantaloupe (SS) Guava (SS) Ginger (SS) Rose (FW) Red Red (FW) Wine Berry (FW)
		Form & Function (SS)	Glass Steel Graphite Ash Cement Marble	Floral Feet (SS)	Black Tulip Carnation Honeysuckle Passion Vine Poppy Wild Rose	Fresh (SS)	Modern Avant Scintillate Dawn Bloom Bath	Atmosphere (SS) Muse (FW)	Ether (SS) Cumulus (SS) Vapor (SS) Clio (FW) Calliope (FW) Grato (FW)	Green (SS) Green (FW)	Pistachio (SS) Fairway (SS) Jade (SS) Bean Sprout (FW) Blued Green (FW) Kale (FW)
		Organic (SS)	Lagoon Rain Mineral Siena Saffron Currant	The Life Aquatic (SS)	Depths Blue Whale Sailboat Grotto Kingfisher Breakers	Nature (SS)	Core Reveal Intimate Cherry Yellow jacket Petal	Confetti (SS) Plastic (FW)	Festival (SS) Celebration (SS) Jubilee (SS) PVC (FW) Wellie (FW) Pepto (FW)	Naturals (SS) Building Block (FW)	Twine (SS) Honey (SS) Paper Bag (SS) Bedrock (FW) Clay (FW) Soil (FW)
		Urban Pioneers (SS)	Central park Chelsea Piers Designer Chocolate Murray Hill Gramercy Park No Parking	Biosphere (SS)	Terra Stem Cosmic	Façade (SS)	Sleek Urbane Dynamic Steel Billboard Mirror	Paradise (SS) Departure (FW)	Lagoon (SS) Hibiscus (SS) Parrot (SS) Oxblood (FW) Hallucination (FW) Monster (FW)	Blues (SS) Blues (FW)	Chambray (SS) Electric (SS) Iris (SS) Oyster (FW) Blue Blue (FW) Ink (FW)
		Refinement (FW)	Bone Lagoon Twilight Old bronze Tourmaline Dancer Raw silk Peach powder	Opus (FW)	Blue note Fugue Minor Bass Violin Cello Allegra Brass Brava	High Drama (FW)	Opening Night Curtain Call Backdrop Wings Center Stage Gala	Island (SS) Armor (FW)	Flush (SS) Orchid (SS) Papaya (SS) Halo (FW) Hammered (FW) Plume (FW)	Pinks (SS) Purples (FW)	Pretty (SS) Geranium (SS) Sweet pea (SS) Cosmos (FW) Grape (FW) Red Cabbage (FW)
		Heirloom (FW)	Dark chocolate Crocodile Blue Diamond Mallard Black Pearl Bordeaux Aubergine Brandy	Interlude (FW)	Concerto Symphony Cage Glass Strings Percussion Piano Alto Treble	City stage (FW)	Palais Royale Spotlight Acoustic Intermission Rouge Pavement	OM (SS) Mystique (FW)	Shanti (SS) Lotus (SS) Meditat (SS) Topkapi (FW) Songbird (FW) Ultramarine (FW)	Turquoise (SS) Turquoise (FW)	Glacier (SS) Bermuda Blue (SS) Blue Dusk (SS) Blue Sage (FW) Greened Blue (FW) Spruce (FW)

Table 2: CAUS color forecast from 2006 to 2010

		2006		2007		2008		2009		2010	
		Colour Groups		Colour Groups		Colour Groups		Colour Groups		Colour Groups	
CMG	Colours - Fall/Winter and Spring/Summer	Environment Sustain-ability	Fresh Chillin	Neutral co-exit with bright	Lovely Grayce Chiclet Dragon Blood	Green z clean	Green NRG ReGreen	Sustainability	Amazon Precious Ice	Self-sufficiency Job loss	Tang-Circle Slick Pink Slip Intuitive
		Simplicity Comfort	Bliss Elementary Gray	Tech to promote sustainability	De-Construct Firozi Root Spruced Up Aqueous	Aware of Carbon Footprint	Peak Luminescent white Dirty bride Oh live	Responsible dyestuff be functional	Gold wash Sorbet Runway Maharaja	Green= Eco Performance, Creativity	Techno Grass Enviro-Bleu Sincere Botanigreen
		Safer design Green design	Teal Zeal Decoesque Phosphorice	Rescue recycle reuse	Bamboo Wisp	Asian Power	Jade-action Bam Regalia	Tech to provide sustainable color	Copper Plate Rush Street Blues	Environment & lust for luxury	Flawless Weather Red Carmelite Montrealite Indulge
		Vintage = authentic	Obi Re-Vamp	Nature over technology	Koi Flush Gem stone	Think Global Trust local	Prosecco Soul	Government legislate & innovation	Portabello Dream dust	Net zero - Whole systems	Bery Blue Legacy Seawater Noir
		Classic, Neutral Natural	Lapis Georgian Bay Cybermatural	Femme Totale	Glazed green Sugarcane Eyeliner blue Brunette	Love/hate Technology	Cosmitech	Ethnic influence	Punjab Maharaja Lotus	Biomimimry	Steel Violet Eye Spy

Table 3: CMG color forecast from 2006 to 2010

		2006	2007	2008	2009	2010
		Colour Groups	Colour Groups	Colour Groups	Colour Groups	Colour Groups
PANTONE	Spring/Summer	Beach, Desert Cameo Pink Sand Dollar Deep Ultramarine	Spring in bloom Golden Apricot Hollyhock Silver Peony Tarragon	Classic Snorkel Blue Silver Gray	Stability in economic uncertainty Palace Blue Lucite Green Vibrant Green Dark Citron	Ocean/Water Nature Amparo Blue Turquoise Dried Herb Eucalyptus
		Natural, Organic Blue Tint Lily Green Skyway Melon Viola	Neutral Opal Gray	Red Rococo Red Spring Crocus Pink Mist	Warm Tones Salmon Rose Rose Dust Fuchsia Red	Warm tones Tomato Puree Fusion Coral Aurora
		Neutrals French Vanilla Clove	Refreshing Strawberry Ice Green Sheen Grapemist Cafe Creme	Yellow Freesia Cantaloupe Croissant	Neutral Slate Gray Lavender	Fauna Violet Tuscany
		Black & White Black White	Calm Sky Blue	Green Daiquiri Green Green Olive	Yellow Super Lemon	Pink Champagne
	Fall/Winter	Night Fall Purple Magic Red Mahogany	Spicy Chili Pepper	Cool blue Blue Iris Caribbean Sea Twilight Blue	Economy Patriotic American Beauty Purple Heart Majolica Blue	
		Neutral Simply Taupe Pale Khaki Frost Gray Vetiver	Exotic Lemon Curry	Green Shade Glade	Neutral Creme Brule Nomad Iron	
		Dependable Blue Bijou Blue	Neutral Dusk Carafe Cashmere Rose	Red Aurora Red Withered Rose	Yellow Honey Yellow Warm Olive	

Table 4: Pantone® color forecast from 2006 to 2010

Although the color green can raise consumer awareness of environmental issues and concerns, fashion practitioners should not merely focus on a monolithic aspect of “green”; but must go beyond initial perceptions and its’ psychological aspects. In other words, they should develop a new way of thinking – by producing a more sustainable product that is of higher quality and long lasting, and encouraging less consumption---instilling a sense of well-being through an individuals’ contribution to the health of the environment. In order to be truly sustainable, it is important to not only educate their consumers but also to deliver a multi-lateral “green” products as well.

Further research on the following areas is needed: (1) to further explore and investigate how color evolves over time, (2) to understand the tripartite relationships between color, product type and consumer’s perception, (3) to identify the perceived values of different shades of green or eco-colors (hue, value and chrome), and (4) to uncover the significance and impact of classic/fashion colors and dying process.

Appendix 1

Questionnaire Survey

Due to different interpretations of 'sustainability', we defined this term as social and environmental responsibility.

1. Some colors are perceived as more 'sustainable' than others

I agree

What colors? _____

Why? _____

I don't agree

Why? _____

2. What color(s) is/are more likely associated with the notion of 'Green'?

no particular color

Why? _____

same answer as question 1

Different or additional colors _____

Why? _____

3. In what way and to what extent does color usage support the notion of sustainability?

4. How do you define 'classic color' and 'fashion color'?

5. What color(s) do you consider as classic color?

6. Do you agree or disagree with the following statements?

"Classic colors are more sustainable."

I agree I don't agree

"More classic colors will be used in the future."

I agree I don't agree

“Green is a fashion color.”

I agree I don't agree

7. How would you interpret this statement: “Green is a new black”?

8. Do you agree or disagree with this statement: “consumers perceive the color green as eco-friendly”?

I agree

Why? _____

I don't agree

Why? _____

9. Do you agree ‘sustainability’ or ‘eco-friendly’ has been playing an important role on color forecast over the last five years?

I agree

In what way? _____

I don't agree

Why? _____

10. As a color expert/forecaster, what would you do and how would you response to sustainability or environmental issues?

11. Do you believe most of the consumers are ready to go ‘green’?

Thank you for your participation!

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A Study of survival strategies for launching a Fashion Product from the Newly Industrialized Countries

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Competitive strategies, new product development, strategic alliances, R&D, marketing

Abstract

Fashion is a competitive global business owing to its products' characteristics of short-life cycles, high volatility, low predictability and high impulse purchasing. Over the past decades, fast fashion has emerged as one of the major influences on the current fashion market because of the effects of quota elimination and fast supply chain with effective business strategies. In order to strategically succeed in supplying fast fashion products, textile and apparel manufacturers are trying to reinforce their production capabilities and integrate the business operations to launch new products; this requires comprehensive planning and sophisticated business strategies within their new product development (NPD).

While NPD processes of the western fashion companies have been well documented, an intensive literature review reveals that not so much attention has been paid to the current NPD process of textile and apparel manufacturing companies in the newly industrialized countries (NICs). In order to sustain competitive capabilities, over the past decades, these NIC manufacturers have not only greatly improved their product development techniques based on their original equipment manufacturers (OEM) experiences but also advanced their business strategic applications of R&D, marketing and sales teams. Research questions raised concerns on how a textile and apparel manufacturer in the NICs transforms its business through the strategic use of R&D and marketing, as well as what the strategic alliances they are applying to launch their new products.

Through a selected textile and apparel manufacturer in the NICs, this research attempts to investigate and identify the business strategies applied to various NPD stages. Employing the reviewed literature and the initial results of a case study examining a successful Taiwanese textile and apparel manufacturer, we posit some preliminary notions regarding their competitive strategies within NPD.

Introduction

The rise of fast fashion is manifested as a business strategy which is adopted quickly and effectively to reflect the current fashion phenomenon (Barnes and Lea-Greenwood, 2006; Fernie, 2004). Fast fashion represents the restructure of the traditional apparel chain and aims to reduce the processes involved in fashion production cycles in order to efficiently cater the consumers' latest sophisticated demands (Barnes and Lea-Greenwood, 2006; Bruce and Daly, 2006). To succeed in today's fashion business it requires the appropriate products of quality with quick and efficient service. Consequently, new product development (NPD) processes together with business strategies have become significantly important (Bonaccorsi and Lippardini, 1994; Shepherd and Ahmed, 2000).

NPD enables companies to reach markets with sustainable competitive advantages, which involves the process of converting business opportunities into tangible products in a wide variety of ways. It also transforms technical ideas or market needs together with opportunities into NPD at the time before new products are launched to the market (Bruce and Biemans, 1995; Kotler and Armstrong, 1990; Trott, 2008). NPD is crucial in the current fashion market because of the characteristics of fashion products: short life cycles, high volatility, low predictability and high impulse purchasing (Christopher *et al.*, 2004), which have created severe competition. In order to respond to today's sophisticated market demands for new products, well-planned competitive strategies regarding R&D, marketing and networks of relationships or partnerships are essential requirements. However, there had been very few empirical researches based on evidence. This paper presents an overview of the literature regarding NPD, the competitive climate in the NIC's, and the NPD process within a well-known and commercially successful textile and apparel company in Taiwan. The paper concludes by suggesting further strategic imperatives based on our observations and experience.

The Notions of NPD Success

R&D and marketing cooperation or integration are emphasized to increase NPD success (Kono and Lynn, 2007; Trott, 2008). Both R&D and marketing are required within NPD process for commercial success (Griffin and Hauser, 1996; Rafiq and Saxon, 2000; Wang and Montaguti, 2002), in particular new consumer products (e.g. fashion apparels) that result in a high level of commercial success arise usually from the involvement of marketing in NPD (Hise *et al.*, 1990). Integrating marketing with R&D has become crucial while entering a new market or launching a new product; as long ago as Ashol *et al.* (1986) proposed that the need for such integration increased as uncertainty in market demand had risen. Hise *et al.* (1990) stated that marketing and R&D collaboration should be employed during design and evaluation stages rather than at a earlier or later stage. However, when an organization evolves toward flatter structures or cross-functional teams, their marketing and R&D may have to be reassessed accordingly (Griffin and Hauser, 1996; Leenders and Wierenga, 2001). That is to say, marketing and R&D necessitates strategy reappraisals, particularly in highly mercurial industries or business environment.

In order to efficiently and effectively speed up the communication and operation processes from R&D to marketing, cross-functional teams are critical to the performance of NPD (Bruce and Cooper, 2000; Leenders and Wierenga, 2001; Trott, 2008). They are teamed up with various professionals from functional departments, which enables reducing lead time, saving costs and improving communication which in turn results in increasing product attributes to meet customer requirements (Bruce and Cooper, 2000). Owing to the cross disciplinary process of NPD, cross functional teams require modification of a company's structure to gain sufficient resources (Trott, 2008). In addition, the potential benefits of strategic alliances of a textile and apparel manufacturer have received a great deal of attention for developing successful and competitive NPD processes. According to Vyas et al.(1995), strategic alliance can be viewed from two perspectives: (i) sharing business resources and (ii) establishing worldwide global companies or organizations. Elmuti and Kathawala (2001) further defined a strategic alliance as a formal relationship between two or more parties to pursue a set of agreed goals or to meet a critical business need. In other words, a strategic alliance involves an agreement between two or more partners to share knowledge or resources which could be beneficial to all parties involved (Vyas *et al.*, 1995). Elmuti and Kathawala (2001) emphasized that the way strategic alliances are conducted may be an accelerating growth of relationships based on "partnerships" instead of ownerships. In the textile and apparel industry, the relationships from upstream to downstream are becoming closer and more sophisticated because of global effects and the advancement of technology.

In order to build an efficient chain to supply the fast fashion market, numerous fashion companies are now integrating fabric and apparel production or merging manufacturing and retailing; this is known as strategically vertical manufacturing integration (Richardson, 1996). These vertical activities aim to lower the production costs and decrease lead-time of distribution (Frings, 2002). To further increase competitive advantages, textile and apparel retailers together with manufacturers are entering strategic alliances to ensure and manage their production, thus maximizing and reinforcing the efficiencies and individual capabilities (Byoungcho, 2004; Doeringer and Crean, 2006). This fashion production strategy has been adopted by a great number of fashion retailers and manufacturers to compete with their rivals among the fast fashion chains.

Singhal *et al.* (2004) have identified that within today's global textile and apparel chain (Figure 1), the added values that can be gained through either reducing costs or improving products tend to develop primarily during apparel production and expand dramatically from

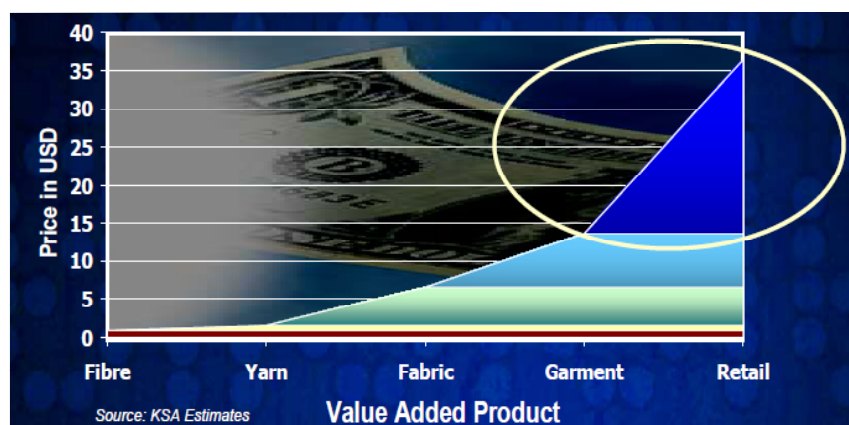


Figure 1: Textile and apparel value added chain

Source: Singhal *et al.* (2004)

the stages of apparel to retail. This value added chain hints at the range of issues to consider for textile and apparel manufacturers with regard to competitive and survival strategies, in particular for those in the Newly Industrialized countries (NICs).

The Rise of the NICs and the Competition they face

To pursue added values within the fashion chain, the textile and apparel industries have shifted their manufacturers and production bases over various continents and nations. Following the industrial revolution in the UK, manufacturing spread to the colonies and Europe before impacting on today's NICs. This shift, beginning at the start of the 20th century, has been attributed to the development of mechanical engineering and manufacturing together with increased domestic demands (Dickerson, 1995; Rivoli, 2006). A further movement followed in the 1950s with a seismic shift from U.S.A. to Japan through special trade arrangements, such as Economic Aid, Technical Support and Voluntary Export Restraint, which promoted Japan to the top of the textile and apparel exporters in the world and established its salient performance in international textile and apparel trading business (The Textile Institute, 2006). From the 60's to 70's, Hong Kong, South Korea, Singapore and Taiwan superseded Japan to become the major textile exporter and production countries under the first two Multi-Fiber Arrangements; these countries were known as the "Four Asian Tigers", which are recognized today as the NICs (The Textile Institute, 2006).

As the textile and apparel industries in the NICs steadily progressed and reached the stage of maturity, rise in living standards and working wages lead to high production costs and thus decline in textile and apparel production and manufacturing, this in turn resulted in their market position gradually being taken over by other developing countries with low production cost and low skilled labor intensive resources (Dickerson, 1995; Gale and Kaur, 2002), a phenomenon that has led to fiercer global competition in terms of the cost of manufacturing and production capabilities in the textile and apparel industry in the NICs .

When a textile and apparel business is engaged with international trade, quota and tariffs are two main issues which strongly influence economic development, particularly offshore production of large quantities and manufacturer's business strategies (Taiwan Textile Federation, 2009). The quota elimination in new Multi-Fiber Agreements, the second generation of Asian developing countries, such as China, India, Indonesia, Malaysia, Thailand and Sri Lanka, are following suit to become the main exporters of the textile and apparel products and are regarded as a threat among the NICs players, (The Textile Institute, 2006). As a result, the textile and apparel manufactures in the NICs need to seek competitive solutions based on their experience of original equipment manufacturers (OEM).

Research questions arising include: what is the mechanism for incorporating NPD with R&D and marketing? What other competitive business strategies are being applied to launch new textile and apparel products? The next section presents a case study of a textile and apparel manufacturing company in one of the NICs, which addresses these questions and issues and interprets their competitive strategies underlying the NPD process.

A Case Study of a Textile and Apparel Manufacturing Company in Taiwan

The study of a manufacturing company in Taiwan was carried out in an attempt to describe their textile and apparel production process and to identify and comprehend the issues regarding the competitive strategies of their NPD, which to date has brought them unparalleled success. This paper presents an analysis based on interviews with the company executive and primary and secondary documentation with an emphasis, on this occasion, on the company reorganization and textile and apparel product process strategies.

The Profile of the Company

New Wide Group, a textile and apparel manufacturer of high repute in the areas of knitting and dyeing was founded in 1975 in Taiwan. Originally focusing on locally produced circular knitted fabrics, the company currently employs more than 10 thousand employees worldwide. The net sales of the company reached US \$400 million in 2008 in comparison with US \$255 million in 2006 and US \$90 million in 2002. With more than 25% annual growth, this company has mainly developed its business in two major areas: knitted fabrics and apparel division. New Wide's competencies are manufacturing, quick response and efficient customer service and it is organized as a business group, operating as a number of companies on a global basis in Taiwan, The United States, China, Lesotho, Kenya, Cambodia and Vietnam (Appendix I).

For more than three decades, New Wide Group has undergone various business transformation stages, which include horizontal expansion, followed by vertical integration, and reorganisation together with business alliances. The initial horizontal expansion stage began in 1999 with the establishment of an R&D department within New Wide Group in Taiwan; this process has enabled the company to root in earlier stage of textile innovation and at the same time has proven its R&D capability to their customers. Vertical integration started from the time when their apparel production was integrated with textiles production and merged with other manufacturers from the low cost countries in order to quickly respond and serve their global customers. Reorganisation of their marketing teams and strategic alliances are currently performing to efficiently gain maximum value and profits. The following sections will discuss the business strategies employed to tackle the increasingly competitive fashion market.

Advantages of Strategic Alliances during NPD

'Differentiation' is one of Porter's eminent business strategies and Barney (2002) further suggests differentiation is associated with seven characteristics: product features, linkages between functions, timing, location, product mix, links with other firms and reputation. R&D is the differentiated competitive advantage that New Wide has adopted. Its use of the innovative yarn, PONTE (rayon and nylon mixed with spandex) fabrics was the characteristic of this approach at the beginning of the 90's, following cooperation between R&D and marketing. The results demonstrate the success achieved which also prevailed among their European and American customers. The purpose of setting up the R&D department in Taiwan was to de-

velop the new textile materials and production processes with the aim to provide customized fabrics for world-famous branding retailers. Thus, New Wide is no longer a purely textile manufacturing company, but rather offer services and R&D as part of their business. Since the establishment of R&D departments, New Wide has further expanded their R&D capabilities to support innovative projects for the company.

Parallel to this development, an external organisation specialized in fashion trend forecasting has started to integrate New Wide's expertise for fashion trend analysis into their production in order to provide customers and sales teams with updated information and product design. This strategic collaboration allowed New Wide to benefit from information and knowledge gained in terms of idea generation and screening stages, prerequisite for the next stages requiring communication with customers and the R&D department. Based on their long-term cooperation together with R&D, in order to offer early availability of product samples and design services to their customers, New Wide have managed to establish firm relationships with a wide range of leading fashion brand retailers, such as Adidas, Tommy Hilfiger, IZOD, Express, Puma, Reebok, Champion, Liz Claiborne, Abercrombie & Fitch, Lacoste, Marks & Spencer, Zara and Uniqlo. New Wide distinguishes themselves from their rivals by providing trend analysis and R&D to their customers, therefore adding value to their marketing and sales teams.

In order to improve their new product developing capability, New Wide has further invested in R&D about functional and eco materials, such as soybeans, milk, bamboo fiber, modal recycled fiber series and high elasticity series. The main focus was on functional and technology-driven material, such as antibacterial, far infrared and anti-ultraviolet. Soybean protein fiber, one of their R&D products, has been heralded as the "green fiber" of the 21st century because it does not pollute or damage the environment since the use of auxiliary materials and additives are non-toxic, and most of the auxiliaries and semi-finished fiber can be reclaimed and reused. New Wide collaborated with the Chinese Textile Organization and several other institutions including academic institutions for the development of this fiber. The project was launched in 2002 when New Wide established their textile offshore manufacturing in China. Their R&D alliances provide New Wide with an opportunity to launch their innovations in the Chinese market through Chinese official and authoritative promotion. New Wide's textile technology had undergone a series of breakthroughs in successful development in terms of dyeing and finishing processes. In response to their customer demand, they have been able to produce a new fabric based on soybean protein with a combination of a small percentage of other fibers.

Notwithstanding winning the 2007 National Science and Technology Progress Award in China, soybean fiber still remains at the stage of in-house product testing because of its reduced spinning ability, difficulty in bleaching and dyeing, weaving yarn defects and pilling problems. New Wide failed in popularizing soybean fiber products, but they have gained a reputation for technology innovation in textiles and the advantages of collaboration with Chinese R&D, which accelerated the establishment of their super R&D lab, New Wide R&D Institute, in Changzhou in 2009. This new center is intended to ensure the best quality of their products, therefore, products are tested on the international testing standards, such as AATCC, ASTM and ISO, which are currently applied to Adidas, Wal-Mart and Liz Claiborne.

The R&D center of New Wide proved not only its capability of producing quality products but also reliability. Despite the possibility of an increase in the cost of product development through R&D integration, this R&D alliance has pushed New Wide toward vertical integration with R&D and marketing units. The superiority of products or services are the key elements in the success of NPD. New Wide has been benefited from the commercial success as a whole by relying on their R&D innovation and has received a massive increase in orders despite the failure of the applications of fabrics.

Sales Teams as the Cross-Functional Teams within NPD

Through its unique supply chain performance, New Wide has established the flat organization system to operate its textile development and apparel production, thus leading to vast business expansion. With their lean production strategies, New Wide promises 2-3 weeks lead time production for fabrics and less than 90 days for apparels. The sales team of New Wide acts as the representatives of cross-functional teams to integrate their entire NPD functions within the company, which is one of the crucial factors of the NPD success. These acts are performed in a manner to integrate the physical and information activities of human resources (Bruce and Cooper, 2000; Trott, 2008).

Currently there are 20 sales teams within the fabric division and each of them comprised of personnel from quality assurance, production control and a wide range of sales, which cater for more than two hundred branded retailers. The individual textile sales team exclusively serves a number of branded retailers and is based in different locations of marketing offices including Taipei, Kunshan, Shanghai, Beijing and Hong Kong. Every team has their team manager who supervises their textile specialty in production; net profits gained by a team are shared among their team members.

The strengths of these textile sales teams are that they cooperate with the R&D department to provide customized fabrics and are able to make their own decisions in the selection of cooperative textile manufacturers. In order to gain quick supplies and maximum profits, they have to arrange their textile production processes and place the orders with either the manufactures of New Wide or subcontractors. After conducting an audit of subcontractors, the sales teams and company managers assess their production capabilities and product qualities resulting from manufacturing processes to create a ranking profile for internal use. These subcontractors, New Wide allies with, are a wide range of manufacturers based in Taiwan or nearby low cost producers in Asia, e.g. Vietnam and China. New Wide applies this special social networking for long-term mutual production system with a number of small scale or family-owned manufactures in Taiwan to produce a limited quantity with high variety to respond promptly to their customers' demand. On the other hand, the remaining orders are under contract agreements with offshore textile manufactures of lean production and this is more appropriate for the requirement of low variety and high volume. This hybrid supply system facilitates manufacturing flexibility and minimizes the production lead time, which benefits their sales teams in that they can efficiently manage their production schedules in order to cater for their customers. In terms of fabric production, instead of initial 100% in-house manufacturing, New Wide tends to outsource on account of

non-manufacture production strategies to minimize on the investment of textile machinery. Offshore outsourcing began in 2002 with the company's own manufacturing unit established in China; at the same time, they continuously enjoy joint ventures with several world-scale manufacturers in China and Vietnam. Additionally, the shift from their main textile business is gradually evolving towards apparel production as a further alternative to achieve their business targets.

For maximum value addition, New Wide has vertically integrated textile with apparel manufacturing. In order to establish a value added chain, since the launch of their apparel production business in 2003, it has been supported by their textile production. It was the turning point for New Wide to vertically expand their business territory. In contrast to textile production, New Wide operates the apparel production within its established manufacturers located at various locations, which are principally divided into two production areas: quick response and fully integrated production service. Within the former area, the locations of manufacturers include mainland China, Taiwan and Cambodia, which support and complete production of those high-end apparels by employing New Wide's multi-design teams based in each country in order to quickly deliver fashionable apparels. Within the later area, which is mainly the AGOA areas, such as Lesotho and Kenya, deliver to the American markets. New Wide is able to offer competitive price in terms of complete production of apparels within these areas.

Through vertical integration relying on communication and operation skills of the apparel sales teams, they provide their customers with integral production services. Peculiar to the apparel sales teams, each team solely consists of a sales manager together with a number of merchandisers. There are fifteen apparel sales teams established throughout the world as New Wide networks respond to various markets or customers' requests. The orders received are under the management of production control of the headquarter of New Wide. Unlike fabric teams, due to the complex and sophisticated production processes of apparels, these teams are requested to share their net profits as a whole based on what they call "the value centered system" to sustain the added values in apparel production. In order to meet customers' requirements, apparel sales teams have to coordinate and integrate production processes based on quick response to different buyers.

In a nutshell, New Wide's sales teams play the role of cross-functional teams that facilitate communication and functional operation among their NPD processes. Accordingly, their function is to increase the communication between product attributes and customer requirements and gain profits as well as value for the company. Textile sales teams support and cooperate with apparel teams based on their customers' requirement. Meanwhile, they need to regularly meet with R&D departments to receive the updated information and knowledge to improve their services. These sales teams function as an individual team in order to provide better customer service and control the total cost of each team. Simultaneously, they operate as a united system of functional integration to gain the maximum profits.

The success of New Wide can be mainly attributed to the strategic organization of sales teams since they can reduce lead time to the market, provide complete customer services, control costs and improve integrated communication between departments in terms of NPD.

Conclusions

This research has revealed that, to succeed in today's competitive business world, strategic considerations within each stage of NPD are crucial. The case presented in this study offers several insights into business transformation by applying a number of successful business strategies at various business stages, including strategic alliances with external organizations, introducing R&D to gain commercial success to underpin further product development and the flatter reorganization of their sales teams to facilitate R&D and marketing cooperation to add value and profits.

A vital finding revealed within this case is that despite New Wide initially started its business as a textile manufacturer, they are steadily moving towards apparel production or even beyond. They have established total manufacturing in apparel production instead of textiles and are further outsourcing more than half of their textiles production mainly for following reasons:

1. Textile R&D may be able to gain potential value rather than textile manufacturing.
2. Apparel manufacturing brings in more added value and profits in comparison to textiles.
3. Apparel manufacturing contains complicated processes that require careful monitoring in order to achieve desired standards.
4. Controlling apparel lead time and quality in house production are the key to achieve standards.

This textile and apparel manufacturer based in one of the NICs is aware of the severe global competition which no longer allows high wage production within their own nation. In order to direct their business to be successful on a global scale, several competitive strategies undertaken have been discussed within the case study. The present study was constrained because of time and resource factors. But we envisage to continue this study to identify and/or propose future competitive strategies, e.g. design or branding strategies for the textile and apparel industry.

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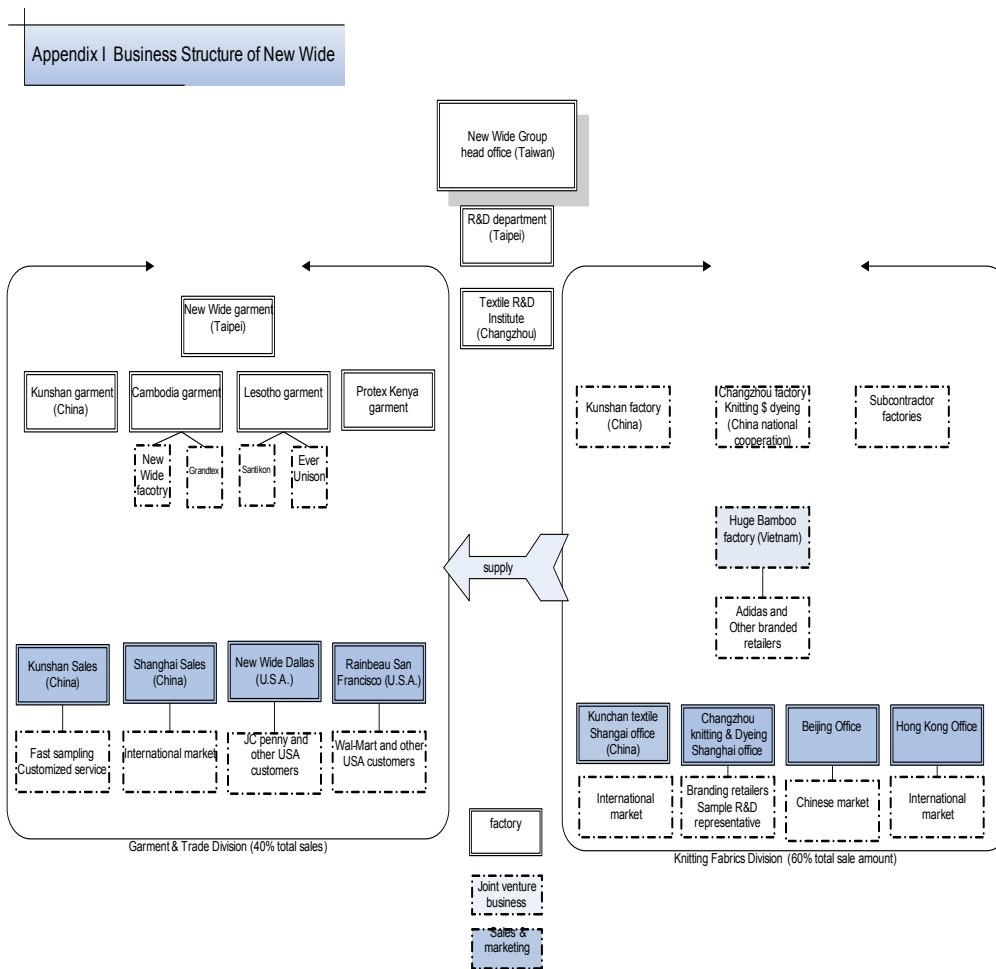
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Imagination, Inspiration, Imitation: A preliminary exploration of Rudolf Steiner's theories and holistic clothing and sustainable fashion design

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Keywords

Anthroposophy, Spiritual, Holistic Fashion, Reincarnation, Playful Pedagogy

“The products made by our machines will first be formed artistically by ... creative spirit, and thus supply for daily human needs the useful moulded into noble beauty” (Rudolf Steiner)

Introduction

Rudolf Steiner (1861–1925) has never appeared more avant-garde than he does today. Following in the tradition of the German romantics, Steiner formed his important philosophical ideas in pre-WWI Berlin at a time when revolutionary social movements were bringing about upheaval throughout Europe. He was a proponent of positive social change through ethical individualism and believed in the inherent universal creative potential in every human. He set up the Anthroposophic Society around 1912 which he described as “the consciousness of one’s humanity” and it has influenced such diverse fields as biodynamic agriculture, pedagogy, architecture, economics, dance and complementary medicine but does it extend to fashion design?

Never in the mainstream, Steiner’s influence has nonetheless found its way into artistic and fashion circles. If we look at pioneering artists like Joseph Beuys and cutting-edge fashion designers such as A.F. Vandevorst there are significant traces of Rudolf Steiner’s concepts and methods to be elucidated upon. However it is when we investigate the notions of reincarnation, harnessing the life force through individual creativity, colour significance and ethical practice that we find potential in Steiner’s philosophy to transform fashion design and fashion values.

Many individuals and collectives are already re-contextualising the meaning of clothes in a more holistic manner to bring about sustainable and ethical evolution in parallel lines to anthroposophy. We have moved towards this exploration in sustainability perhaps without even realising the potential for intellectual insight from the writings of this early 20th century philosopher and practitioner. As educators we can refer to Steiner for both creative extension and inspiration in sustainable practice.

This paper marks the mere beginning of a journey into a huge body of work from Rudolf Steiner and is a philosophical musing on the possibilities of bringing a sense of the spiritual – but not religious – into the pedagogical processes in fashion institutes as a way to think holistically about environmental and ethical issues embedded in our mega (lithic) industry.

The whole in the part

Rudolf Steiner used the term ‘the whole in the part’ to explain that everything we do or see is part of a broader universal picture – both seen and unseen – just as everything we produce is also a living part of that system. As such, if we make or consume fashion that has a negative impact on the planet and other people then as a part of that whole picture the implications are negative for us as individuals. If we take this view that our relationship with teaching fashion and textile design goes beyond the classroom then we need to take immediate steps to ensure that we become a positive force in the process.

While the Western notion of the spirituality in fashion and textiles has nothing more to do with clothing than perhaps an enchanting fashion moment that is quickly dissolved into last season’s style. We are nonetheless searching for greater connectivity with our garments and our environment. In her book *Sustainable Fashion & Textiles*, Kate Fletcher looks at the possibility of designing and making clothes that help us ‘flourish’ and in using this approach as a guiding principle so that we could transform the textile industry. It could then be argued that pedagogical approaches to fashion and textile design need to encourage students to find deeper connection to their inner creativity, spirituality and humanity through a practical application in their work. If we ‘flourish’ as an individual then we are part of a larger flourishing environment.

Fashion and textile design, as it is taught in our educational institutes, sources and seeks to draw out creativity but ultimately finds it chaotic until it is bridled within the objective industrial framework of colour, pattern, style, cut, season, collection, global supply chains, shop floor and finally (in most case scenarios) landfill. Our design inspiration that deeply delights us is also something to be cajoled and pressed into a neatly folded and placed away process – the industry of fashion and cut-off creativity. If we look at the process holistically, we can question where does that intuitive spark go if we don’t see the garment through to its final end and ultimate reincarnation even if that is in a purely design sense. Finding the best solutions for encouraging sustainable and ethical practice is fraught with often diametrically opposed positions like for example choosing between the ‘infinite’ recyclability potential of polyester versus the ‘naturalness’ of cotton. But both options are false positives. Polyester is drawn from a finite source and is part of a broader polluting system while cotton’s current agricultural and processing methods are anything but life-enhancing. Anthroposophic theory offers some clear guidelines for ethical and sustainable practice that may be useful in educational institutes.

Ethical Individualism

“We develop this force (a link to the spiritual) when we fill ourselves with goodness, with the goodness that makes us consider the other person first, the goodness that makes us want to go beyond knowing only about ourselves, being interested only in ourselves, and feeling only what goes on within us, the goodness that enables us to enter with our own souls into the entirely individual and unique being and experience of another person” (Rudolf Steiner)

Rudolf Steiner’s philosophy of anthroposophy including his tenet on ethical individualism had a strong influence on Joseph Beuys, a German artist. Beuys was particularly swayed by Steiner’s Threefold Social Organism model which sees:

“The basic form of a society that is founded in liberty in the world of culture, equality in the world of law, and solidarity in the world of economics”

In this system, the individual no longer produces for his or her own use, but for other human beings and takes from the output of others which serves one’s own needs. Altruism would be structurally instituted within this system. Steiner believed that the social and economic problems of his times were due to Ego getting in the way. From Steiner’s work, Beuys came to the conclusion in his art and political career that by altering the way we ‘think’ or envision the future we will direct our actions towards that end. The ‘imagination’ or image comes first and from that comes action. He worked with the notion of Ethical Individualism in his broader theme of Social Art which saw him planting 7,000 oak trees throughout Germany – an artistic legacy of spiritual renewal and hope.

Perhaps a little closer to the fashion industry, Beuys also created a series of Felt Suits that symbolically explored the notion of warmth as a metaphor for spiritual evolution. What Beuys explored through Steiner’s philosophies was the potential life in a world unseen to our rationalist and scientifically dominated ideological paradigm, the world of creativity and deep connection with a life force beyond the usual boundaries. “It was a system of ethics aimed at a life lived in spiritual fulfilment as well as in harmony with oneself and with the cosmos.” As Beuys said of his Felt Suit that:

“Ultimately the concept of warmth goes even further. Not even physical warmth is meant ... Actually I meant a completely different kind of warmth, namely spiritual or evolutionary warmth or the beginning of an evolution”

His Felt Suits were not made to be worn but the concept of clothing as offering creative, restorative, spiritual and socially active scope for fashion designers has been taken up by designers like AF Vandevorst who not only give homage to Beuys’ philosophies by using his red cross as their ‘sign,’ they used felt and other ‘pure’ fabrics in their first Paris collection for A/W 1998-99. The A/W 1999-2000 collection also used ‘pure’ materials like silk and woollen gauze worn at the front of a skirt which was contrasted with the protective qualities of felt at the back to convey ‘moments of uncertainty’ and ‘inner struggles of many women of all ages. The materials became a medium through which to explore human psychology. And in their A/W 2002-03 collection, the design pair played with the colourful dynamics and deeply communal world of bees as Beuys had investigated Steiner’s lectures in this area previously.

For Rudolf Steiner, bees represent not only the earth's fertility but also its capacity for love.

Our clothing and meaning of fashion design has the potential to be positively transformative and anthroposophy offers a practical approach to fashion students as they grapple with issues of ethics and sustainability. For Steiner, his spiritual science had to be more than theory:

“Anthroposophy must not look upon the secrets of the human soul only theoretically; it must also experience and identify with all the human soul's tragedy and jubilation and everything in between”.

In a similar vein, Alastair Fuad-Luke in his recent book *Design Activism* argues that design and activism are blurring today where design is “... the act of deliberately moving from an existing situation to a preferred one...” and activism is “... taking actions to catalyse, encourage or bring about change, in order to elicit social, cultural and/or political transformations. It can also involve transformation of the individual activists”. Looking at the materials we teach with is a good place to begin ‘design activism’ with our students.

Fibres and materials sourcing in a holistic manner

Locally sourced and unprocessed natural fibres like wool or hemp, playing with colour for its emotional resonance rather than its trend status has been fixed out of the fashion radar's reaches, a fringe alternative to the ‘real world’ of fashion and in many ways aligned to Steiner's theories. However, as we question our industry's approach to our earth then perhaps our institutes need to start re-evaluating the role of smaller scale craft endeavour. We must shift to using materials in our fashion institutes that come from renewable sources; that do not toxify our environment and do not come with a carbon footprint that spans the globe.

Biodynamic agriculture was named after a series of lectures that Steiner gave to a group of farmers in Koberwitz (1924) who wanted insight into their farming practice in the early part of last century when industrial farming was starting to gain ascendancy.¹ The term Biodynamic means ‘life dynamic’ and it works with seasonal and moon rhythms, species diversification, composting, special preparations and encouraging balance within the entire farm system thus making the system self-sufficient with both soil and crops would flourish. Today's biodynamic agriculture is sometimes labelled ‘premium organic’ agriculture. Biodynamic and organic farming may not yield net crops that are as ‘efficient’ as conventional methods, however it helps to improve the quality of the environment rather than pumping it till expiration because according to Koepf and Budd in *Works Arising from Rudolf Steiner*: ‘the quest for high yields, coupled with a disregard for the broader, long-term and unseen consequences, has given agriculture a false economic basis’. This extends beyond foodstuffs.

The fashion industry's reliance upon the false economic basis of conventionally grown cotton for example is a behaviour that fashion institutes can actively deal with. Rather than merely teaching students about the sustainable properties of organically grown cotton and alternative fibres, we need to take the initiative ourselves and source fibres that are produced locally. While the 100-Mile radius² is a popular choice in food sourcing, perhaps we could

extend this to 300-500km range within the non-food sector. This would mean radical changes to our institutes' supply chains. All petrochemical-based and synthetic materials would be banned – our civilisations coped very nicely without polyester for millennia! Fashion institutes would source only from certified earth and animal friendly organic suppliers. It implies that we would also shift to alternative fibres or indeed work with farmers that grow (or may begin to in the future) fibres like hemp, stinging nettle, silk, wool, alpaca and others that come from a local source and are grown without the use of fertilisers, pesticides or other chemicals. It might also mean supporting fibre-processing mills and specialised fibre manufacturers as they start up and potentially flourish.³ At the moment it is up to passionate entrepreneurial individuals to source or make connections for their work when fashion institutes could lead and facilitate the way.

Our bodies and indeed our spirits which according to the 'whole in the part' philosophy of Steiner, are part of the earth-based, sustainable, and holistic world and not a chemical, petrochemical, intensified and artificial landscape and we need to maintain our awareness of this. Mainstream fashion has lost this connection and we are stuck in a systematic throw-away culture which is highly dependent on land use, (petro) chemical use, global supply chain and low paid and often badly treated workers. Our throw-away garments are a sad indictment of the meaninglessness of the work of designers and makers of clothes, of our disconnection and abuse of the earth. As fashion institutes we need to reclaim the universal importance of clothes as part of our humanity, our creative urge and our daily work.

Fashion institutions would thus become sites of environmental 'cre-activism' rather than industry accomplices in environmental biocide. Our funding bodies - both industry and government - are likely to vaguely question and dismiss the economic viability of this proposal however the groundswell has already begun. Individuals are rediscovering the inner artist or craftsperson, finding quiet pleasure in embroidery, joining knitting groups, are choosing to buy all things locally sourced, organic, ethically made or cruelty-free, are customising, reworking and finding value in well-made clothes that go beyond seasonality. Designers are conceptualising clothes through to the post-user phase and beyond. It is already taking place and we need to be part of that smaller but much more universal picture. Our fence sitting suggests complicity.

We find pleasure in creating, as Richard Sennet suggests, 'craftsmanship names an enduring, basic human impulse, the desire to do a job well for its own sake'. It is happening outside our institutes' walls, we need to engage with craftsmanship that begins by us using materials that come to us imbued with life-affirming qualities. Our design inspiration and intuition that deeply delights us is something to be embraced for individual fulfilment both at creation and wearing level but on an interconnected global level for our planet and all peoples associated with the fashion industry. However, it doesn't have to be serious all the time and our creativity can be playful.

Playing with pedagogy

For Steiner, the notion of play, humour and imitation were important learning tools that are crucial for students to develop their skills. He also believed that playfulness should not be

restricted to the early years. If this notion of symbolic imitation is extended to the application of skills learning then perhaps Otto von Busch's fashion hacktivism cooking classes are a good example of drawing out inspiration and skill from fashion design students in a symbolically imitative manner.

In April 2009, von Busch set up camp at RMIT's Brunswick campus and worked with around 100 second-year students over three days. Each student had one short session to analyse the style elements of master designers Martin Margiela, Rei Kawakubo and Vivienne Westwood. From this analysis, students then created their own designs with the 'greats' in mind. Students had fun working with this symbolic imitation and found that using second-hand garments to create new designs was deeply inspirational for them as future designers.

The notion of play goes beyond symbolic imitation. Steiner believed that we are constantly trying to find balance between our physical, etheric and astral bodies, this roughly translates as Body, Soul and Spirit. As we play between symmetry and asymmetry, our responses to different fabrics and colours, we experience our primary relationships to the dynamics of the cosmic energies. For example, Steiner believed that -

"it must again be possible for us not merely to look at colours, to reproduce them outwardly here or there, but to live with colour, to experience the inner life-force of colour."

If we allowed ourselves to redefine our affinity with different colours, the notion of this season's colour might be more related to the individuals inner emotional requirements and conditions than as prescribed following the trend forecasters' zeitgeist. Our experimentation with colour could be about personal growth and evolution.

According to Steiner,

"if we hear only sound, see only pigment or matter, and do not feel the quality of music, colour, or form then we cannot behold beauty. Likewise, when we experience only personal reactions or associations, we may have feelings, even pleasure, but such feelings pertain to us and not the qualities of music, colour or form. Here also we do not behold beauty. The experience of beauty depends on our inner activity".

Our search for deeper connectivity to our clothes, to the meaning of our clothes and the way we think and feel about design possibilities is the point of departure here. To garner meaning in fashion design and garments we must play out a creative inner battle between two conflicting polarities which Steiner identified: the mythological expansive impulse which may be experienced as an expansiveness of spirit like ecstatic joy or pride or the contracting weight of inner paralysis or apathy. According to Margaret Skerry, a Steiner art teacher at Sophia Mundi Steiner School in Melbourne, our ethereal body (soul) searches out balance around us. If a garment is asymmetrical then the ethereal body will try to counteract the asymmetry because we prefer to look at things in a holistic manner. It is the challenge of finding balance which keeps our minds stimulated. Without imbalance our creative stimulus is gone.

As educational institutes we can perhaps challenge the mania of designer ego. Altruism and fashion might take design into interesting creative paths. Designers co-create with perhaps dozens of others skilled workers, farmers, machinists, transporters etc in making fashion and they have the right to flourish too. Steiner believed that we are all artists and that as creative beings we must try to find balance out of conflicting opposites, find emotional comfort or will to evolve spiritually through colour, or use 'play' as a way to develop our skills; to be humble about what we create, to create for the universal principle of the greater good. This must spur us on in our creative process.

Reincarnation

"Being truthful means that we have the right connection to our spiritual past. Having a sense for beauty means that we do not deny the connections to the spiritual world in our present physical existence... to [thus] create a seed for a spiritual world in the future" (Rudolf Steiner).

Reincarnation is a difficult topic to investigate because it is loaded with fundamental differences in religious belief. Steiner was the Chairman of the German branch of the theosophical Society till he broke away from it with his own Anthroposophical Society in 1912. While Theosophy continues to have strong beliefs in reincarnation in the tradition of Eastern religions like Buddhism and Hinduism, Steiner's Anthroposophy maintained the connection with reincarnation but without the Eastern flavour. For the benefits of this paper, reincarnation will simply refer to the concept of spiritual life pre-conception and post-death.

Rudolf Steiner believed that we can experience the beauty of architecture or sculpture as a recollection of the spiritual world before conception. He believed that the history of architecture is the story of our souls' evolutionary path through different phases and born out in an earthly context through architectural epochs. Steiner himself designed and had built a huge architectural structure to house the Anthroposophical Society in Dornach, Switzerland. The first wooden version was burnt down by arsonists, then the second built with reinforced concrete and still standing as a bold and organic form, it is credited with being an important example of Modernist architecture.

'The architecture forces which exist and work within us are reflected back to us from surrounding space, so that our inner world becomes our outer environment. Then "our soul is now no longer only within our body's skin but belongs to the cosmos". If we extend this principle of architectural structure and the spiritual to the construction of our clothes then is it not possible to create the dynamic proportions and recreate them in the structures that directly house our bodies more closely than the buildings around us. Our bodies become therefore the inner space of our clothing's architecture and if we follow this line of thought, our experience of our clothing - architectural constructs and flowing spaces of enveloping fabric is also non-material and potentially even spiritual.

In their S/S 1999 collection, A.F. Vandevorst brought out a collection which looked as if it had been slept in because according to them "a garment that has been worn, has more 'spirit', more 'soul'. Is it more spirit or soul that we are searching for or is it the recollection of that

pre-conception space that Steiner spoke of? Could we consider our current love of all things vintage simply our love of retro or an attempt to replicate the experience or the unseen; of perhaps feeling a spiritual connection with past bodies, past souls as they inhabited clothing spaces.

In architecture, Steiner believed it was our will to re-experience the feeling of ourselves move as soul-spirits. In this case then our experience of the unseen is something that we wilfully search out in structures that are not simply utilitarian in being. If our spiritual past, present and future is played out in our bodies and our clothing plays out the forces between expansion and compression then our clothes must have more significance than a magic yet throw-away fashion moment. If we as educators facilitate students to create clothes that have 'soul' or 'spirit' through meditating on the significance of our relationship to them by using life-enhancing fibres, ethical production, style longevity design, craftwork and play outside our usual boundaries of creative balance then there could be the potential for the fashion industry to flourish and we with it on many different levels not only materially.

Conclusion

To see 'the whole in the part' as Steiner phrased, it is today's good design theory and as facilitators of theory and practice, fashion institutes need to adapt this pedagogical approach. If we look at the creative process holistically, we can question where our intuitive and imaginative sparks go if we don't engage with the entire garment from its cyclical beginning to end and beginning again. We must look seriously at where our fibres come from and who grows or farms our materials and who will finally produce our clothes, through to their final end and ultimate reincarnation. Fashion institutes must encourage students to create sustainability by example - support a change in our supply chains, buy local and organic, question the mania of ego-centric driven design and look to a more altruistic model, encourage respect for the entire creative process and co-creators along the chain and reflect on the 'otherworldly' potential of our garments. Our clothes are a very direct part of our spiritual journey through life and we should value the beauty that designers of fashion and creators of fibre, of clothes have as part of our connection to the earth, our spirituality and to our very humanity.

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Textiles, connection and meaning

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Keywords

Slow, design, connection, textiles, fashion

Abstract

Why do some items of clothing remain safely housed in our wardrobes whilst others are quickly relegated to opportunity shops?

This paper investigates the practical, emotional and nostalgic connections people make with their possessions. This understanding is applied to suggest ways in which we can better design and promote textiles for the fashion market.

Textiles for the body can be functional, fashionable, symbolic or a combination of these three. The method of 'slow design' is used as a vehicle to explore ways that ensure textiles to meet the long term practical and emotional needs of consumers. Slow design follows a holistic approach, where each stage of the design process is carefully considered. Bespoke, well-crafted design can be appreciated on a variety of levels increasing the bond between object and owner.

A garment with cultural significance purchased whilst on holiday has an emotional advantage over a cheap garment purchased on a whim during lunch hour. The holiday purchase becomes a nostalgic reminder of travels, experiences and people. The cheap disposable garment has an immediate purpose, to protect, or to project an awareness and acceptance of fashion. Fast fashion is consumed in a similar way as fast food. Its job is to satisfy immediate needs, not to nourish long term. Opportunity shops are currently overwhelmed with cheap disposable fashion due to a continual wave of desire and disappointment. If designers can connect with people on multiple levels, the desire for quantity over quality may be reversed and relieve the drain on resources.

Introduction

This research was undertaken due to the personal interest in the idea of counterbalancing our fast paced frenetic ways of living. People are working longer hours, earning more money and buying more things to fill the void in their emotional lives (Naish, 2008). It seems that products purchased to alleviate feelings of emptiness are failing to fulfil their role. The emotional journey from 'desire to disappointment' (Chapman, 2005) often places a functional product into obsolescence, unloved and unwanted (Naish, 2008). This pattern of consumption

is responsible for an extraordinary amount of waste, which 'is nothing more than a symptom of a failed relationship' (Chapman, 2005). According to Chapman (2005), over 90% of natural resources mined to create product, become waste within only three months. This alarming statistic emphasises the important role that connection, meaning and relationship plays in addressing our irresponsible habits endemic in throwaway culture.

Designers who seek to create a stronger emotional connection between product and people are finding value in 'slow' methodologies developed from the earlier model, being slow food. Slow food, slow living, citta slow (slow cities) and slow design aim to address the hectic pace in which we operate, and encourage people to slow down and engage in activities that require care, attention, mindfulness and reflection (Parkins and Craig, 2006). The 'slow approach' enables people to contemplate the fullness of their actions.

This paper, summarizes the recent literature in 'emotional connection and meaning' from the perspective of contemporary product design. Secondly, the slow food movement is summarized and broken down into its fundamental parts. Finally, the adaptation of product design theories in 'emotionally durable design' and principles of 'slow' are applied to suggest ways to connect people with fashion for the long term.

Connectivity - lessons from research

The fashion and textile industry are a complex set of factors. The complexities of growing, manufacturing, distributing, marketing and selling textile-based product are often driven by the money with insufficient consideration to the social and environmental consequences (Clark, 2008; Fletcher, 2007). Whilst recognising the negatives currently inherent in industry, we cannot ignore the significant role fashion plays in forming relationships, personal identity and satisfying our aesthetic desires (Fletcher, 2007). Therefore, fashion can, and should have a positive influence on the individual and society as a whole. Fast fashion in contrast, is the culmination of a post industrial frenzy where speed, technology, and an exploited work force enables. Copy of the latest fashion trends at an affordable rate (Black, 2008). Fast fashion does not sustain in the long term. Inferior fabrics, poor construction, along with fleeting trends, render the majority of fast fashioned garments outmoded or defective, unloved and unwanted in a short period of time. Jonathan Chapman has addressed the importance of strengthening the relationships between people and product in his book entitled 'Emotionally Durable Design - Objects, Experiences and Empathy' (2005). The book contains ideas on how to design and produce articles using sustainable methods akin to the products' perceived life span (Chapman, 2005). We have seen a radical shift in the way in which people value materials and product. Many believe the industrial revolution to be the main contributing factor (Chapman, 2005). There was a time people when would reuse retired worn out materials to create something new and functional. This process came out of necessity; new products were expensive and hard to come by. The onset of mass manufacturing has reduced the cost of product, and dramatically increased the quantity available in the market. The 'make do and mend' approach is now practiced out of pure need (Clark, 2008), or for reasons associated with craft or sustainability (Fletcher, 2008). The disconnection between product and people is responsible for an enormous amount of waste, in total contrast to the 'make, do and mend'

approach used by our resourceful ancestors.

“Landfills around the world swell with fully functional appliances – freezers that still freeze and toasters that still toast – their only crime being a failure to sustain empathy with their users.” (Chapman, 2005)

In the early days of the industrial revolution the environmental impact of mass production was of little concern (Chapman, 2005). Over time we have become rely on and expect of industry to fulfil our every whim and desire. With this has come an arrogance, or ignorance of its effects on the society and environment. To address this irresponsible attitude, communities are encouraged to consider the environmental implications of purchasing and discarding a product. This global educational shift, particularly around the three R's viz. reduce, reuse and recycle; has addressed the 'responsibility' angle and put the onus back on the purchaser. However, many researchers believe that the emphasis on 'recycling' rather than 'reduce', and 'reuse' has placed the responsibility onto waste management systems rather than the individual consumer (Chapman, 2005; Fletcher, 2008). Most recycling processes actually downcycle products into inferior materials that are incapable of performing the task they were originally designed for (McDonough & Braungart, 2002). For example, aluminium soft drink cans are comprised of two types of aluminium (top and sides) along with paint and other alloys. Conventional recycling does not separate these parts, resulting in an inferior metal hybrid (McDonough & Braungart, 2002). The design challenge is to ensure that environmentally sensitive, well-designed products can maintain a relationship post the 'honeymoon period' and avoid an early demise.

'In the material world, when the adoration and empathy fades – as it almost always does – the original pair bond weakens and fresh bonding urges are motivated. The consumer eye begins to wander, dreaming of more desirable futures with newer models' (Chapman, 2005).

Since many products have been developed to the point of optimum functional performance, people are demanding emotional extras such as, pleasure and enjoyment (Sava□, 2008). This is reinforced by strategic advertising campaigns, promising a better and a happier life through product ownership (Chapman, 2005).

Another researcher interested in the area of design and emotion is Özlem Sava□. Sava□ surveyed people in Ankara, Turkey, to determine their relationship with material possessions. Sava□ established that people feel 'both attachment and detachment in their relationship with products' (Sava□, 2004). Attachment was associated with positive pleasurable experiences whilst using and caring for the product over a longer period of time. In contrast, detachment was characterised by negative feelings, unsatisfactory performance, lack of care for the product and a willingness to part with it (Sava□, 2004).

Sava□' theory for attachment and detachment has been summarised and presented below.

Reasons behind attachment to product

- The past (family heirloom, gift from family member, memories of people and past

events, habitual ownership)

- Experience (enjoyment - generates desirable feelings, independence, confidence, release)
- Utilitarian (usefulness, tool of trade, performance)
- Personal being (reflection of self, symbolises values)
- Social being (social status, brand image, social identity)
- Form (style, color, visual quality or ambience created)

Reasons behind detachment to product

- Utilitarian (poor quality or performance, inadequate operation)
 - Personal being (dislike or boredom, poor reflection of self)
 - Social being (shows individual belongs to an undesirable class)
 - Form (physical element and style)
 - Purchase (superfluous products purchased without need, feelings of disappointment whilst using product)
 - Environmental (living conditions, changes in individual's life or technological obsolescence)
- (Sava□, 2004)

In his book 'Designing Pleasurable Products: an introduction to the new human factors; Jordan (2000) notes functionality, useability and pleasure as the order of consumer need. Historically, people were happy with a product if it performed its functions satisfactorily. This soon changed when 'ease of use' became a product consideration. Once functionality and usability had become an automatic expectation, designers began to investigate the emotional aspects of product-human relationships. Initially manufacturers used 'pleasure' as a way of capitalising on basic human desires (Jordan, 2000). It is now an expected addition to both functionality and useability. If people are expecting an emotional experience from material possessions, designer's need to consider their experiences, frequency and what this means for the products life cycle. The 'desire and disappointment' emotional reaction should be avoided, if we want to alleviate issues of endemic waste and consumer's irresponsibility.

This preliminary literature review on the topic of 'emotionally durable design, connection and meaning' provides method for addressing the relationship between people and fashion. The keys points are:

- Establishing and fostering empathy with product (Chapman, 2005)
- Encouraging opportunities for attachment and eliminating the possibility for detachment (Savas, 2004)
- Ensuring functionality, useability and pleasure (Jordan, 2000)

How do we maintain adoration and empathy with fashion and textiles? If we can identify with, and experience through the material object we own, there is more chance that the object / owner relationship will grow stronger with time, rather than cease to exist.

Slow methodologies

Carlo Petrini founded the first 'slow' movement in 1986, in protest against the rise of 'fast food' culture spreading from USA to the rest of the globe. Slow food is a non profit organisation, aiming to encourage consumer awareness for agricultural practices, food production and traditional techniques at a local level. The organisation having a 'think global act local' approach, encourages the awareness on how food choices impact on the world, socially and environmentally (www.slowfood.com).

Slow food embraces biodiversity in the food industry; it protects 'slow' heirloom foods which is at the risk of extinction due to the 'fast' economic push to produce more food in less time for less money, (a homogeneous "one size fits all" global approach to food) (Honore, 2004). The slow food community consists of growers, cooks, restaurateurs and patrons in a supportive network with a common goal to preserve traditional local food and cooking techniques. This network is proving to be an economic success story, with growers and restaurateurs forging strong links, reducing the need for processing and excessive freight often necessary when food is grown on one side of the world and eaten on the other (Honore, 2004). At the core of the slow food movement is the desire to 'improve quality of life' without affecting people and environment (Slow + design Manifesto, 2006).

The slow food philosophy identifies that food should be good, clean and fair.

- Good - meaning tasty, flavoursome, fresh and capable of stimulating and satisfying the senses
- Clean - produced without straining the earths resources, its ecosystems and its environments and without harming human health
- Fair - respectful of social justice, meaning fair pay and conditions for all concerned, from production to commercialization to consumption (Welcome to our world, slow food companion, p.3).

Slow food is not consumed in the commercial 'mass market'. Aficionados of the slow food movement are defined as 'co producers' rather than 'consumers' (www.slowfood.com) due to their interest and support of the process from paddock to plate (www.slowfood.com). 'Slow living' has developed from the slow food movement. It encourages people to invest in the pleasures of everyday life (Perkins and Craig, 2006). Care, attention, mindfulness and reflection are values at the forefront of slow living (Perkins and Craig, 2006). 'Slow design' shares many values associated with slow food and slow living. It encourages design that adopts a systematic view, that looks at the complexities of social networks, develops a capacity for listening and interrelates with the creativity and diffuses entrepreneurship that characterises contemporary society (Slow + design manifesto 2006, p.2). The 'slow' approach is flexible enough to be applied to a variety of circumstances, making it a useful model to address issues of fashion and sustainability.

The simple three-part approach to slow food identified above has been used as a starting point for highlighting 'good, clean and fair' alternatives to 'fast' fashion.

Slow fashion - application of ideas

Good fashion and textiles

“Tasty, flavoursome, and fresh” could be interpreted as ‘beautiful, well-constructed and designed to fit’. This translates well into the bespoke approach to textiles and fashion, where designers work collaboratively with their clients in the selection of fibres, fabric development, garment styling and fitting. A respect for the designer maker and understanding of the design process strengthens the attachment between garment and purchaser (Black, 2008). The concept of ‘transparency’ readily arises when dealing with issues of sustainability. Providing an opportunity for people to engage with the design process (or at least witness the process) encourages a sense of connection (Clark 2008, p.435). Fast fashion is a hungry beast, relying on cheap fabrics, low salaries and workers’ exploitation to survive (Clark, 2008). Copying products is faster than bespoke items. Speed of production along with labour, capital and natural resources get juggled and squeezed in the pursuit of maximising output for increased profits (Fletcher, 2008). According to Fletcher, people are buying one-third more garments than four years ago (Allwood in Fletcher, 2008). The combination of affordability, quantity and lack of transparency are the driving forces behind fast fashion.

Bespoke fashion offers some advantages; ‘its slow approach and emphasis on longevity, craftsmanship and new interpretations of luxury’ (Black, 2008) fulfil some of Sava’s ‘attachment’ criteria listed earlier in this paper. Currently bespoke fashion comes with a hefty price tag, making it undesirable and unaffordable to the majority of the population and specifically those riding the wave of fast fashion. The idea of bespoke for the masses is flawed for the simple fact that materials and the handcraft approach are expensive and therefore only accessible to the rich (Fletcher, 2008). However, if people buy less ‘fast’ garments and take the time to consider what they need from fashion, their money could be better spent on fewer well-designed garments using materials that are durable both physically and in the context of time (Fletcher, 2008). Fletcher (2008) suggests that the fashion sector could reduce its material use to half without economic loss, if consumers pay a higher price for a product that lasts twice as long. Quality, transparency and good design are critical factors in ensuring ‘good’ fashion and textiles.

Economic globalisation makes the practice of good design difficult. The name ‘slow food’ came in protest to the insensitive global onslaught of an American ‘fast food’ hamburger chain. The name ‘slow food’ encapsulates a ‘... critical reaction to the symptoms of incipient globalisation’ (Craig and Parkins, 2006). ‘Slow’ in the broader context suggests a better, more ethical alternative that uses globalisation to its ethical and economic advantage.

Clean textiles for fashion

In United Kingdom ‘Help the aged shops ... pay councils more than £300,000 a year to dispose of unwanted goods’ (Naish, 2008). Ever changing fashion trends, poor quality textiles and construction means that cheap imitated garments end up in charity shops relatively soon after their initial purchase. Nobody wants to pay money for what is essentially out of fashion, and an inferior quality product (Naish, 2008) therefore ‘fast fashion’ goes to landfill. According to Fletcher (2008) ‘the total amount of clothing and textile waste arising per year in the UK is

approximately 2.35 million tonnes, which equates to nearly 40kg per person per year', with 30kg per person per year going to landfill. A small percentage of undesirable textiles are used for cleaning cloths, shredded and used as stuffing material or re-used into new yarn (Fletcher, 2008). The European Union has legislated that all textiles will be banned from land fill by 2015 and will have to be collected separately from other rubbish (Fletcher, 2008).

Material innovation can provide a solution to the problem of excessive textile waste. Careful matching of materials to use, aligns the product with its perceived lifespan (Fletcher, 2008). Fletcher (2008) has suggested that 'one night wonder', garments purchased on a whim for a particular occasion could be biodegradable or taken back by the company that sold the garment for reuse. One of the major resource hungry stages in the life cycle of a textile garment is laundering. Water, detergent, tumble-drying and dry cleaning are required to keep clothing fresh and wearable. Fletcher argues that material innovation can provide opportunities in which to the laundering process can be phased out for particular garments. She suggests that underwear, which is worn and washed many times, could perhaps be made from non woven cellulosic material, designed, coloured and produced to satisfy the fashion of the time. After a single wear, underpants could be composted along with kitchen and garden scraps in domestic compost bins. This systematic approach follows the principles of industrial ecology and permaculture gardening, where waste from one component becomes food for another in a closed loop, cradle-to-cradle system (Fletcher, 2008).

Use of matching material could alleviate some of the substantial water and energy requirements at the 'care' stage of the garments life cycle (Fletcher, 2008). Encouraging a 'co-producer' approach to consumption, and transparency in design and manufacturing can assist in making fashion and textile industry 'clean'. If garments are unable to maintain a long-term relationship with their purchaser, then perhaps they should be made of using biodegradable materials that can be reclaimed by nature in the short term.

Adopting a local approach to design and manufacturing lessens the need for excessive freight, where materials are transported thousands of kilometres from one supplier to the other (Fletcher, 2008). Transportation is reliant on fossil fuels, a hungry consumer of the lithosphere, and heavy polluter of the atmosphere. Localism encourages people within communities to connect and share skills and creativity to provide for one another and express their cultural difference (Fletcher, 2008). 'Economic resilience, social engagement and cultural and aesthetic diversity' (Fletcher, 2008) are characteristics of localism. Communities develop a sense of personality that gives them a point of difference to their neighbors. Localism addresses the negatives associated with excessive transportation and mass-production of products for the global market.

Fair textiles for fashion

'The textile and apparel industries are the largest source of industrial employment in the world' (Dickerson 1999 in Maynard, 2004). With as many as 26 million jobs world wide; many people are reliant on fast fashion for employment (Fletcher, 2008).

The fashion and textile production process involves one of the largest and most

complicated industrial chains in manufacturing industry (Fletcher, 2008). Due to its sheer size and work force, many unethical labour practices in developing countries go under the radar (Fletcher, 2008). Fairtrade Labelling Organization (FLO) is an international system of standards committed to produce ethical goods, establishing a 'credible, independent consumer guarantee for products that help producers in developing countries get a better deal from international trade' (*The Fairtrade label: Guide for certification of Cotton Products*, 2007). It empowers people who have traditionally been exploited, providing safe working conditions, fair pay, health care and education (Fletcher, 2008). Fairtrade is primarily concerned for the social welfare of employees involved in the cultivation and production of product. Successful Fairtrade products include; coffee, tea, cocoa and cotton. Cotton cultivation in developing countries involves undesirable working conditions, low pay and little job security (Fletcher, 2008). 'As many as 100 million rural households are globally involved in cotton production (*The Fairtrade label: Guide for certification of Cotton Products* 2007, p.3) with many facing hazardous working environments (Fletcher, 2008). Cotton production has been audited, and Fairtrade cotton is available at a retail level. The wider textile and garment-manufacturing industry requires a complex auditing process to ensure that the numerous stages in the supply chain are ethical, this is currently being developed by FLO (*The Fairtrade label: Guide for certification of Cotton Products*, 2007). The concept of transparency in production and manufacturing will become increasingly important as consumers demand to know the origin of materials, and labour involved in the development of product. Pressure at the retail level by 'co producers' may encourage a full audit of the supply chain and enable more complex fashion garments to emerge both at the small, medium sized enterprise level and by large manufacturing companies.

Fairtrade encompasses all industries where disadvantaged people are involved in the cultivation and production of product. It uses an auditing system and encourages transparency and an ethical approach to production and consumerism. It aims to make consumer's realize the importance of raw commodities, the dependency of livelihoods on them and the origin of final products they buy (*The Fairtrade label: Guide for certification of Cotton Products*, 2007). Creating a transparent supply chain provides the co producer with a window to view their product while manufacturing. This awareness may assist in establishing empathy with product, through experience and social being as suggested by Sava□ (2004). If we can identify with, and experience through material possessions, there are more chances that the relationship between the object and owner will grow stronger with time, rather than cease to exist.

Conclusion

Present day designers have been trained to delight, persuade, pamper and mollify consumers (Wood, 2007) into buying products more often. The current economic model identifies good design, as profitable design. Slow design adopts a more holistic approach, 'for 'good' design to occur, designers need to be aware of the consequences of their creative decisions and their impact on the life of the product (Underwood, 2008). In order to foster 'good' design, designers need time to consider their role in the broader context of consumption and waste. Designers, industry and consumers need to shift their attention from the financial

'cost', to environmental and ethical 'cost'. The following three lines of reflection provide a starting point to approach design with a sustainable perspective.

- Valuing of local resources and distributed economics.
- Transparent production systems with less intermediation between producer and consumer.
- Sustainable and sensorial products that have a longer usable life and are more highly valued than typical consumables (Clark, 2008; Slow + Design manifesto, 2006).

A shift in focus is necessary to encourage established designers and industries to adopt a slow approach. Focusing on the merits of a 'slow' fashion may assist in reducing the current practice of 'desire and disappointment' in the fashion industry. To curb mass-market consumption, we need to educate people regarding the consequences of their fashion choices, and start the, reduce, reuse, recycle campaign. Through education and motivation, people may begin to connect their actions with consequences, raising the individual from a passive consumer to an active co producer. Good design practice, a transparent supply chain, a think global act local approach, encouraging personal connection, valuing empathy, quality over quantity and ethical practice may assist in maintaining the 'desire' people feel for their existing fashion garments. Thackara (2005) states that relationships based on the development of mutual trust through time remain the vital essence that makes market work. Good, clean, fair fashion is economically, socially and environmentally viable.

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Welcome to our world – *Companion Slow Food*, Slow Food, Bra, Italy

Toward Creation of an Environment-Friendly Fashion Culture - Current Environmental Measures for Japan's Apparel Products and a Reexamination of the "Kimono Culture"

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Keywords

Environment-Friendly Fashion Culture, Kimono, the Edo Period, the fashion industry in today's Japan, Life Cycle Assessment

Abstract

Global environmental problems were identified as issues that affect all humankind. Fashion is typically strongly linked to consumer culture and has been viewed as being somewhat removed from environment-friendly lifestyles. Nonetheless, there are signs of a change in the public's views today. In this paper, we examined the creation of a future of the environment-friendly fashion culture from the following two perspectives:

- 1) Environmental aspects of Japan's national dress – the kimono. We chose the kimono not only because it sparked a gorgeous and elegant fashion culture in the Edo Period, but also because it had an extremely environment-friendly life cycle if considered in terms of the production-to-disposal process.
- 2) An examination of environmental measures being taken by current apparel manufacturers in Japan – with particular focus on the current status of the "Cool Biz" approach and application of Life Cycle Assessment (LCA) for apparel products – and then extraction of issues and problems. Through this study, the following conclusions were drawn:
 - 1) LCA is effective tool for promoting the development and production of high-quality fashions in an environment-friendly manner.
 - 2) The use of clothing that is adaptable to climates will be essential to minimizing the amount of energy needed for air conditioning. To succeed, the development

of materials and forms that are appropriate for climates and the dress codes of individual regions are an aspect that deserves consideration here. Japan's Cool Biz campaign is an approach that can make a difference in this respect.

- 3) Japan's "kimono culture" in the Edo period was sufficiently environment-friendly fashion and the philosophy that underpinned the Edo society was "mottainai", the idea of "honoring things and feeling regret when their inherent value is not exploited" sums up the way the Japanese people traditionally viewed the natural environment. The spirit should be reevaluated in modern fashion.

Introduction

Global environmental problems were identified as issues that affect all humankind at the 1992 UN conference on environment and development. Since then, efforts toward tackling these problems have been spreading to all corners of the globe based on the theme of "sustainable consumption and production" –in other words, a shared awareness that the actions and lifestyles of not only producers but also consumers must change if human beings are to achieve sustainable development.

Although fashion is an important component of people's lifestyles, it is typically strongly linked to consumer culture and has been viewed as being somewhat removed from environment-friendly lifestyles. Nonetheless, there are signs of a change in the public's views here. In fields related to both clothing production and disposal, fashion-related environmental measures are already receiving considerable attention. And in the distribution and consumption fields, fashion brands that strategically focus on ecological lifestyles are gaining acceptance in the market.

In the following study that uses above as a backdrop, we examine the creation of future of the environment-friendly fashion culture from the following two perspectives. The first involves the environmental aspects of Japan's national dress –the kimono. We chose the kimono not only because it sparked a gorgeous and elegant fashion culture in the Edo Period, when it was largely unified as a fashion form, but also because it had an extremely environment-friendly life cycle if considered in terms of the production-to-disposal process. The second perspective involves an examination of environmental measures being taken by current apparel manufacturers in Japan –with particular focus on the current status of the "Cool Biz" approach and application of Life Cycle Assessment (LCA) for apparel products –and then extraction of issues and problems. Through this study, we intend to reexamine the form that environment-friendly fashion culture should take in Japan and offer suggestions for the future.

Japan's "kimono culture" as seen from environmental perspectives

The development of the kimono

The basic form of Japan's national dress, the kimono, is the *kosode* (short-sleeved kimono),

whose history stretches back to the 8th century. At that time, the *kosode* was worn as underwear by members of the Imperial Court and as everyday clothing among the common people. As the years passed, the *kosode* gradually came to take on formal qualities as an outer garment, and during the Edo period, the kimono became established as the main form of dress for both men and women. The *kosode* that was worn during the latter half of the Edo period continued as the modern kimono.

The kimono (hereafter in this paper, “kimono” shall refer to all kimono forms, including *kosode* of the Edo Period) is worn by wrapping and then fixed with an obi. (Figure 1) Because a kimono’s fabric is cut in straight lines that create large areas for decoration, the kimono came to take on colorful patterns in the Edo period and thus sparked a gorgeous and elegant fashion culture. At the same time, however, the kimono of the Edo period had an extremely environment-friendly life cycle if viewed in terms of its production-to-disposal process.

The effect of straight cutting

A kimono is cut and tailored without waste from a long and narrow bolt of cloth measuring approximately 36 centimeters in width and 11 meters in length. Figure 2 shows the cutting of a



Figure 1: A kimono of the Edo period – *kosode* (National Museum of Japanese History, the Edo period)

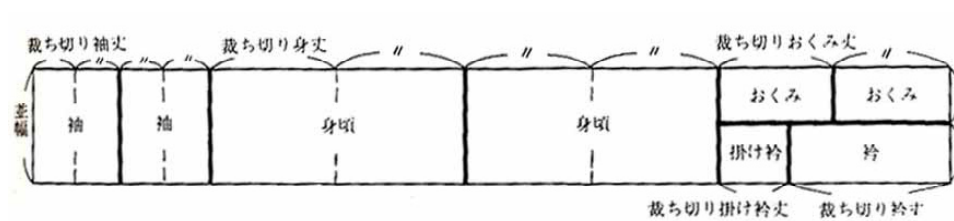


Figure 2 Cutting diagram of a kimono cited from a kimono dressmaking textbook (Otsuka, Sueko, 1993, p.74)

standard unlined kimono for women. As can be seen in the diagram, cutting is made without waste, as there are no fragments to be cut away.

Figure 3 shows the cutting for Western-style clothing, using woman’s one piece dress as an example. Western-style clothing, which is made to fit the body’s shape, requires the cutting away of about 10 to 20% of the cloth’s area. The kimono is made by using cloth effectively, and this may make it more environment-friendly than Western styles of clothing that are primarily tailored with curved cutting.

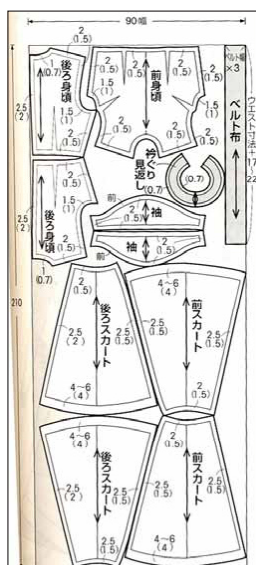


Figure 3: Cutting diagram of Western-style clothing

Source: a dressmaking textbook (Nakaya Noriko and Miyoshi Machiko, 2004)

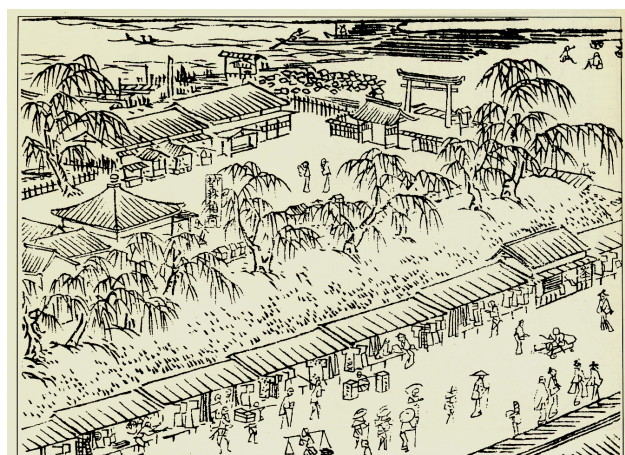
When a kimono became dirty, worn, or ripped through use, before a kimono was reshaped, all of its stitches were removed so that the parts could be washed. Then each part was stretched over a board to dry, or edge-stitched into the original roll of cloth and stretched out using *shinshi* (bamboo sticks that were fixed at both ends with short needles), applied with starch, and left to dry (Figure 4). This process of washing and stretching was possible precisely because the kimono's cloth was cut in straight lines without waste. Moreover, an adult's kimono made of various rectangular, un-curved parts that if became un-wearable could still be used. It could be made smaller by cutting off ragged areas and



then re-shaping it into a child's kimono; using it as a lining, kimono undergarment, or loincloth; or turning it into night-clothing, cloths for wrapping things, diapers, or rags. When the cloth was finally so tattered that it was no longer reusable, it was burned. However, even the resulting ash was put to use, as it was dissolved in water and used as "lye" for laundry. It should be noted that, in addition to this lye, water remaining after rinsing rice and seeds of the honey locust were used as laundry soaps during the Edo period. Thus, the modern concept of "reuse and recycle" can be seen throughout the entire life of Edo period cloth.

Figure 4: Washing and stretching a kimono (Katsukawa, Shunsho, the Edo period)

Use of secondhand clothing



Primary materials used in kimonos were hemp, silk, and cotton. During the Edo period, cloth was an extremely valuable commodity, and therefore many common people obtained cloth for everyday use and clothing from "secondhand clothing shops." Figure 5 shows secondhand clothing

Figure 5: Secondhand clothing shops in the Edo period (Hasegawa, Settan, 1836)

shops lined up next to one another. According to records of Japan's feudal government from 1723, the government had organized eight merchant types into union and the total number of secondhand clothing shops that were affiliated with this union was 1,182. In addition to tailored *kosode*, secondhand clothing shops sold cloth created by taking apart the stitches of kimonos as well as small pieces for patchwork.

Ingenuity and cloth care for long life

Common people used various ingenious ways to extend the life of their clothing. Most notably, the everyday wear of farmers and fishermen had to be tough, and methods called *sashiko* and *sakiori* were used to repair and reinforce it. *Sashiko* involved layering pieces of cloth over each other and then finely quilting them from one side with thread. Originally, this technique was started to protect clothing from abrasion and damage; however, as is seen in the *koginsashi* technique of Japan's Tsugaru region (Figure 6), it gradually came to show highly skilled and decorative designs. It was customary for women to bring to their weddings work clothes with sophisticated *sashiko* in the back, shoulders and chest that they had painstakingly prepared for their husbands-to-be. In some regions, old clothing and pieces of cloth were shredded into thin strips and reused in *sakiori* (literally, "shred and weave") by being woven into clothing as the weft. These methods were meant to eliminate wasted fabric.



They represented know-how for surviving severe climates as well as a way of caring and showing thankfulness for even the smallest scraps of cloth, and thus they were not unlike the idea behind American quilts.

Figure 6: *Koginsashi* (Tsugaru *Koginsashi*, the Meiji period)

Changing clothing with the seasons

Another environmental characteristic associated with the Edo period kimono is the custom of changing clothing with the season (Figure 7). It was established that lined kimono (*awase*) should be worn from April 1 to May 4 of the old calendar, thin and unlined kimono (*katabira* and *hitoe*) from May 5 to August 31, *awase* again from September 1 to September 8, and cotton-quilted kimono (*wataire*) from September 9 to March 31. *Awase* referred to a kimono with a lining attached to the outer material. *Hitoe* was a silk or cotton kimono without a lining. A mid-summer *katabira* was made with a hemp material with excellent breathability and was perfectly suited for Japan's summers, when temperatures exceed 30°C and humidity ranges between 70 and 80%. On the other hand, during Japan's winters, when temperatures fall below freezing, adding thin cotton padding between a kimono's outer material and liner

helped improve warmth, and adding extra layers was effective when the wearer was still cold. The custom of changing clothing with the season is thought to have been an effective means of adapting to the environment in Japan, a nation with great seasonal variations, at a time when heating equipment was poor. At the same time, however, the custom was a way of expressing



4/1

5/5

9/1 9/8

3/31

awareness of beauty among the Japanese people, who value the sense of the seasons, and is thought to have taken root as everyday wisdom for enjoying cloths functionality and style.

Figure 7: "Koromo-Gae" as seen in woodblock prints

The Japanese culture of kimono ensemble changes with the season

Demise of the kimono culture (lifestyle based on low environmental burden)

Japan's transition from the Edo period to the Meiji period at the end of the 19th century brought radical change to the lives of the Japanese. A hasty government-led effort to modernize that covered administration, military affairs, economics, and all aspects of society had an impact on personal grooming and customs. Moreover, the government's basic policy was to bring the Japanese people as close as possible to Americans and Europeans, even in terms of appearance. These developments led to a switch from kimonos to Western-style clothing.

Furthermore, against the backdrop of two world wars, kimono culture underwent dramatic change. As is the case with many other forms of national dress, the kimono is now mainly worn at yearly events, such as the New Year's holidays, and at ceremonial occasions, such as coming-of-age celebrations and weddings. Moreover, high economic growth since the mid 1960s and the popularization of ready-made clothing have encouraged a shift from a society that believed "clothing is something that, once tailored, should be worn for years" to a mass production, mass consumption, mass disposal-oriented society that views "ready-made clothing as something embraced and replaced with a keen eye to fashion trends". Thus, today, fashion plays a starring role in consumerism and is a symbol of our consumption-oriented society. The Japanese culture that was built during the Edo period – a culture based on an environment-friendly lifestyle and low environmental burden that was unlike any other in the world – is now completely forgotten.

Response to environmental problems by the fashion industry in today's Japan

The government's response to environmental problems

Although Japan achieved rapid economic growth during the 1960s, such growth brought

with it a variety of environmental problems, including air and water pollution. To tackle these problems, the Environment Agency was launched in 1971. Moreover, oil crises in 1973 and 1978 brought Japan face-to-face with both environmental and energy-related problems, and in subsequent years various laws were established to deal with environmental problems. One important event that should be mentioned as part of this trend is the third United Nations Framework Convention on Climate Change, which was held in Kyoto in 1997. Here, 38 developed countries adopted the Kyoto Protocol, which set binding targets for reduction and control of greenhouse gases and periods for reaching these targets. To coincide with the Kyoto Protocol's coming into force in 2005, the Environment Agency launched a national project called "Team Minus 6%" (based on Japan's target reduction rate under the Kyoto Protocol of -6%, using 1990 as the base year), proposed various action plans, and began taking steps toward their realization. Moreover, in 2009, Japan's new leader, Prime Minister Yukio Hatoyama announced a mid-term goal of "reducing Japan's greenhouse gases by 25% by 2020" in a speech at the opening of a United Nations Summit on Climate Change, and this forward-looking stance was well received by many in attendance. Although many of Japan's citizens expect that realizing such a target will present a great challenge, they support the new administration's focus on environmental problems.

Approaches to energy-saving fashion

In 1979, a year after the second oil crisis, an epoch-making event occurred in which environment and fashion reached a political intersection. The then Japan's prime minister, Masayoshi Ohira, proposed a short-sleeved suit and advocated an "energy-saving look" as a way of controlling the amount of energy consumed for air conditioning. Later, Prime Minister

Tsutomu Hata came to work wearing this short-sleeved suit during the summer (Figure 8) in an attempt to popularize the energy-saving look. However, the look was not at all well received by consumers, and thus the government's first attempt to politically influence fashion failed.



Figure 8: Energy-saving look (Kochi Shimbun, July 15, 2007)

(The then Japan's prime minister, Tsutomu Hata came to work wearing this short-sleeved suit during the summer)

Years later, when the Kyoto Protocol was put into effect in June 2005, the Environment Agency made a new attempt to espouse the "energy-saving look" concept. Specifically, the agency advocated a campaign called "Cool Biz" that sought to lighten clothing for the purposes of conserving energy needed for air condition and controlling CO₂ emissions (Figure 9). The term "Cool Biz" was coined by combining the words "cool" as it refers to both temperature and style, and "biz" as an abbreviation for "business". Cool Biz is an attempt to get light clothing that is comfortable even within temperature limits set in the Ordinance on Hygienic Standards in Office Rooms (in other words, air conditioning set at 28°C) during the summer as well as clothing that does not require a necktie or jacket accepted in business settings.

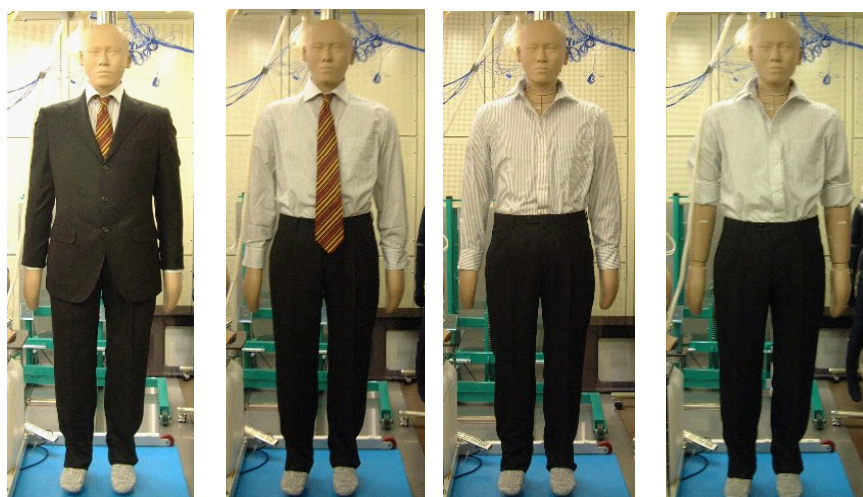


Figure 9: Evaluation of the effect of Cool Biz fashion using a thermal manikin at BWU

In accordance with this idea by the Environment Agency, then Prime Minister Junichiro Koizumi started coming to work wearing *kariyushi* shirts, which are popular as summer shirts in Okinawa. At the same time, the promotion office for the “Team Minus 6%” project started an ambitious campaign that involved Cool Biz fashion shows featuring various celebrities and brought in the mass media. Clothing manufacturers and department stores joined in by developing designer shirts and underwear that looked stylish and smart even without a necktie.

This Cool Biz fashion was put forward as a concept rather than style. Thus, unlike the energy-saving look established around the short-sleeved suit, it achieved a recognition rate of 96.18% one year after its commencement and received a positive reaction from nearly 90% of consumers. The Environment Agency reported that CO₂ reduction in 2006 compared to the time prior to Cool Biz’s start was approximately 1.14 million tons, or the equivalent of the CO₂ emissions of 2.5 million homes over one month (Press release of the Ministry of the Environment, “Cool Biz’ results for FY2006). In addition, purchases of new clothing in line with Cool Biz were estimated to have had an economic effect of 100 billion yen for the Japanese economy (Daiichi Research Institute Inc., 2005).

Efforts to promote Japan’s Cool Biz are also reaching the rest of the world. Rajendra K. Pachauri, Chairman of the Nobel Peace Prize-winning Intergovernmental Panel on Climate Change, said in an address at the 2007 conference of Global Environmental Action that not only technical innovation but also changes in lifestyle are essential if global warming is to be controlled. In this connection, Mr. Pachauri lauded Cool Biz, saying that, through the campaign, Japan sets an excellent example for the world (*Mainichi Shimbun*, October 19, 2007). Furthermore, in July 2008, the United Nations announced that it would borrow from Cool Biz by implementing “Cool UN” on a trial basis for one month beginning on August 1. This trial involved raising the air-conditioning temperature in the UN’s New York headquarters from 21 to 24°C in meeting rooms and from 22 to 25°C in offices together with a recommendation to wear light clothing (*Sankei Shimbun*, August 2, 2008). Both Cool Biz and Warm Biz are accepted by Japan’s general public. Indeed, they are becoming established as commonplace notions, and are showing potential for sustainability as a public-private sector approach to environmental problems.

Approaches to LCA in apparel products

There is another movement toward reducing environmental burden underway in today's Japanese apparel industry. This movement involves quantitative analysis of apparel products using Life Cycle Assessment (LCA). LCA is a method for quantitatively evaluating invested resources, environmental burden, and their environmental impact on the earth and ecology within the context of a product's life cycle when obtaining benefits through the product. ISO standards pertaining to LCA were issued from 1997 to 2000, and currently LCA's orientation – in other words, its principles, frameworks, and methods – is established in the ISO 14000 series. Many industrial sectors in Japan have already introduced LCA, among them transport equipment; electrical products; foods; and materials, packaging, and containers. And, although slightly late, fashion-related fields are also beginning to adopt LCA. The following presents two sample assessments in which the impact of apparel production methods, recycling effects, and other items were studied and announced.

Company A (general trading company): LCA and evaluation of T-shirts

Company A produces and spins cotton in India, which it then ships by ferry to Japan for weaving, dyeing, and sewing. Figure 10 shows the results of an LCA analysis and evaluation by Company A that compared the conventional product production process using cotton for T-shirts and a process for environment-friendly, new-product production using organic cotton (Watanabe Masayuki, 2009). Identical transport conditions were applied to both. However, for the environment-friendly production, CO₂ emissions were cut through new approaches taken at three stages; namely, organic farming was used at the production stage, wind-generated power was used at the spinning stage, and biomass boilers were used at the dyeing stage. As a

Identical transport conditions were applied to both		per-T-shirt CO ₂ emission [kg-CO ₂ g]						
	production	spinning	transport	weaving	transport	dyeing	transport	sewing
conventional products	cotton 1.16	1.47	ferry 0.09 + truck 0.01	0.08	truck 0.01	1.92	truck 0.02	0.0004
improved products	organic cotton 0.73	1.12		0.08		0.58		0.0004
reducing environmental burden	new-product production using organic cotton	wind-generated power				biomass boilers were used		
		[kg CO ₂ g]						
		5.0	4.76	0.13		1.92	0.68	
		2.5	0.08			0.08	1.12	
		0	1.16			0.73		
								2.64
								Emission of CO ₂ was reduced by 45% per shirt
								conventional products
								improved products

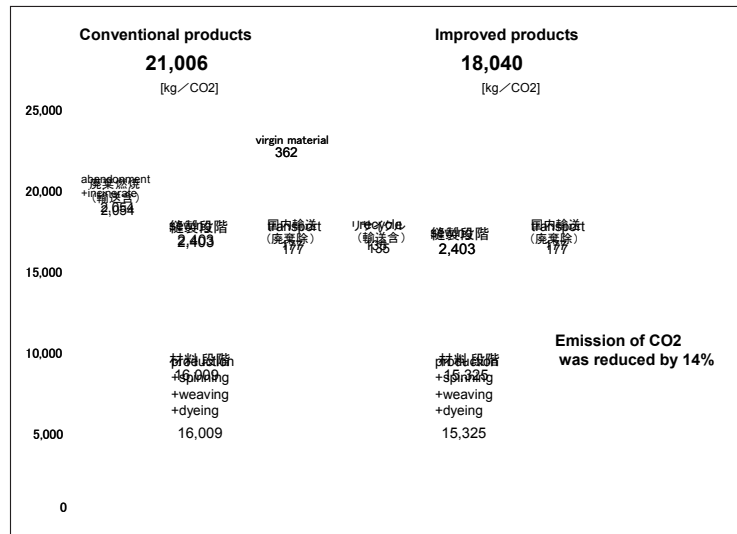
result, it was found that the per-T-shirt emission of a conventional T-shirt was 4.76 kg-CO₂ and that of an environment-friendly T-shirt was 2.64 kg-CO₂, thereby producing a difference of 2.12 kg-CO₂. In other words, emission of CO₂ was reduced by 45% per shirt.

Figure 10: T-shirt LCA (Comparison between conventional products and improved products)

Company B (uniform manufacturer): Impact of recycling systems on CO₂ emissions

Company B is a uniform manufacturer. Its conventional method for disposal of used uniforms was to simply incinerate them or use them for heat recovery. However, the development of more and more uses for recycled resources has made it possible to recycle uniforms. Here, Company B conducted an LCA survey to quantify the impact of production

processes; that a) uses recycled raw materials, b) recycle material of cutting remnants, or c) employ chemical recycling of used uniforms; have on reduction of greenhouse gases. As



shown in Figure 11, CO₂ emissions throughout the entire life cycle were reduced by 14%, or in other words, showed an improvement of 2,966 kg when conventional products (21,006 kg) with improved products (18,040 kg) were compared (Miyanojara, Kazuki, 2009).

Figure 11: Uniform LCA (Comparison between conventional products and improved products)

The above presents examples of LCA conducted by two companies. They clearly demonstrate the obtainable benefits of such assessments; namely, a sequential and quantified picture of environmental burden and clear identification of improvements. On the other hand, however, there are questions that still require answer. Among them, how should ease of care, durability, long life, and other factors in product use be reflected on evaluation? And how should the relationship between fashion value and environmental burden be viewed?

Conclusion and suggestions

In this paper, we described the special qualities of environment-friendly culture as seen in the “kimono culture” of Japan’s Edo period. We also have looked at approaches to fashion and environmental problems in modern Japan. We presented efforts pertaining to energy-saving fashion and increased efficiency/lower environmental burden in production systems through LCA for apparel products. As a follow up, we used aforementioned examples as a basis for examining future approaches to fashion and environmental problems from three standpoints.

- 1) First, from the standpoint of production, there is the question of how to promote the development and production of high-quality fashions that capture people’s hearts in an environment-friendly manner. Here, LCA is shown to be an effective tool for research toward answering this question. Further, review and improvement using LCA is required. Today, carbon footprint-related labeling that visibly provides the results of LCA to consumers is being studied, and indeed some forms of such labeling are already being used. However, it will be necessary to examine many issues that still remain, such as how to reflect handling by consumers and estimation of product lifetime.
- 2) From the standpoint of society, the current fashion dress code that originates in Europe is not always appropriate for the climates of Asia and Africa, particularly as global warming

progresses. The use of clothing that is adaptable to climates will be essential to minimizing the amount of energy needed for air conditioning while also providing consumers with fashions that are healthy and comfortable. To succeed, it will be necessary to develop materials and forms that are appropriate for climates found around the world, and the dress codes of individual regions and countries are an aspect that deserves consideration here. We believe Japan's Cool Biz campaign is an approach that can make a difference in this respect.

- 3) Finally, from the standpoint of consumption, we reemphasize Japan's "kimono culture," in which clothing was valued right up to the time it was finally turned into ash. In February 2005, Wangari Maathai, recipient of the first Nobel Peace Prize awarded in the environment field, made a visit to Japan. At this time, she was so impressed by the Japanese word *mottainai*, which succinctly summarizes the ideal of the "3Rs" (reduce, reuse, and recycle) movement, that she expressed her desire to make *mottainai* part of the international lexicon. Moreover, in a speech given to the Commission on the Status of Women at the UN Headquarters in New York in March 2005, Ms. Maathai appealed to participants to start an international "Mottainai" campaign, and she had them shout "Mottainai!" in chorus (*Mainichi Shimbun*, March 5, 2005). According to the dictionary, *mottainai* means the "feeling of losing an item's essential substance". The idea of "honoring things and feeling regret when their inherent value is not exploited" sums up the way the Japanese people traditionally viewed the natural environment. Indeed, it is the philosophy that underpinned the previously described recycling-based society and environment-friendly lifestyle of Japan's Edo period. Today, Japanese society's concern for environmental problems is rising, and as it does, efforts to reevaluate Edo period lifestyle are emerging. Coming hand-in-hand with such reevaluation is an increase in the number of people who use secondhand clothing shops and flea markets operated by individuals. At the same time, NPOs and local governments are making attempts to establish recycling systems, while fabric manufacturers who will benefit from such systems are advancing technical innovation in chemical recycling. When we consider the relationship between fashion and environmental burden, we find that certain truths are unmistakable. First, currently available resources must be used wisely. To achieve this, the short cycle flow for commercial fashions must be reconsidered, and truly comfortable fashions must be cherished and worn continuously to the end of their useful lives through reuse and recycling. These steps must be tied to lower environmental burden in all processes, ranging from the procurement of resources to their disposal.

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Creativity vs. Responsibility

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Keywords

Sustainability, print, hand printing, textile design, SME

Abstract

While textile manufacturers and dye houses must make adjustments and seek innovative solutions to the challenges of sustainability. What actions should this pose for those design makers practicing at the small-scale and is there any practical guidance available for the responsible creativity in search of best practice?

For sustainable design to occur, print designers will require a thorough understanding of the impact their design decisions and practice have on people and the environment. Increasingly this involves more than design skills and a working knowledge of printing processes. Currently a knowledge gap exists in the literature on sustainable textile print application, where the information sits at two extremes targeting either the amateur/hobbyist at one level or the textile technologist/scientist at the other.

This paper will discuss the changing role of hand printing in the context of environmental impact and be taken from an Australian perspective. Empirical studies, personal practices and teaching experience will be drawn upon as a means to link together the current design issues facing small-scale textile print practitioners, educators and students.

Specifically the paper will address:

- * Definition of small scale print practitioner and design process
- * Print room environment - multifaceted and process heavy
- * Practical print application at a local level
- * Legislation and regulations

Introduction

Globally, the textile manufacturing industry is shifting its purely 'bottom line' emphasis from economic growth and profit to encompass sustainable development and social responsibility. This change is broadly being driven by a combination of governmental legislation and regulations, DFE (Design for Environment) and consumer awareness and preferences for ecologically sound products. This shift to a 'triple bottom line' encompasses multi-faceted environmental issues for the fashion and textile industry and much has been

written on the fashion and textile supply chain with particular emphasis on a products' lifecycle (Black, 2008; Fletcher, 2008; Lewis and Gertsakis, 2001).

Focus on the resource-heavy and high-polluting textile dyeing, printing and finishing sectors is strong (Slater, 2003). While the changing business paradigm is encouraging the implementation of innovative solutions for 'best practice' and 'cleaner production', this is at times in the face of factory closures, heavy fines or consumer boycott. Organizations are also becoming aware of their need for socially responsible behavior that includes self-regulation and accountability for the impact of their activities. Fletcher (2008) emphasizes 'one of the central challenges of sustainability for the fashion and textile sector: (is) to simultaneously act for positive change at the large and small scales'. Subsequently, what are the implications of a triple bottom line approach for the small-scale textile print practitioner and student textile designer who may not yet be exposed to the same legislation, fines, guidelines or research as the larger organizations?

This paper discusses the parts played by hand printing practitioners within the larger context of textile design. A 'positive change' towards sustainability calls for the reinvention of roles, of responsibilities, of design and practice methods and of product relevance. These points will be introduced and discussed in relation to the small scale textile design print practitioner and student and will be taken from an Australian perspective. Implementation of responsible practice into the small-scale print workshop requires a focus on the environmental impact of the processes and chemicals used as well as the way in which the processes are taught within the college environment. A range of observations based upon undergraduate teaching and small-scale production were used to survey and question the current practices and concerns circulating within the hand printed textile industry.

The roles of the print practitioner

Within the discipline of textile design, the print practitioner has traditionally operated on dual levels - that of the textile designer and the textile printer. Firstly, they must deal with a universal textile design methodology that will enable them to design for surface; this means a sound knowledge of research, market, theme development, color, image, motif, pattern and repeat systems. Secondly, they must have the practical skills to apply or print the design to fabric; this involves the preparation of artwork and screens, the use of dyes and pigments and application of printing, steaming and finishing processes.

Students of textile design majoring in print or surface pattern design typically graduate with capabilities in both design and print practice, even though those who embark on a career path designing for commercial industry will usually not be involved in actual print production. Undoubtedly, knowledge and experience of printed fabric production is still relevant to the student designer. Storey (1978) explains the significant understandings that learning the process of translating a design onto printed cloth can bring to the quality, creativity and potential relevance of a designer's work. Even though the student's first-hand experience has been on a small-scale, this should give them an appreciation for production

process, thereby making their communication with the print factory easier. They should, for example, have an awareness of the complexities of matching a color in dye or translating or separating a design so that it is print ready.

For those graduates who go on to set up their own SME (small and medium enterprise) print practice, the roles are inextricably linked; they are both designer and printer. They could be producing for a craft, fashion or homeware market. Their practice would include hand printing small runs, sampling, one-off, limited edition or bespoke fabric (Gale and Kaur, 2002). While the end product is varied, ultimately the small-scale textile printer has control over most stages of the design and production process.

To align with recent developments in design theory, textile designers are now required to build a third knowledge base: that of sustainability. This shift has occurred because it is becoming 'increasingly imprudent to obtain materials from unethical or unsustainable sources, or to rely on manufacturing processes that exploit workers or pollute the earth and atmosphere.' (Denison, 2009) Current views within the general discipline of design posit that sustainability needs complete integration into the entire design process. Aesthetics should always be an imperative - 'image-making and the development of a visual vocabulary by the designer is always intrinsic to creative activity' implies Fogg, however, being a good designer is no longer fundamentally about the decorative surface of textiles or the 'underlying technical processes' (2006). 'Today's ecofashions are based on combining ecological and ethical principles with concept innovation and a high level of aesthetic' (Black, 2008). Approaches such as DFE, lifecycle, slow design and cradle to cradle embrace the values that Black mentions with a primary focus on reducing the environmental and social impacts of a product's journey from design conception through to retirement.

Within the higher education backdrop, sustainability is increasingly being listed as one of the main areas of graduate knowledge. Universities are looking forward to the programs to develop student capabilities that specifically cover sustainability issues at a global as well as discipline level (RMIT University, 2009; The University of Melbourne, 2010). The embedding of sustainability into the curriculum of a program such as textile design involves addressing how the challenges can be covered at the broader textile industry level through theory, research, case studies and discussion. As well as at the ground level through hands on awareness with projects that focus on how the students design and make decisions.

The belief that small-scale print facilities can bypass the environmental regulations applying to the textile manufacturing industry with regards to effluent waste and chemical use is raised by Stoyale (2007). She relates that legislation and regulation in the UK doesn't apply to small-scale enterprises and educational facilities and the attitude of turning a blind eye because 'it is someone else's problem' is frequently taken. Who is turning the blind eye? Responsibility for the culture of the print workshop should fall on the educator and the institution. If there is to be a lasting change and holistic improvement in the operation of the print workshop then these beliefs need to be challenged. Education for Sustainable Development (ESD) could provide an opportunity to reflect on how practical skills are taught and aligned with industry regulations. The success of ESD also appears to rely on college print workshops 'walking the talk' with regard to how sustainably the area is run and resources are consumed.

For sustainability to be seen as more than an adjunct to the design and practical skills required by the print student or the SME practitioner, they need to understand both the environmental impacts of their medium and the realistic solutions for achieving sustainable print practice. For the creators to be responsible, to be held accountable for their practices they first need to be aware and educated to see the relevance for sustainability. Consequently there are a number of dynamics to be considered including the ongoing need and relevance for hand printed fabric and the influence of the university/college environment.

Traditional screen printing by hand

Hand printing involves the direct application of color onto fabric, in the form of a dye or pigment suspended in a thickener or print paste. The print paste is pushed with a squeegee through a fine mesh screen, which has predetermined imagery or artwork, usually in repeat, exposed onto it. Typically screen printing is process heavy, as each color in a design requires a different screen. The main environmental hazards associated with the small-scale print workshop are aligned to industry; these are the potential toxic and carcinogenic effects of the pollution and waste generated by the chemicals used (Slater, 2003) and the amount of water required across many of the processes (Broadbent, 2001).

Both digital and hand printing processes at this stage look to have a position within the sustainable future of small-scale printed textile production. It is not the intention of this paper to discuss the environmental benefits of one process over the other, suffice to say that the look and result are quite different. Briefly, in comparison to screen printing, digital printing eliminates the need for physical artwork and screens; all imagery is digital and sent straight from a file via an ink-jet printer to the cloth. This method of printing is seen as an important branch of sustainable print production as it easily enables short runs, is not as labor intensive and can print an unlimited number of colors without requiring any screens. However the technology of digital print is still developing in regards to production speeds, penetration of the ink or dye and the type and nature of fabric substrates that can be printed onto. At this stage, not all hand printing techniques, such as resist, devore and discharge, can be achieved by digital print while the setup and the cost of the dyes is more expensive when compared with hand printing. When digitally printing with dyes water is still necessary in the finishing and washing out stages.

Over the last decade we have witnessed a flourishing trend for pattern within the fashion, homewares and graphic design sectors. This has created a demand for industry to provide individually printed textiles and also increased opportunities for the small-scale printer. Fogg (2006) discusses the popularity of printed textiles in the 21st century. And goes on to state that 'designers are eager to harness the convenience of new technology, but never for the sake of novelty. Many prefer to utilize those screen printing skills learned in the art college workshop, where most experimentation takes place.' As much as computer aided textile design has fueled the changing trends in print graphics and colorways. It has also been embraced to complement hand printing techniques by simplifying parts of the time consuming technical processes of designing for print. An extension of the desire for pattern has also been the re-evaluation of the handmade and maker's mark validating the preservation of traditional

illustration and hand printing skills within textile design.

The Australian textile design and print context

Australia is a relatively small producer of printed fabric; over the last two decades the bulk of large-scale commercial print production has moved offshore to China, Vietnam and India. Australia still supports a medium scale industry of hand and semi-automated printing, such as Signature prints in Sydney, whose products and services cater to a high-end consumer. There has also been a rise in the number of SME and designer/maker hand printers producing for their own printed product range as well as doing small run production for external clients, for example Publisher Textiles, Bird Textiles and Printink. This niche for SME printers in Australia provides an onshore and useful service to independent designers in related design industries seeking original prints, who can't afford the quantities offshore commercial printers require.

In a framework of sustainability, these small-scale print producers can support the notion of slow design - that of a locally (McDonough & Braungart, 2002) designed and made, bespoke and well-crafted product.

'These initiatives also serve to illustrate the essential artistic qualities of the industry and the importance of craftsmanship, as opposed to the ubiquitous drive for unrealistically cheap products that characterize the mainstream.' (Denison, 2009)

A local hand printing industry allows designers to respond to their market, for example they can control their printing in small runs or print according to demand, thereby reducing the costs and potential wastage of holding stock. The small-scale printer does not have to invest in large quantities of dyes and consumables, and this means they might be more open to adapting their practices to take on the new advances that are occurring in low impact printing. Because they are in close contact with their customers, they are perhaps aware that the market is seeking a greener product. By designing for a bespoke market they might also find that their customer is more willing to pay the extra cost a hand made sustainable product can incur. Bird textiles is a transparent example of sustainable and carbon neutral print design and small-scale production (Bird Textiles, 2009).

Hand printing is process heavy, but in spite of this it is still a valuable small-scale industry that is able to implement sustainable approaches and responsible practice. This is because print practitioners are in control of all the stages, of the design methods and material choices through to the print production methods and use of resources. Therefore they can influence how responsibly the processes are carried out.

The student becomes the print practitioner

However, much on what the practitioner builds their print workshop, practice upon stems from their experience as a student. And as a consequence, the positive or negative habits and practices learnt by the student in their educational setting will inform how responsibly their post-education workshop is set up and operated.

Within the textile industry 'right-first-time' and 'best practice' approaches have been applied to highlight the way dyes and chemicals are used. Emphasis is placed on a responsible use of consumables, especially the need to test, sample and gain approval before production commences. Right-first-time production techniques were initially instigated by textile colorists as a way to minimize the costly exercise of having to recolor or reprint a fabric batch due to inaccurate color testing or poor color matching results. The right-first-time system now also encompasses environmental concerns as a way of reducing waste and optimizing color processes (Easton, 1995). In the past, this ethic may have been mostly driven by economics but it has now been realized and expanded into the environmental field of Cleaner Production.

Hand printing practice can look to this right-first-time and Cleaner Production philosophy. Similarly teaching and learning within the print workshop should embrace a move towards sustainable practice that is reflective of the textile industry. Educators will need to adapt the program of study to ensure that students recognize the value of these principles and to create a flow on effect of sustainable knowledge upon graduation into private or commercial practice. Printing skill is not just about knowing how to use the equipment and processes or creating aesthetic fabrics but also about applying the understandings of how to practice responsibly.

Legislation and regulation vs. responsible practice

The textile industry has a broad range of sustainability concerns to take into account. For the clothing area Robins and Humphrey (2000) identify these as: environmental hazards, energy and water efficiency, pollution, waste, and social justice and equity. In the dyeing, printing and finishing stages of textile production, these elements are addressed and regulated variously around the world in relation to their impact on the environment or on humans. While they might not be regulated at the smaller scale, yet there are legislations in place as well as voluntary accreditations existing, which control the textile industry variously across the globe.

While practicing a right-first-time philosophy, education and SME should also be aiming to reflect the regulations and even voluntary accreditations that are in place for industry within the smaller context of their workshop spaces. Though currently a gap exists in a comparable dialogue, or the literature and guidelines accessible on how to enact this. The literature sits at two extremes, dealing with either the textile amateur/hobbyist at a surface level or the textile technologist/scientist at the other. Whilst environmental and sustainable legislation for textiles, which offers some guidelines to small-scale hand printing production, deals mostly with large-scale enterprise and can be intimidating and difficult to decipher. The following points briefly discuss a range of growing issues applicable to the responsible print practitioner:

1. Chemicals

In the EU chemical control comes under a new policy known as REACH (Registration, Evaluation and Authorization of Chemicals) (Strudwick, 2009). Australia has the EHC (Environmentally Hazardous Chemicals Act). The manufacturers of all products containing chemicals are legally required to provide an MSDS (Material Safety Data Sheets). MSDS's

compile all information about a product including safe use and handling, toxicity levels, health effects, first aid, storage and disposal. A requirement of all OHS workplaces is to have an easily locatable file of MSDS's for all substances used in the area. It is important for practitioners to understand how to read and make use of these sheets, not just for the information contained on the chemistry make up of the products but also for recommendations on the type of PPE (Personal Protective Equipment) that should be worn while using the product.

2. Waste

In Australia each of the states falls within the EPA (Environmental Protection Act) and there are a number of WMP (Waste Management Policies) in place that cover the generation, storage, disposal, handling and re-use of waste. The main concerns for the small-scale print room are how to safely dispose of excess dye or pigment print paste solids. Assuming that all efforts have been made to only mix up what is required and to recycle any excess where possible, the best option for disposal of unavoidable waste is to store it in airtight containers and use a professional chemical waste company for removal. All printing processes, whether they use dye or pigment, entail some of the color, thickener or chemicals being lost as effluent in wastewater. This might occur through the washing out of screens, squeegees and other implements after printing or because of the washing out process required for dyes after steaming. Waste and water management can be actively controlled through measures that address, for example, how carefully excess print paste is removed from the screen prior to washing out. The installation of settling tanks, which work to separate solids from liquids, will further deal with the effluent as it enters drains.

3. Water

In practical terms, sustainability means that limits must be placed on the consumption of resources' (Lewis & Gertsakis, 2001). Particularly in Australia, water storage levels are a major concern; looking ahead the possibility of policies that drastically limit our use of resources such as water is not unforeseeable. There is potential for education to counteract this by installing grey water systems that recycle the water used in the print workshop and to make use of the large roof spaces across institutions that could capture and harvest rainwater.

4. Impact of Toxins on human health

The passing of the CPSIA (Consumer Product Safety Improvement Act) in the US in 2008 highlights the possibilities for stricter monitoring and changes in legislation for small-scale business. This act places bans on certain levels of toxic substances and targets children's products specifically. The bill has heavily impacted small-scale American and Canadian businesses that produce children's toys and clothing, including hand printed textiles. Many businesses have had to cease production because they either can't navigate or afford the mandatory third party testing and documentation required to meet the regulations. Chapman (2005) sees legislation as a 'crucial component in bringing about necessary changes

in commercial attitude'. But if compulsory standards are to become the norm, can small business afford to comply? Chapman further encourages designers to approach forthcoming legislations as a guide to positive change.

5. Voluntary standards and accreditations

The setting of environmental standards and product certifications encourages a preventive approach to sustainability problems and 'is another instrument able to introduce innovation in products and production technologies, and to stimulate their promotion through mechanisms of market competition' (Giudice, La Rosa and Risitano, 2006). Voluntary standards or environmental quality labels such as - GOTS (Global Organic Textile Standard), Oeko Tex 100 and GECA (Good Environmental Choice Australia) are some of the proactive ways that the textile industry can attempt to effect change in their production processes and as a way to show their product is environmentally sound. While the testing and licensing ecolabeling systems incur might be cost prohibitive and therefore out of reach of the small-scale print practitioner, their guidelines can serve as an informative guide to implementing less environmental impact in their practice. Other avenues such as committing to a carbon-neutral plan, independent consumer labels like MADE-BY or to only using Fair Trade cotton or organic cotton are more attainable.

Conclusion

The task of the textile designer is developing and challenging when sustainable practice is considered as a crucial element of the design process. But for sustainable hand printing practice to advance, print designers and practitioners need a thorough comprehension of the impact their design decisions and production processes have on the environment around them. This involves more than just a combination of design skills and working knowledge of traditional hand printing techniques. It relies on a collective accountability, initially within the educational institution, so that graduates leave with a sure sense of how sustainable practice is enacted through examples of best practice. Sustainability also requires a greater depth of literature and honest discussion that crosses the divides between large business and the hobbyist. Forming the existence of a responsible creative, one who will commit to researching and deciphering the complexities, to understanding the array of sustainable guidelines in order to choose what is applicable to their production facilities and to testing new systems that promote transparent practices.

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Fashion and its real victims

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Keywords

Globalization, Fabricators, finance, cluster, Retail, training

Introduction

From time immemorial we as humans always want to have the best of fashion at the most reasonable price. Companies always seek the cheapest labor to achieve their target prices, wherever it is, but primarily in developing countries as they could cater to the everlasting quest for cheaper products for retailing. Buyers and suppliers readily shifted their orders and factories in search of the most competitive locations. But there were segment of society which was hit by constant relocation of the industry. This process is akin to withdrawal symptoms; which can be defined as case of physical dependence on an introduced substance that leaves the individual/individuals paralyzed for years to come.

Yes, as business people we should not be concerned with the “with drawl symptoms”, but as fellow humans we do have some responsibilities in terms of sustainability. Although globalization is an unstoppable process but can we do something to mitigate the effects of globalization?

Unemployment can be a great breeding ground for crime. But whose responsibility is it? It is very much debatable that when the buyers were deriving the maximum benefit from one country did they think about re-skilling the same people who will get unemployed latter. Most of the buyers have their CSR policies but re-skilling the manpower is something which is not on the top of their agenda.

A joint-research was conducted by one donor organization from Europe and the Fashion Education Institute in India which proved that if given right inputs there can be tremendous results in terms of channelising the human resources in readapting themselves to the new challenges for the enterprises facing the withdrawal symptoms. The assignment’s objective was to find ways to encourage up-gradation of resources in the clothing industry located in the areas of Tughlakabad and Govindpuri in Delhi. Following were some of key the issues facing the industry in that area:

- Orders were drying up, work sufficient only for 6-8 months in a year,
- Lack of awareness of the market environment.

- Scales of operations were very low and therefore cannot have the required capacities to avail economies of scale.

Research was made on how to best resolve the above issues and it was realized that working in clusters can be a unique strategy to the increased pressures by the globalization process.

This research applies the principles of cluster approach in apparel Industry for SME's enterprises. It uses different methods to identify key issues within the cluster and also reduce the adverse effect of the withdrawal symptom and perhaps can be a future roadmap for the CSR policies of retailers/buyers. The aim is to eventually helping them in rediscovering their competence and makes them self reliant in order to face future challenges by utilizing support of different agencies and institutions.

Literature Review and Conceptual Framework

The purpose of this paper is to study the negative effect of globalization or "withdrawal effect" on certain sections of industry and explore different approaches to improve the conditions of the people affected.

Globalization

Globalization is a broad concept casually used to describe a variety of phenomena that reflect increased economic interdependence of countries. Such phenomena include flows of goods and services across borders, reductions in policy and transport barriers to trade, international capital flows, multinational activity, foreign direct investment, outsourcing, increased exposure to exchange rate volatility, and immigration. These movements of goods, services, capital, firms, and people are believed to contribute to the spread of technology, knowledge, culture and information across borders.

In early 1990s the Indian economy had witnessed dramatic policy changes. The idea behind the new economic model known as liberalization, privatization and globalization in India (LPG), was to make the Indian economy one of the fastest growing economies in the world. An array of reforms was initiated with regard to industrial, trade and social sector to make the economy more competitive. The economic changes initiated have had a dramatic effect on the overall growth of the economy. It also heralded the integration of the Indian economy into the global economy.

World wide large companies rely on vast networks of suppliers, whose quality and responsibility are critical for the success of the larger company. In some cases, such as in Japan or the Republic of Korea, suppliers are generally loyal to one company. In other cases, such as in the United States, Western Europe, Taiwan, China, Hong Kong, suppliers have alternative connections to different clients. The complexity of the new business system does not stop there. (Castells, *Enterprises and Jobs: Jobs in the Network Enterprise*. On the characteristics of each alternative worker group,)

Even in India we have a vast pool of small entrepreneurs in apparel trade who are

supplying to the big companies who in turn are exporting to different buyers worldwide. These entrepreneurs (Fabricators) are small manufacturers with a manufacturing setup of 10-30 machines who are completely dependent on these big suppliers (Exporters) for their existence.

Because of their total over dependence, today they are facing lots of challenges due to the shifting nature of the apparel trade worldwide.

Without the MFA, many poor countries that have benefited from quotas are now going to be forced to compete with producers elsewhere, especially China, the country that many expect to gain the most from a quota-free world. There are many variables and uncertainties related to the impact of the quota phase-out on various actors, but thousands of apparel factories could close and millions of workers could lose their jobs, particularly in countries where the domestic apparel industry developed primarily in response to the quota system. (Post-Multifiber Arrangement Challenges: Survey of Corporate Plans - Introduction, 2005)

Additionally the big companies do not want to outsource their manufacturing nowadays because -

- a) They want to first fulfill the capacities of their factories and
- b) The buyer does not allow them to outsource because of the compliance issues.

This industry is highly fragmented and as a result of fragmented supply chain the industry is facing following difficulties:

1. Higher cost due to prevailing inefficiency in supply chain
2. Time over run leading to late deliveries
3. Unpredictable quality and high rework leading to cost over run
4. The performance of the weakest member of the chain affects the performance of the overall supply chain leading to high failure rates and lower customer confidence.
5. Trade benefits not reaching to the bottom of supply chain
6. Total dependence on only one source.

Challenges

Lack of Finance

It is a major issue with the fabricators. Being the first generation entrepreneurs the business has been started by them and the operations have sustained them for very long on very shoestring budgets. They did not envision investing their money into right channels of investment, they always frittered their profits into either spending in marriages or their ancestral houses, and they never had enough funds which can tie them over the slack time. It was noticed that given an opportunity fabricators would like to increase their capacities in

terms of machineries but capital is always a major issue. Banks or financial institutions will not entertain them as they are small and fragmented in nature. And most importantly their factories are located in unauthorized areas which go against them even if financial institutions want to support them.

Work for limited period of time

Since the work is only for maximum of eight months as they are completely dependent on the exporters for their daily production. As Indian exporters have traditionally focused on the summer season for E.U. /U.S.A the orders are just enough to feed their factories for 6-8 months only.

Indian exporters should not remain focused on traditional markets like the United States and Europe, but rather explore new markets like Japan and non-traditional products like those made from organic cotton which command premium in international market. (Indian textile, apparel industry now part of global supply chain: Jairam, 2009).

This problem is further compounded by the fact that for the past so many years the fabricators also have not ventured apart from what they have been doing for years. They feel that they can still get lot of orders from their traditional source which is a distant reality.

Today, retail industry is the largest industry in India, with an employment of around 8% and contributing to over 10% of the country's GDP. Retail industry in India is expected to rise 25% annually being driven by strong income growth, changing lifestyles, and favorable demographic patterns. But still fabricators have not explored this market to its full potential.

Limited Capacities

As these fabricators do not have adequate finances therefore they cannot afford investment in large number of machines or big factories.

Thus they are always stuck to their own circle. As they don't have a big setup therefore they cannot get big orders and if they don't get big orders they cannot be strong financially therefore are always relegated to be small players only. Scale of operations is very low and therefore not always in position to handle large orders. It was observed that fabricators face the perennial problem of capacity and their business is not growing because of their limited number of machines and funds. Even if an exporter is willing to give them orders they cannot accept it because of their inability to execute the orders.

Another challenge that face them is that they do not even attempt to improve their productivity and quality because of the small scale of production and the profit margins are also very thin which do not encourage them to invest their money into their factories as well.

Few other issues posing to this industry are:

- They experience difficulties in purchase of inputs such as raw materials, machinery and equipments, finance, consulting services, new technology, highly skilled labor etc.
- Small size hinders the internalization of functions such as market research, market intelligence, supply chain, technology innovation, training, and division of labor that impedes productivity.
- Emphasis to preserve narrow profit margins makes this industry myopic about the innovative improvements to their product and processes and to capture new markets.
- They are unable to compete with big players in terms of product quality, range of products, marketing abilities and cost.
- Absence of infrastructure, quality labor, business acumen and limited options/ opportunities to widen the business.

Objective

The immediate objective of this study was to explore the needs and develop a pilot training module suitable for upstream supply chain units' i.e. fabricators and provides training to 20 - 30 such entrepreneurs.

The larger objective was to develop better understanding about the importance of backward supply-chain integration and possible gains through the same for improving their competitive position amongst MSMEs involved in garment manufacturing and exporting business by sharing the learning from this pilot assignment through case study with rest of the apparel industry for knowledge dissemination.

Methodology

This study, involves interviews, focus group discussions and workshops.

Triangulation of data collection methods have been used to look at the issue from as many perspectives as possible to gain insights into the problems of the fabricators working in the industry. This provides insights from different perspectives of the individual. For this purpose five focus group interviews were conducted across Tughlakabad and Govindpuri areas of Delhi, India.

(A focus group interview is a structured group process used to obtain detailed information about a particular topic. It is particularly useful for exploring attitudes and feelings and to draw out precise issues that may be unknown to the researcher. A focus group is composed of six to nine participants who are brought together to discuss a clearly defined topic. Typically, focus groups are composed of homogeneous people, all representing a particular segment of the population.)

From the results of the focus group studies a series of four workshops were conducted in order to have firsthand information on issues challenging fabricators and an effort was also made to address these challenges on the platform provided by these workshops.

Findings

A three pronged agenda was applied for conducting these workshops;

- i) To motivate the participants and start initiating their thought process.
- ii) To train them in the areas where they can improve themselves with minimum investments.
- iii) To identify an alternative to the export market showing a negative growth.

Workshop - I

Environment Overview & Business Skills

Objectives

- To appraise participants about overall business environment and areas requiring need for improvement
- Skill development in customer orientation and negotiation skills
- Building trust and a win- win relationship



It was the first workshop with the main agenda of motivation and apprising the fabricators of the present market situation. The situation in the Indian export market is going from bad to worse but the fabricators are still under the impression that the export sector will revive and they will have plenty of orders to work on.

The first task was to motivate these people and make them understand the purpose of these workshops. Speaker started the workshop with introduction on the present status of the industry and also on what are the problems which are affecting the fabricators.

To further strengthen this point fabricators were shown a PPT on rebirth of an eagle which was an inspirational presentation on how Eagle needs to undergo transformation in order to make itself powerful and also how it has to shed its old feathers and its talons etc. to emerge powerful. The entire presentation was in Hindi and the gathering was totally with the speaker.

The second presentation was on the "flight of the geese", which emphasized the need for teamwork and also the importance of supporting each other as team members. It was realized that this is one thing that they all were missing in themselves. It also emphasized the importance of working in a cluster.

The presentation also stressed the importance of upgrading ones skills in order to equip

one self for the new world and the new business realities.

One of the feedbacks that we received from one of the fabricator was that he had planned to close his unit but after listening to the presentation he has again decided to start his unit.

Then the industry specialist was called on the dais to share his experiences on the retail industry in India. He provided information on the current scenario of the retail market and also explained the process of the vendor selection for their company. This was a preplanned move as we wanted the fabricators to believe that retail market is easily approachable and has tremendous potential if explored properly.

Overall the workshop had a good response in terms of qualitative output and there was a renewed vigor in the approach of the participants.

Workshop - II

Banking and Finance

Objectives

- Introduction to basic accounts and finance
- Introduction to banking and finance sector
- How to approach the institutions to avail the facilities available



As stated earlier, it was decided that the second module is to be in banking and finance. Reason being the micro industry perennially has the problem of finance in terms of maintaining their accounts as well as getting loans from the banks. There problem arise as they are very small in business turnover or they have the problem of working in unauthorized areas

The first objective was to make fabricators aware about the basic accounting with a view to make them understands the different basic terminology in accounts like difference between fixed and variable cost. The first presentation was on the “Budgeting” and the second one was on the “breakeven analysis”. These subjects were taught with the practical numericals from the daily experiences of the fabricators.

There were two main problems coming out from the discussions with fabricators. Firstly, they do not always have enough funds to sustain themselves for a longer period. That is they are totally dependent on exporters for their fund flow. Secondly, banks do not provide them loans as they are unable to maintain their account books properly as well as due to nature of their business.

This presentation has also brought in an important point of getting organized in a cluster form. That is banks or financial institutions will definitely recognize the strength of cluster and this will definitely be beneficial to fabricators.

Banking specialist- a Senior Manager with Small Industries Development Banking Institution and he is also involved in financing of the Medium Scale and Micro Industry financing who talked about the different schemes of finance that financial institutions provides and he also promised that if any of the fabricator wants a loan from their organization, they can avail of the facilities very quickly. He was quick to point out that although this is a very good facility to all the micro level suppliers but care needs to be taken on how to use this money for their business only and not for their household expenditures.

Representative from micro finance organization (Satin Credit) also explained the various schemes that they have. Participants were really appreciative of the schemes offered by the organization but they wanted the weekly based EMIs to be extended to month based EMIs.

Workshop - III

Quality

Objectives

- Overview of the garment quality
- Patterns related quality issues.
- Garment Construction related quality issues.
- Material storage, handling, house keeping
- Wastage control



This module was specific to the needs of the industry. This module was conducted by an expert who is a trained quality professional. Although the fabricators were aware about the quality requirement of their vendors but they do not make it a practice. They believe that quality is a big cost which should be avoided at any cost.

The speaker started his lecture with the brief of quality with different definitions and examples, slowly and gradually he started about the understanding of quality from every point of view. He then explained the quality points related to fabrics, that how fabric quality should be checked and its consequential effects on the garment. It was totally interactive session which created lots of enthusiasm and participation. As they were working since ages for this field, they themselves had lot of experience in the same.

Then the speaker explained the importance of trims and accessory quality which was very informative and they learn about the methods to check the quality parameters while purchasing and also understand the procedure of approval. Then the speaker went on to explain the improvement possible in quality by using the folders and attachments.

It was the most interesting part of the session, as they were not aware of the concept that by using the small little attachment they can get such fantastic results. They discussed all about the folders and attachment that how to get it and how to use in the machine. In the later part the participants discussed about the issues related to quality on the garments. There was lot of discussion and participation in which they got to know that by using the particular seam they can improve the quality and what kind of neater and qualitative finish they get by using what kind of folder and attachment.

After the session it was really good to have the feedback that they really got to know so many new things related to quality in all which they were not able to know even after working in this field for ages. They came individually and discussed personally about quality problems of their units with the speaker.

Then a specialist on quality control from a buying house introduced the participants to the working of a buying house. He told the participants about the parameters which one has to adopt when he or she wants to work with a buying house. He also told them the importance of compliance both social and technical and also about the investment to be done when somebody wants to get compliant.

Overall it was a very good experience for everyone to attend this session as participants also shared their experiences and it was very interactive.

Workshop - IV

Machine Maintenance and House keeping

Objectives

- Ιδεντιψ παρτσ οφ βασιχ/σπεχιαλιζεδ μαχηινεσ
- Τψπεσ οφ μαιντενανχε
- Πρεπεντιπε βρεακδωων
- Μαχηινε πλαννινγ χηαρτ φορ προδυχτιον

Two speakers were involved in this workshop, one was an eminent professor from a fashion Institute and the other person was an industry specialist on machines and took the workshop on machine maintenance and housekeeping. The workshop started with a group discussion on the importance of garment manufacturing machines maintenance in small factories. Everyone agreed on the utility of maintenance and decided to be more serious and strict with its application. Different forms of maintenance like reactive, predictive, preventive and prevention maintenance were further explained in the workshop.



Then, through a video show, parts identification for normal as well as specialized machines was explained. The participants found it very interesting since video animation illustration of lockstitch, chain stitch and over lock stitch was something totally new to them.

Further, two specialized machines were taken up viz. over lock machine and flat lock machine and all its components

were explained with the help of a video. Three demo machines (lockstitch, over lock and flat lock machines) were also brought to the workshop to give the participants an actual hand on demonstration of the techniques explained in the video. In addition to the video and Power Point presentations, the participants were given handouts of basic machines photographs and its overhaul and preventive maintenance schedule

Learning's

The importance of micro manufacturers in any economy cannot be overlooked as they form a major chunk in the economic activity of nations. They play a key role in industrialization of a developing country.

They have unique advantages due to:-

- Their size
- Their comparatively high labor-capital ratio
- Need a shorter gestation period
- Focus on relatively smaller markets
- Need lower investments
- Facilitate an effective mobilization of resources of capital and skills which might otherwise remain unutilized, and
- Stimulate the growth of industrial entrepreneurship.

Keeping all above points as reference following were the learning's from the workshops and the feedbacks that we received.

- a) The participants were very much motivated and excited in forming the cluster.

Clusters are geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition. (Porter, 1998)

Following benefits can be derived from cluster formation:

- They have better access to means needed for carrying out their activities, such as technology, information, inputs, customers, and channels, than they would

have when operating in isolation.

- Easier access will not only enhance the participants' productivity, but also their ability to innovate.
 - An existing cluster may provide a sound base for new business formation, as its relationships and institutions will confront entrepreneurs with lower barriers of entry than they will meet elsewhere.
- b) With these workshops it became very clear that there is tremendous potential for improvement in the status of the fabricators, it is just the state of mind and this has to be changed with a positive attitude- keeping in mind the given opportunities/ potentials. For instance retail is one of the area where one can scout for good opportunities as it is expected that by 2016 modern retail industry in India will be worth US\$175- 200 billion. Indian retail industry is one of the fastest growing industries with revenue garnered in 2007 to amount US\$ 320 billion and is increasing at a Rate of 5% yearly)
- c) The participants were striving to get some handholding in terms of some knowledge about marketing, quality etc. This became more evident when one group came forward during the session on "Environment Overview & Business Skills" and said that they would like to explore the area of retail for their products, and for this we will need initial support from us for making a manufacturer profile they assisting them in finding out Indian Retailers who would be interested in working with such groups.
- d) Lot of new learning's dawned on us as we gained knowledge about the requirements of the fabricators. More than financial it was more of educating/guiding/mentoring that is required from the concerned people. We also need to provide them some platform where they can share the common points and also to motivate them to innovate.
- e) Up-gradation of technical as well as business skills for fabricators is of paramount importance and for continuing this work one of a donor agency based in India will finance a project for the improvement in productivity in near future.

This brings us to a moot point of including the cost of trainings in the C.S.R. budgets of International Retailers. Recently a major U.S. Retailer has started a program supporting the cluster of embroidery women in a village in India.

- f) The high point of these workshops was when the participants nominated one amongst themselves as their representative for the future

Assignments, this is very important as this brings a sense of belonging to the whole effort.

Scope for future work

There is tremendous scope for work in this area. As small entrepreneurs are the ones who are hardest hit by any adverse impact and we can help them by keeping them in the loop of continuous learning/training for new horizons or by organizing training programs thereby

providing them support in the areas where they are most vulnerable.

As they are small in terms of size of their business but high in numbers we can reorganize them into clusters and leverage their collective strengths for betterment of their future.

For this the author will continue the work by forming and supporting the clusters in Delhi/NCR area with the help of different agencies.

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A Proposal of Design Philosophy of Chronicle Permutation to Achieve Sustainable Fashion Business

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Keywords

Design Philosophy, Chronicle Permutation, Sustainability, Fashion Business

Abstract

If the ultimate objective is to create a green and sustainable world, one must reduce the level of consumption by reducing the level of production. It is because a perfectly green process does not exist. All processes require resources and wastage cannot be avoided. The biggest problem with the reduction of quantity is the upset of the financial balance of the industry. In this article, a proposal of design philosophy of chronicle permutation is presented with examples. Under this philosophy, the production quantity can be reduced. The design strategy of “mix and match” is not totally new, because past examples do exist. However, past designs did not take into the account of time-element. With the additional consideration of time-element, one can use this philosophy to achieve sustainable fashion business.

The main idea is to design fashion inherently be worn with two or more styles and with replaceable components along the time line, which can ensure fashionable for a longer period so that (1) we can sustain the same level of different styles within a planned duration; (2) we can sustain the resources by maximizing the life time of a garment; (3) we can therefore produce less quantity; (4) with proper supporting business model, we can also sustain the sales volume in monetary sense.

In this article, we shall present the design philosophy of chronicle permutation, supported by an analysis on the supply chain. Then, we shall also propose a supplementary business model to balance the interests of each party in the supply chain. We shall illustrate with examples. Finally, we shall discuss our initial study on the feedback of this proposed model.

Introduction

Sustainability is an urgent issue for the fashion industry, because the world resources are diminishing at a very fast rate, particularly, the petroleum, the farming land, water resources, etc. Although it is a known truth that “there is no free lunch,” can one, as a fashion designer, leads the world in reducing the usage of natural resources, while keeping a win-win situation?

What kind of design philosophy should one adopt in such a global environment so that such a dream can come true?

The formal definition of “sustainability” can be found in Division for Sustainable Development of the UN Department of Economic and Social Affairs. The scope is very large and it covers the protection of environment (e.g. reducing consumption, increasing usage of recyclable materials), promotion of social responsibilities, change in consumption pattern, etc. (UN, 2009a). In this article, the term “sustainability” refers to the following definition:

“Sustainable fashion, also called eco fashion, is a part of the growing design philosophy and trend of sustainability, the goal of which is to create a system which can be supported indefinitely in terms of environmentalism and social responsibility.” (Wikipedia, 2009a)

The term “design philosophy” refers to a design strategy which is supported or guided by a known school of philosophy, whether Eastern or Western (Wikipedia, 2009b). Such design philosophy must be capable to produce design that can satisfy the essence of sustainability and resolve the dialectics of the obstacles. There are several sources of dialectics. Firstly, when the new finishing processes replace the old ones, the new processes are very likely to consume other resources of the environment. For example, some finishing processes can produce less undesirable chemical, but more water must be consumed. Secondly, when the consumption decreases and/or consumption patterns change, the economy can slow down as well. If the world economic production drops, potential unemployment will increase. Thirdly, present US market exhibits the so-call “Wal-Martization” behaviour, which means that people are not willing to pay for more to save the world, and are expecting other nations to pay for the cost (New York Times, 2003). Fourthly, present consumers are not willing to wear the same garment for a prolonged period of time. If the shopping experience is no longer exciting, the retail industry will certainly suffer. A chain reaction will propagate along the fashion supply chain.

A series of straight-forward strategies of fulfilling the quest of sustainability include: (1) reducing usage and maintaining excitement of design; (2) reducing production and maintaining sales level; (3) reducing work load of workers and maintaining income level; (4) prolonging the life span and maintaining variation of design. The question now becomes whether such idealistic solution could exist! In this article, the authors present a design philosophy that will lead to this series of solutions, and demonstrate the feasibility. Finally, the conclusion will be followed by a discussion of the limitation of this proposal.

The Design Philosophy of Chronicle Permutation

The primordial truth about the dialectics is that the reduction of desire will lead to a reduction of economic production, hence a drop in income or choice. The resolution of the dialectics is based on a fusion of the Western and Eastern philosophy. In the Greek tradition, a subject can be described by the attributes. Later, G. Leibniz (1646-1716) proposed the Monad's view of subject, which is equivalent to the modular structure of subjects. In another words, a fashion garment can be considered as an object which is composed of modules (garment

pattern panels, accessories, etc.). Under this modular view, if each module or component can easily be added, removed, replaced or changed, the fashion garment itself carries new life form, and new meaning. Variation of designs can be achieved! A classical example is the convertible jacket that can be worn on both sides. In such cases, one garment has two lives. Another example is the multi-design jackets (Figure 1 and 2). In Figure 1, the collar is at rest, while in Figure 2 the collar stands up. It is obvious that such jacket again has two lives.

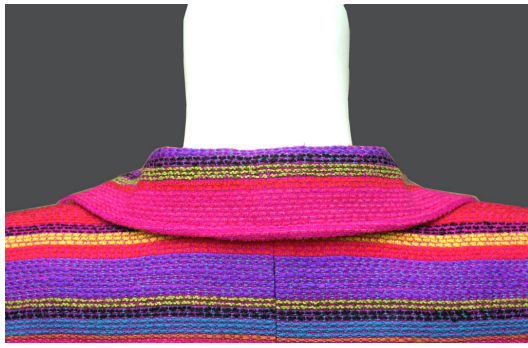


Figure 1: Normal style of collar



Figure 2: Another style of collar

The third example is a wind-breaker, which has an additional inner garment, serving as the detachable lining (Figure 3, 4 and 5). Since the lining is detachable, and has been designed to be stand-alone, such as wind-breaker can have three lives: (1) shell alone, (2) lining alone, and (3) both shell and lining together. These examples can only serve as the modular design philosophy. They are not fully modular in a sense that all the possible permutations of designs are available at the time of purchase. Therefore, the wear can exercise his/her right to change from one design to another. In such situation, the life span of the garment may not be extended. To date, guided by the philosophy of phenomenology, one can integrate the design of the components and the wearers and the environment.



Figure 3: Shell garment



Figure 4: Lining garment



Figure 5: Mixed garment

On the other hand, the Taoist philosophy perceives the universe as a dynamic equilibrium of forces and matters. Yet, the ultimate truth is the holistic environment, in which man is part of the world. The Taoist philosophy has two main impacts on the sustainability issues. Firstly, the dynamic equilibrium of the world offers a hint on the chronicle properties of the

design. It is a known theory that design elements are periodical and they come and go and return. Yet, when the design elements return, there are needs to interpret the element under the contemporary context. Secondly and more importantly, Taoism is the methodology of the Chinese to improve self-ethics, to understand the relationship between oneself and the world (Tsui, 1992). Hence, it serves as an excellent guideline to design eco-friendly fashion.

Adoption of Design Philosophy of Chronicle Permutation

By combining both the philosophy of Leibniz and Lao Tze, a fashion designer can create a theme under the “Design Philosophy of Chronicle Permutation”, with the following properties:

Content from Philosophy	Action
Tao bears love (one); love bears restraint (two); restraint bears acceptance (three); acceptance bears the World; (Lao, 2009) Monads are the genuine atoms of Nature, and the elements of things. (Leibniz,1999)	Design should start with the whole; from the theme down to abstract design elements; from abstract design elements to concrete design elements; from concrete design elements to garment; from garment to modules; from modules to pattern panels and accessories.
When Beauty is recognised in the World; Ugliness has been learned. (Lao, 2009)	When a module is born, other variations of the same modules are born too.
Manage a great nation as you would cook a delicate fish. (Lao, 2009)	The variations can pick up a chronicle trip so that the first variation comes out in the market, and then the second, and then the third; and so on. Do not hurry.
The soul and the body each follow their own laws, and they coincide by virtue of the <i>pre-established harmony</i> between all substances, since they are all representations of one and the same universe. (Leibniz,1999)	The wearer and the garment each follow their own laws, and they match each other by the virtue of the pre-established harmony, that is defined by the fashion designer.

The action plan of designing any single garment can be realized in the following steps: (1) designing the template, not the garment, (2) creating variations of garment from the template, including components, and design details, (3) replacement of design elements and the corresponding components. Unlike a standard design process, when a designer designs, one

must keep in mind that there will be components replacement, changes in design details. So, it is canonical to design the template first, so that one can fill in the concrete design elements. Here, the template also includes the positions of the seams, because they are the key factor in the replacement of components. Then, the designer can list out all possible variations of the design which can fit in with the template. Finally, there are few ways to replace the components. For example, one business model can service the replacement as part of the after sales service. Another business model can provide easy do-it-yourself replacement method, such as snapping new patchwork on the garment.

The design of components consists of the design of these elements: (1) seam location (partition of components), (2) seam and opening treatment, (3) patching, (4) shaping support, (5) addition of components. The partition of components is the most important decision to make. If the partition is proper, one can replace the component and at the same time modify the silhouette. Even better, if the partition is carefully designed, one can even change the sizes too. For example, in the men's tailor jacket, the function of the side panel on the bodice is to custom fit the size of the client. However, there are certain trades-off involved. For example, it is more flexible to divide the garment into smaller pieces, but the cost of sewing goes up, and the comfort level goes down. Next, regarding the seam treatment, it must be strong enough to hold the garment during daily wear and be comfortable. So, depending on the shell fabric, it is possible to use Velcro, zipper, button, etc. instead of the standard sewing. However, designing certain function garment may not be feasible when tight sealing is required to isolate the wearer from the external environment. Fortunately, such a functional garment is beyond the scope of fashion. Thirdly, the patching can easily be handled by using snap button, Velcro, zipper, button and other fastening device. The consideration here is which type of device can fit in the design best. Fourthly, the shape supporting material, such as interlining, stay, tapes, should also be used. Typically, a flexible pocket or casing is ideal to hold these materials. In case of enhancing the positional stability, one can use blind stitch to hold them. Finally, two or more garments can be combined to form a larger garment or a multi-layered garment. They can be held together by using the appropriate seams such as using concealed zippers.

The design details consist of the design of these attributes: (1) silhouette, (2) color, (3) finishing, (4) trimming and accessories. One can change the silhouette by replacing the components of different sizes or shape into the same position of the garment. For example, one can open the seam and insert extra panel to make a gored skirt. Yet, there are more restrictions on the change of silhouette, because transforming an A-line skirt to a circular skirt is basically making another one, because their silhouettes are not compatible. Secondly, the change of color typically requires the change of components. Thirdly, the change of finishing is usually not feasible in a do-it-yourself manner, because there is special process involved. However, if the whole garment is collected and processed, it is possible. Finally, replacement of accessories should be the most trivial. It should be noted that replacement of trimming may be more difficult. Yet, replacement of trimming can be considered the same as replacement of components.

Now, it should be evident that when the fashion designers design modular garment under a much larger theme with a large collection of design details, it is possible to plan the launch of the garments and the variational components to the market on a timely basis, so that

consumers can replace the new components and vitalize the garment into new life. This solves the first dialectics of reducing usage and maintaining excitement of design and prolonging the life span and maintaining variation of design.

The proper timing and pricing on the modular garment can reduce production and maintaining sales level. In other words, it can reduce workload of workers and maintaining income level. A more detailed analysis will be presented in the next section.

Sustainability via Design Philosophy of Chronicle Permutation

The question of reducing production and maintaining the sales level as well as the income level is a big challenge to the sustainable fashion industry. The design house should charge more on the design fee not only because of the level of difficulties have been increased, but also in terms of the decrease in expected work load. The production factories and mills should charge the price higher because there is a drop of the production quantity. The retail shops should charge at the same level but using a new combination of sales and after sales service model, so that the replacement of components can be executed smoothly. A more concrete example is now presented.

Suppose the cycle of modular garment is three years. The design cycle can either be shortened, or if the number of seasons remains the same, the components would be the driving force. Assuming the price elasticity is straightly proportional. That means, the original garment is sold in the first year, and only the components are sold in the subsequently second and third year. The price of the original garment can be sold at 300% of a single garment, expecting free upgrade with components in the coming two years. The result is the same as having three different garments in three years. Yet, the amount of material to be consumed is less than two garments. Furthermore, if the consumers consider the initial cost too high, the retail shops can offer a payment plan to match the financial ability of the clients. Such consumer behavior can reduce the consumption, while keeping excitement and style variations. In fact, once the heat is on, the components can also be used interchangeably, if the planning is right. So, there is mix and match at the component level. Hence, the wastage of the components can be reduced to a minimum. Moreover, the replenishment of component is definitely cheaper than the whole garment. Summing up all these advantages, one should see the positive outlook of this design philosophy.

Then, the factory should pay the workers same amount of the average wages and allow the workers to have more leisure time, since the production quantity decreases. These workers should spend their time to study or in voluntary community work to help others. Their living standard can be improved significantly. This strategy can only be enforced between the factory and the buyer in the sense that the buyer has bought the working time of the workers and allowing them to wisely spend the spare time that is induced by the reduction of quantity.

Under this framework, the consumers pay the same amount of expenditure over a period of three years. The consumption of material is reduced. The sales level of the retail remains the same. The sales level of the factory can be maintained. The income level of the workers can be maintained. Positively, the workers have more leisure time to study or to do voluntary

community work. The ethical life of the developing country can be improved. The economic and social life can be improved. The world becomes more sustainable.

Methodology

Two independent initial studies were conducted in Hong Kong SAR and Taipei in Nov and Dec 2009. Twenty subjects of business background were asked to fill in a questionnaire in Hong Kong SAR and twenty subjects of students were asked to fill in the same in Taipei. In this article, the qualitative analysis will be presented next.

Finding and discussion

Not surprisingly, the feedback from the business subjects tends to reject the proposed business model (only 10% of the subjects said that they would consider the proposal), while the feedback from the students tends to be flavor the proposed business model (60% of the subjects said that they would consider the proposal). An in-depth analysis on the reasons behind the rejection of the proposal can be categorized into the following groups:

- a) The design of the components may not be consistent with the main body;
- b) The style variation will be limited;
- c) After awhile, the main body of the garment will be worn out, such as damaged fabric or color fading, and does not match with the new components;
- d) The replenishment of components may take too long;
- e) The shopping experience is not exciting when shopping for the component;
- f) The logistic of returning to the shop to renew the components is not practical;
- g) Consumers are not willing to give up on the existing shopping practice;
- h) The price is higher than before;
- i) There is not enough financial incentive to the consumers;
- j) The free market does not flavor this kind of selling strategy, because most people are selfish and do not care about the environment, meaning they will continue to sell whole garments, which is more attractive than components.
- k) The fashion trend may change faster than the component replenishment period.

The negative responses are very constructive to the fine-tuning of the proposed business model. These feedbacks can be further divided into three groups, first group of problems (objections (a) to (c)) to be addressed by fashion designers, second group of problems (objections (d) to (g)) to be addressed by the marketing people, and third group of problems (objections (h) to (k)) to the proposer of this business model. The authors will response according to these three groups. Firstly, objections (a) and (b) really depends on the quality of the fashion designers. Then, objection (c) can be a real problem in general. Certainly, the

lifetime of fabric is limited, especially after many washing. Yet, there is at least two situations, the garment with wash-down-look and garment with dry-clean only, in which objection (c) is not valid.

Secondly, objections (d) to (g) depends on the quality of the marketing people, who needs to educate the consumers to re-evaluate how much damages their existing shopping habits have induced to the environment verses the benefits to the environment that can be induced by their changes to the new shopping habits. In particular, the replenishment cycle is adjustable. The logistic of getting new components can be handled by many different exciting ways.

Thirdly, this group of objections is macroscopic in nature, and is beyond the control of any individual. However, if one relies on the free market to regulate the fashion trend cycle or the market prices, there are always possibilities of unforeseeable problems. Perhaps more education is needed for the human race.

Conclusion

This article proposed the design philosophy of chronicle permutation. This philosophy is influenced by both the Monadology by Leibniz and Dao De Jing by Lao Tsz. The key idea of this philosophy is 'modular design', meaning that a fashion designer should start designing a template, instead of a garment first. The purpose of the template is to reduce the garment into the simple components that cannot be further reduced. Such decomposition forms a structure of the garment. Once the structure of the garment is ready, the designer can select a theme, and then the abstract design elements which are mapped to concrete design elements and form the final garment. Moreover, the variation of the concrete design elements can be mixed and match to form another garment under the same theme. Traditionally, this procedure is a valid protocol for a fashion designer to complete his/her collection. Under the proposed philosophy, when components are changed, one can create: (1) new silhouette, (2) new styling details, (3) new accessories, (4) new material, (5) new mix and match, (6) new finishing, and consequently new garments under the same theme. The consumer behavior needs to be adjusted to purchase the main body in the first season, and the components in the subsequent seasons. The unit price for each production unit can be increased since the demand of quantity is anticipated to decrease. The unit price for each retail item (i.e. main body and the components) can be increase to match up with the same price of purchasing a few garments of the same theme. In other words, if the main body and the components can generate three garments within three years, the total price should be set at the same total amount of three garments. The advantage of such strategy is the fact that: (1) by careful planning of the launching of the components, one can maintain the same number of seasons, and the same level of excitement, after the replacement of the components; (2) the consumers are spending at the same level of expenditure; (4) the actual production and consumption of material can be reduced; (5) the sales turn over of a company can be maintained and the income level of the workers can be maintained; (6) since the workers can work with less hours, they should spend their time wisely and improve the community work or other ethical activities. Consequently, sustainability can be achieved.

Yet, based on an initial study in Hong Kong SAR and Taipei, it is found that despite the benefits of this proposal to the environment, many people still are not convinced that they would go for this proposal. On one hand, there are some implementation problems that need to be resolved by the fashion designers and the marketing people. On the other hand, more education is needed for the human race, because selfishness is part of the human nature.

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Sustainable Ethical Business Practices

Evaluation of Reputational Risk for the Fashion Industry

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Keywords

Reputation; Risk Management; Risk Appetite, Stakeholders

Abstract

The management of business risk has been high on the agenda for most organisations over the last few years. Various methodologies have been set out to enable organisations to identify, define and evaluate their business risks. The FIRM risk scorecard has been one such methodology and as part of the scorecard it identifies reputational risk as one of its four categories. Other methodologies, taking a different approach, do not specifically name reputational risk thus leaving it upto the organisation to identify the risks that it engages with, which may include reputational risk. However, it seems that reputational risk is one of the least researched and least evaluated areas of risks even though many writers identify it as significant.

The reasons for this are various, it is not 'owned' like say financial risk, it is a complex risk and it is difficult to evaluate because it relates to relationships that the organisation forms. The costs to the organisation emanating from reputational risk can be significant and can be prolonged over periods of years. In some cases impairment of an organisations reputation may never be recovered from and this may cause or contribute to the failure of the organisation – thus this is a significant area in risk management to explore.

The present study seeks to explore the reputational risk in the context of fashion industry and try to establish the extent of engagement with this risk within the industry. The paper includes a pilot study based on the use of a focus group and a documentary search of company annual reports. The pilot study tends to show low engagement with reputational risk by the companies explored in the study.

Introduction

This paper is a pilot study to explore the issue of reputational risk in the UK fashion industry. By reputational risk it is meant anything that impacts upon the reputation of the company and affects the trust that the public, investors and even the government have in its products or services and brands. A bad reputation may reduce income, reduce profitability, be the precursor to the failure of the business, and in extreme cases cause the failure of the business. Honey (2009a) makes the point that reputation does not mean the same as 'brand,

goodwill or image' (p2) but is much more perception based – though goodwill may ultimately be composed of the value placed upon an established reputation.

Background

The management of business risk has been high on the agenda for most businesses for many years and most of the large companies have sought to embed risk management into the culture of the organisation. This would, in theory, include reputational risk and although this may be somewhat less tangible than other business risks, it is nonetheless quite real and its impact is significant. The totally devastating effect of the damage that can be done, where reputation is lost, can be seen in a number of fairly classic cases. These cases include serious disasters, like the Manchester fire of the Woolworths store (1979) and the Lockerbie air disaster (1988), one marking the beginning of the end of a traditional UK retailer and the other the failure of Pan-Am. To less spectacular failures like that of the cigarette brand 'Strand' through an ill-thought out advertising campaign (Circa, 1961) or the 'squarial' satellite dish through a failure in technology (Circa, 1990). Broader public opinion can also affect reputation – the fur trade in the UK is nearly extinct through this, though the use of animal skins on home furniture appears to currently be very popular. Though it would be expected that large organisations have risk management embedded into their culture, but in terms of reputational risk they may still succumb – Resnick (2006) cites Wal-Mart in 2002 as the largest retailer in the world but nonetheless was having difficulties in terms of reputation with both stakeholders and public interest groups.

The Institute of Internal Auditors (IIA) have devised a continuum (Figure 1) that seeks to enable organisations to assess the level to which risk management has been embedded into their operations and culture.

Level of Risk Maturity	Key Characteristics
Risk Naive	No formal approach developed for risk management
Risk Aware	Scattered silo based approach to risk management
Risk Defined	Strategy and policies in place and communicated. Risk appetite defined
Risk Managed	Enterprise wide approach to risk management developed and communicated
Risk Enabled	Risk management and internal control fully embedded into the operations

Figure 1: Continuum to assess the level of Risk Maturity

Source: Institute of Internal Auditors (adapted)

On the basis of this continuum most large organisations are expected to have their level of risk maturity to be 'Risk Enabled' or at least 'Risk Managed' on this scale – though this may not be the case for smaller businesses. Honey (2009b) identifies reputational risk as more problematic for many organisations whose level of risk maturity in all other aspects

is high, this links to the earlier point raised by Resnick (2006) regarding Wal-Mart. Honey (2009b) suggests the two main reasons for reputational risk being difficult to manage. First is the ownership of it within the organisation. It is difficult to identify the actual owner of reputational risk unlike financial risk or human resource risk that sit squarely with their respective departments. Though to counter this, The Economist (2005), clearly identifies the Chief Executive Officer as being responsible for reputational risk whereas Hopkin (2002) suggests that posts such as Brand Manager or Public Relations Manager may be specifically created to ensure reputation is protected. However, Resnick (2006) using a comparative case study (Wal-Mart v Costco) suggests that Public Relations Manager alone should not be responsible for protecting against reputational risk.

Honey's (2009b) second point is that it relates to the organisations' behaviour – past behaviour is seen to relate to future behaviour and it is difficult to shift people's perceptions based on past behaviour. This makes it something of an intangible asset – indeed Low and Kalafut (2002) suggest that it is the 'ultimate intangible'. It is an intangible asset based on the behaviour as an organisation, or others perceptions, with past behaviour reflecting how the organisation might behave in the future.

In a sense the accounting intangible asset of 'goodwill' is made up of reputation, or as Honey (2009a) suggests 'customer loyalty' or as Hopkin (2002) suggests the 'desires of customers'. But, it is difficult to value reputation (customer loyalty/desires) and if goodwill is the accounting intangible that represents 'reputation', it can only be valued at the end of certain periods – the convention being to factor the super profits with two, three or even four times, at a time point when that profit has been achieved. However, this too is only a guide to the value of the goodwill, the ultimate 'valuer' of the goodwill will be what the market will bear on the sale of the business and forms the difference between the value of the tangible assets and the selling price of the business. Thus the accounting context of the valuation of the goodwill is not really helpful in assessing reputational risk. The business will be aware of the significance of reputation, but its evaluation and management are more difficult. Thus the key issues to be established along with the reputational risk are ownership within the organisation and timely evaluation of the risk.

The FIRM Risk scorecard is a commonly used classification of risk (Hopkin, 2002) and identifies reputation as one of its four tenets (Financial, Infra-structure, Reputation, Market) and therefore clearly flags up reputation as important. The areas covered by the FIRM Risk scorecard for reputation are shown in Figure 2 with the clear statement (under Description) that it is the impact on the good name of the business or its brand. It can also be seen in the scorecard that the risk is not always quantifiable and this leads to looking at its evaluation and its management.

	Reputation
Description	Impact on good name or brand
Desired State	A positive reputation/ good image
Internal /External	External
Quantifiable	Not always
Measurement	Publicity Effectiveness of marketing
Performance Gap	Failure to achieve desired reputation
Control	Marketing, Advertising, Brand Protection

Figure 2: Areas covered by the FIRM Risk scorecard for reputation

Source: FIRM Risk Scorecard - Hopkin (adapted)

Beyond helping to identify the risk and raise its awareness there is little else that the scorecard gives to the organisation, the rest is really up to the business. Reputational risk, however, is no different than other risks in that it needs the organisation to recognise the risk and have a clear statement of its appetite for the risk i.e. how much of the risk the business can bear. Thus the *Risk Management Standard* of the Institute of Risk Management (IRM) (2002) is probably more useful to businesses in managing risks as it allows them to:

- (a) Define the risk;
- (b) Declare their risk appetite - what they can bear;
- (c) State how they can control the risk;
- (d) Who has ownership of the risk in the company;
- (e) The probability and impact of the risk on the business.

The probability and impact are in three levels, viz. low, medium and high and can be expressed numerically as level 1, level 2 and level 3. These can be multiplied together to give a risk factor - thus medium probability of 2 multiplied by a high impact of 3 gives a risk factor of 6 (Sadgrove, 2005). Giving the business a numerical concept of the extent of the risk being engaged with - the higher the number the greater the risk to the organisation, with a risk factor of 9 being the top of the scale (probability high 3 X impact high 3). The factors are illustrated in the Figure 3 below:

3	6	9
2	4	6
1	2	3

Figure 3: Impact x Probability

The IRM (2002) standard encourages business to place quantifiable amounts next to low, medium and high thus clearly showing the organisation the financial impact of the risk.

Most organisations would appear to have recognised reputational risk, this is born out in a survey by the Economist Intelligence Unit (The Economist, 2005) where reputational risk featured as the most significant with a score of 52 on an index scale of 0-100 – Figure 4 shows the comparison with other risks. This clearly shows the credence that organisations place on reputational risk, with notably crime and physical security being at the bottom of the scale.

RISK	INDEX
Reputational Risks (undermining public trust in your products/brands)	52
Regulatory Risks (problems caused by new or exist regulations)	41
Human Resource Risks (age profile, skills shortage etc)	41
IT Network Risks (net security breaches, failure)	35
Market Risks (new market entry, market value of assets might fall)	32
Credit Risks (risk of bad debt)	29
Country Risks (problems operating in certain countries)	22
Financing Risks (difficulty raising finance)	21
Terrorism	19
Foreign Exchange Risks (worsening rates of exchange)	18
Natural Hazard Risks (floods, hurricanes, earthquakes etc)	18
Political Risks (danger of change of governments/unstable governments)	18
Crime and Physical Security	15

Figure 4: Comparison of reputational risk with other risks

Source: Economist Intelligence Unit (adapted)

If organisations have identified reputational risk as being significant, then the next issue is what control options do they have to put in place to lessen the impact of the risk. In terms of reputational risks the controls that the literature suggest revolve around communication with stakeholders (The Economist, 2005) and that someone must be in charge of reputational risk (Honey, 2009b) (The Economist, 2005). Resnick (2006) suggests that auditing and monitoring of reputational issues is vital in order to inform the communication process with stakeholders – this process must involve the stakeholders clearly identifying their expectations from the organisation in terms of reputation.

As the fashion industry process a fairly high profile and relies heavily on reputation,

the purpose of this paper/pilot study was to look initially at fashion retailing in the UK and identify areas of reputational risk for the industry and then consider a sample of UK high street fashion retailers and see if they are addressing reputational issues in their report on risk management.

Methodology

The methodology adopted in this pilot study was to put together a focus group with the task of brainstorming the issue of reputational risk and coming up with what they thought were the key areas of reputational risk for UK fashion retailers. In this pilot study it was decided just to use one focus group for the brainstorming, however, in further work a range of focus groups might be used to try and get differing perceptions on reputational risk.

A selection of high street fashion retailers was then made with an aim to examine their annual reports to see the areas of reputational risk (if any) that they identified and any strategies adopted to counter the risk. The intention being that this would inform a larger scale study of the issue of reputational risk in the fashion industry. In the main 'PLC' companies were used in the sample for ease of accessing the data - though the sample does include a significant number of international companies registered outside the UK. The sample (10 companies) used the term 'fashion retailer' in a very broad sense and included a sportswear retailer, a supermarket (with significant non-food sales) and a mail order house.

Clearly the methodology for this study is very limiting, a broader spectrum of opinion on what constitutes reputational risk would have been desirable and both a larger range of companies and more in-depth research of the companies would also have produced a better result. However, as a pilot study it was felt that this was sufficient to establish the areas for a more detailed study and further research.

Findings from Focus Group

A focus group was set up, comprising twelve females in the 20 to 26 years old age group all currently living in the UK. The group was invited to brainstorm the topic of 'what they thought were the significant reputational risks facing UK fashion retailers'. The following list emerged (these are not ranked):

1. Being associated with environmental damage or pollution;
2. Being associated with the exploitation of low wage economies;
3. Being associated with child labour;
4. Bad publicity emerging from ill-conceived advertising campaigns;
5. Bad publicity from the use of 'anorexic' models on cat walk shows;
6. Use of unacceptable materials/fabrics - poor quality;
7. Corporate scandals / avoidance of regulation;
8. Lack of corporate social responsibility.

There is clearly some overlap in the list, with (8) being a summary of (1) (2) and (3), but this nonetheless provides a broad framework of reputational areas to explore with a sample of fashion retailers. Whilst the list does not provide any major surprises nor does it unearth any new areas on reputational risk, it does provide us with a common understanding of what might be thought of as the reputational risks that a fashion business engages with.

Findings from Company Report Search

The ten companies sampled were:

1.	Alexon Group PLC
2.	Debenhams PLC
3.	H& M
4.	Highland Group Holdings PLC (House of Fraser)
5.	JJB Sports PLC
6.	Laura Ashley Holdings PLC
7.	Marks and Spencer Group PLC
8.	N. Brown Group PLC
9.	Next PLC
10.	Tesco PLC

The company annual reports for the ten companies sampled were examined as an evidence of engagement with reputational risk and strategies adopted.

All the reports demarcated business risk under the headings 'Principal Risks and Uncertainties' or just 'Risk and Uncertainties' and all the companies reported on governance issues separately - a requirement under the Financial Reporting Council (FRC) *Combined Code* (2003). Two of the companies in their reports used a three column approach defining the risk, the impact of the risk and then the activity to control or reduce the risk - a similar approach to that in the IRM (2002) Risk Management Standard. However, of the ten companies only one of them had a specific section on reputational risk and only four in total actually mentioned issues relating to reputation. The other six companies were economical with the information about reputation though it may be considered implicit in some aspects of their reporting. This seemed a far cry from the survey results (The Economist, 2005) where reputational risk was shown to be the most significant risk to be engaged with. One of the company reports placed far higher credence on climate change and deviation from normal weather patterns than it did on reputational risk.

The one company that did write a specific section on reputational risk identified loss of customer trust and confidence as key factors that could reduce their customer base and interestingly affect their ability to recruit and retain talented staff. Their strategy was also outlined and included communication with stakeholders as well as a wide range of plans that will have an impact upon societal and environmental issues. High levels of corporate responsibility and compliance were also seen as key to maintaining reputation. The communication with the stakeholders certainly ties in with the literature (Honey, 2009b) (The Economist, 2005) – it must be born in mind that there needs to be a two way communication with the expectations of the stakeholders that reputation is important.

The broad issues of social responsibility and environment appeared in the four company reports that addressed reputation linking them, in part, to the list established by the focus group. All the companies reported separately (as required) on corporate governance issues linking to the point raised by the focus group on corporate scandals and regulation. This latter element was well covered but the pressure of the Financial Reporting Council and the *Combined Code* (2003) rather forces this issue.

Conclusions

The evidence presented suggests that reputational risk is significant and that businesses also recognise it. However, the engagement with reputational risk by fashion retailers in the UK appears low and perhaps demonstrates a poor understanding of its significance or an inability to define it. The ownership issue raised by Honey (2009b) may also be a factor in low company reporting of this risk. The relatively small brainstorming exercise done with a focus group provided areas of potential reputational risk, and these might be expanded upon, perhaps with further broader based groups and explored with fashion companies. A larger company study also needs to be undertaken with a broader base of companies and a research instrument(s) designed to establish more qualitative and quantitative data on the issue to provide a more informed analysis of reputational risk in the fashion industry.

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The Sustainable Brand: A Company Level System

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Keywords

Fashion, eco-design, recycling, sourcing, branding

Abstract

This paper argues that branding is a necessary step for the eco-friendly apparel product. Many conventional apparel companies have shifted their business strategy to building brand equity and this strategy can also be used to promote sustainable products so that they will be recognized more widely in the marketplace. But the infrastructure that is necessary for sustainable brand building must also be addressed. The paper proposes several collaborative approaches for material sourcing, recycling, and organization within and across apparel companies to support sustainable branding while promoting this new kind of brand for adoption by other companies.

Building a Brand

Through a brand name the manufacturer hopes to build prestige for their product, to differentiate it from others in the consumer's mind, and lessen price competition by creating loyal customers who are reluctant to accept other brands...as long as the designer is consistent with the image that is provided, the brand is a guide for the consumer (Kawamura, 2005).

With the current discussions of global warming, organic products and local purchasing, the time has arrived to consider building an apparel brand around sustainability. A sustainable brand will achieve a unique place in the mind of consumers so that they seek out products that are eco-friendly in design, production, and end-of-use options. Daniel Pink (<http://www.wired.com>, 2005) calls one type of eco-seeking consumers "Neo-Greens" – these are consumers who can be described as eco-chic, eco-radical and see-me environmentalists who demand visible signs of style and sustainability in the products they purchase. These consumers require sustainable products that represent their environmental attitudes without forcing them to sacrifice aesthetic preferences. Apparel brands with distinct styles and sustainable "stories" behind them would appeal to this segment of consumers. Building a sustainable brand would first target these customers and then try to expand the customer base by "selling" sustainability as a product feature.

Sustainable characteristics in apparel

The goal of sustainability in apparel brands hinges on developing and harnessing approaches to product development, raw material sourcing, and marketing in order to provide a unified approach to sustainable apparel design. Utilizing a Life Cycle Assessment (LCA) is a viable strategy as it considers the energy and waste impacts on the environment throughout its design, production, distribution, and end-of-life plans as well as the social impacts on workers. Sustainable apparel design from the perspective of a Life Cycle Assessment may incorporate materials that reduce the need for laundering and/or extend the wearability of a garment, materials that are 100% recyclable and reclaimed by the apparel firm for future production, and materials that are compostable. Distinct styles that reduce fabric waste during cutting and constructing can aid in establishing sustainable design as a viable approach to fashion apparel. Producing locally not only reduces the carbon imprint of a product through lower transportation energy, it also supports a local economy through job creation. In other words, sustainable apparel examines and adopts creative approaches to maximize use of eco-friendly materials and processes, minimize fabric waste and energy use, and sustain local communities.

Sustainable Production and Design Approaches

Apparel designers and companies are currently using a combination of organic, biodegradable and recycled materials to construct sustainable apparel with both natural and synthetic content. For example, outdoor clothing company, Patagonia uses organic cotton, recycled PET (from soda bottles), as well as ECO CIRCLE polyester which has been recycled all the way down to the fiber's polymer state (http://www.patagonia.com/pdf/en_US/common_threads_whitepaper.pdf). Organic cotton and recycled t-shirts were used for hand-made, high-end designs created by Alabama Chanin that were sold alongside \$200 Loomstate organic cotton jeans at Barney's in New York City. Chaco Inc., a Colorado-based shoe company, faced challenges in terms of finding eco-friendly materials that were both durable and sustainable for production of its ergonomic sandals (Skold, 2006). Screen-printing firm TS Designs used environmentally-friendly inks for printing on organic cotton t-shirts but the company was unable to consistently secure sufficient amounts of organic cotton to meet demand for its products. Designer Carol Young made use of recycled clothing from second-hand shops to create a line of entirely new garments called Undesigned, but found herself somewhat limited by the fabric dimensions and shape of deconstructed clothing (Young, Jirousek and Ashdown, 2005). Marks and Spencer wanted to extend its sustainability efforts beyond the sourcing of raw materials. As part of its Plan A program, the UK-retailer has established eco-factories for the manufacturing of clothing sold in its stores and also partnered with Oxfam to promote apparel recycling among consumers (<http://plana.marksandspencer.com>).

Some designers are going beyond using eco-friendly materials to achieve sustainability and are creating new forms of apparel styling to demonstrate sustainability and sell it as a fashion statement. Carol Young deconstructed and reconstructed designs for the urban nomad using computer-aided design. She adjusted her patterns to accommodate the irregular shaping of

deconstructed pieces taken from post-consumer recycled clothing or PCR. Alabama Chanin's collections include skirts and shirts and even bridal gowns made of organic and recycled cotton that are embellished with hand-sewn appliqués and also reflect a cultural sentiment for simplicity and craft traditions. Mark Lui (<http://www.inhabitat.com/2008/02/24/esthetica-2008-showing-at-london-fashion-week/>) promotes zero waste by using pattern cutting techniques to create garment designs without waste. In each of these examples the garment is sustainable because of its material, the design processes, and even the "stories" that surround the product and those messages possess the ability to speak to the consumer.

Consistent availability of suitable fabrics has proven a challenge for some sustainable designers and a standard tool for fabric selection could prove beneficial. It is often assumed that the only acceptable fabric for sustainable design is organic cotton or other organically produced natural fibers (Baugh, 2008). The increased cultivation of organic fibers is definitely a benefit to the apparel industry given the negative environmental impact resulting from the use of fertilizers and pesticides for conventional fiber production. However supplies of organic fibers, particularly cotton, are often less than what is demanded by apparel manufacturers and alternative sources must be available to support eco-friendly apparel production.

For example, based on the Life Cycle Assessment process, Patagonia developed its 'conditions of an ideal garment' as a means of evaluating the company's progress towards more sustainable products (Brown and Wilmanns, 1997). Patagonia's rating system for an ideal garment includes six components of the life cycle: (1) product design, (2) material selection, (3) production processes, (4) distribution, (5) product maintenance, and (6) end of life. Each component is rated on a scale of 1-5 with 5 being the "ideal garment", so if a designer wanted to consider another fiber besides organic cotton, he or she could set a predetermined desired rating for the new product and then use this system to evaluate the trade-offs among 'material selection' and the other five criteria for sustainability. This process is a holistic approach that considers all parts of a garment's production and life cycle and could be a model for industry-wide adoption to minimize environmental impacts and promote sustainability.

These examples demonstrate that apparel companies are working toward sustainability, though it can never be totally achieved. But why aren't more companies joining the effort? What are the challenges that deter them?

Sustainability and the fashion factor

The first challenge we have already mentioned – few companies use sustainability to build a brand. Reasons may include consumers' association of eco-friendly apparel brands with higher prices and less fashionable garments (Joergens, 2006). Rather, apparel firms may use conventional identifiers such as logos, packaging or media advertising to appeal to the visual features that consumers traditionally evaluate for fashionability. Silverstein and Fiske (2003) noted the success of new approaches to branding that establish an emotional connection with the consumer that is "promoted through connection to a specific product attribute or story of the leader or company that created it". Some examples of this approach to branding includes companies like Victoria's Secret, Zara, and Coach. Sustainability has become ubiquitous for some fashion brands such as Edun or American Apparel where the design and style

of the product has strong appeal for consumers, not just how the garments were sourced or manufactured. Branding sustainability so that it is more visible to consumers is a novel approach to gaining consumer acceptance of a company's products since they can emotionally connect to the sustainable attributes or story behind the product, and as Kawamura (2005) stated, it becomes a guide for the consumer. Fashion must also be a part of the sustainable brand strategy to maintain consumer appeal and perhaps alter consumer behavior. If the consumer is aesthetically and emotionally directed toward the eco-friendly jacket by Patagonia or the Undesigned jeans by Carol Young, he or she may be prompted to seek other lifestyle choices that line up with sustainable consumption. These choices may include green purchasing for other product categories or reduced consumption of unsustainable products.

Industry Collaboration for Infrastructure Supporting Sustainability

The current industry infrastructure does not accommodate sustainable approaches. Apparel companies that have adopted sustainable sourcing, production, distribution, and end-of-use strategies have built them individually and passed the costs on to the consumer. This added cost of sustainability inhibits some companies from adopting the practices and some consumers from buying the products. We propose several collaborative efforts to foster infrastructure that supports sustainability: a sourcing conglomerate, a recycling brokerage, and a sustainability association either internal to a large apparel firm or externally like a trade organization. These ideas for a conglomerate and brokerage are approaches intended to effectively centralize sustainability functions necessary for the design and production of sustainable apparel. It is necessary to have this infrastructure support in place in order to make it easier to identify and obtain raw materials and to provide several means for recycling and redesign before final disposal.

Sourcing conglomerate

An eco-friendly sourcing conglomerate could be a single resource for designers and companies to use for finding and pricing sustainable raw materials, including overruns of fabric, recycled clothing, organic fibers, and biodegradable materials. Similar to the role of conventional production and sourcing companies, this conglomerate's sole focus would be supplying and supporting eco-friendly apparel production. By supporting the entire apparel industry, the conglomerate could actively pursue increased production of organic cotton, research and development of new technical processes for recycling and reprocessing used fibers and fabrics, and collection and reuse of used apparel and textile materials, all challenges for sustainable apparel. The products offered by the conglomerate would comply with LCA, including non-toxicity, minimal transportation, matching production with consumption, and the capture of post-industrial waste. The conglomerate would serve as a source of raw materials for all eco-brands. Through its specialized knowledge and large quantity purchases, the collaborative effort across the industry would aid newcomers to sustainable apparel practices.

Recycling Brokerage

The reuse, redesign, and end of use practices of waste materials and used apparel can be addressed through the establishment of a recycling brokerage as another essential infrastructure component of sustainable practices. Recycling currently includes donating items to second hand shops, selling them to consignment stores and giving them away on an individual basis. In the United States, consumers dispose of about 40 pounds of clothing annually per capita with only about 10 pounds making it to the recycling stage (Hawley, 2008). Some clothing companies, like Patagonia, already offer their own in-house recycling services to their customers in order to re-capture products ready for disposal, but on a very small scale. Patagonia's Common Threads program returns the fabric from disposed clothing into its production cycle and the company even accepts used clothing from other apparel companies as part of its recycling initiative (http://www.patagonia.com/pdf/en_US/common_threads_whitepaper.pdf). The recycling brokerage would be a collaboration of apparel companies to collect clothing for recycling, preferably through acceptance of clothing without restriction with regard to brand or fiber content. In this way, recycling would become a trademark practice of the sustainable brand, much like excellent customer service or a liberal return policy may be a part of an apparel brand's practices today -- the sustainable brand could be known for its vast recycling capabilities.

The brokerage would be centrally run and have regional locations where consumers could come to 'buy and sell' used clothing. For example, there may be a current demand in the eco apparel production system for felted wool so the sourcing conglomerate may pay \$1.00 a piece to people donating wool sweaters during this period of demand at the recycling brokerage. The brokerage would also function as a service to consignment or design shops that may be looking for a certain brand of clothing. The brokerage could be contacted to help collect more of the items from consumers or apparel companies' unsold stock and waste cuttings. An on-line data base could be accessible to apparel company members and consumers for efficiency.

The Sustainable Association

Branding is a necessary step for the eco-friendly apparel product to make it widely recognized as a special feature that distinguishes it from other brands. The sustainable brand may encompass an entire firm where all products are produced with sustainable practices. Or, it may be one brand among others in a large firm that benefits from its connection with the firm's conventional brands. The sustainable brand will rely on the services of the sourcing conglomerate and recycling brokerage in order to reinforce the brand's image. This centralized infrastructure will expand the number of products for the eco-apparel shopper and provide a resource for conventional apparel brands that desire to adopt sustainable practices.

We imagine an association called 'EcoModa' with all of the sustainable apparel firms as members but each one with a distinct market, such as outdoors (Patagonia), young urban professionals (Carol Young), footwear (Chaco), casual/ leisure (American Apparel) and bridal couture (Alabama Chanin). This association would work with the sourcing conglomerate and the recycling brokerage to address the needs of its apparel members for their sustainable

brands. It would also provide a forum where designers for all the brands could discuss ideas and products that have been successful in their individual sustainable brands. These apparel design approaches may be innovative and radical when compared to conventional processes. But such change in design practice will bring transformation, as Papanek (1984) predicted that it would be required for design that begins to address social and environmental needs. The benefits of this 'cross-fertilization' of creativity could translate into the emergence of a formidable sustainable apparel movement with a large consumer following and the power to influence change in the behavior of apparel firms not involved in sustainable design.

Collaboration and knowledge-sharing across brands regarding best practices could result in continuous improvement toward sustainability. These successes could help widespread implementation through other brands in the association, perhaps eventually into the overall industry. If the sustainable brand can demonstrate that its methods are achievable as part of a successful business strategy, conventional apparel firms may have little excuse for not changing their methods.

Conclusion

Solutions to apparel design proposed here represent unique points of departure from conventional practices and they can identify the sustainable brand. Sustainable design can become ubiquitous in the apparel industry as best practices are shared among apparel companies. Sourcing and recycling environmentally friendly materials using Lifecycle Assessment and collaborative efforts (i.e., sourcing conglomerate, recycling brokerage, and EcoModa association) is needed for building the sustainable brand into a visible, viable force in the apparel industry that challenges the status quo and introduces change into the larger system.

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The Sustained Competitiveness of China Clothing Exports

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Keywords

China, clothing industry, sustained competitiveness

Abstract

China has become the world's largest clothing exporter since the mid-1990s. The country's clothing industry has been playing a prominent role in driving the development of various sectors of the national economy. Earning from clothing exports is a major source of foreign revenue. The industry continues to play a vital role in the growth of China's foreign trade and economic development. With the concerted efforts of the Chinese government and local sectors, the world exports of Chinese clothing increased from about 10 % in 1990 to 33 % in 2008. With its strong export performance, China is generally regarded as the "supplier of choice" for most overseas clothing buyers.

With a proposed model of sustained competitiveness, this paper aims to explore the rationale for China as a sustained clothing exporting country during 1990s and 2000s – arising from both post-quota liberalized trade agreements as well as the domestic initiatives. The sustained competitiveness of China clothing export is attributed to three major factors: country, industry and organization. Adopting a questionnaire survey approach, sample clothing firms were randomly selected from the Hong Kong Business Directory. The data employed in this study is collected through in-office interviews with top managers of clothing companies. The respondents were asked to input rating and assess the three competitive factors of China's clothing industry in relation to other emerging clothing exporting countries. The findings provide an insight for the country's policy-makers to devise strategies to sustain the competitiveness of the clothing industry and further to enhance the export volume in global markets.

Introduction

China's clothing industry has been the economic pillar ever since the open-door policy and economic reforms of the country from 1979. Earnings from clothing exports have been the major source of foreign revenue. The industry has developed and played a vital role in the growth of China's foreign trade and economic development. With the concerted efforts of

government and the local sector, the share of global export of Chinese clothing had advanced from about 10% in 1990 to 33% in 2008. With its strong export performance, China is generally regarded as the “supplier of choice” for most overseas apparel buyers.

Since 1994, China has become world’s largest clothing exporter. As compared with other emerging Asian clothing exporters, China has shown a spectacular increase in clothing export over the last decade (Appendix 1). Its clothing export marked a record high at US\$ 120 bn in 2008, which is five times of 1995. In particular, the country’s clothing export has recorded a brilliant performance after quota phased out in 2005. In the post-quota era, China clothing export had still attracted a growing global attention. China clothing exports continue to sustain growth in the global clothing export trade with exports boosted by more than 60% from 2005 – 2008 (Appendix 2).

With a proposed model of sustained competitiveness, this paper aims to explore the rationale for China as a sustained clothing exporting country during 1990s and 2000s – arising from both the post quota liberalized trade agreements as well as the domestic initiatives. Both qualitative and quantitative analyses were applied to examine the factors that attributed to the sustained growth of China’s clothing export during the recent decades. Convergent interviewing is employed in this study to explore the insights of top-management of the sampled clothing firms.

Adopting a questionnaire survey approach, sample clothing firms were randomly selected from the Hong Kong Business Directory. The data employed in this study is collected through in-office interviews with top-managers of clothing companies. The respondents were asked to input rating and assess the competitive factors of China’s apparel industry with respect to other emerging clothing exporting countries. The findings would provide an insight for country’s policy-makers to devise measures for sustaining competitiveness and further to enhance its clothing export trade in the global arena.

Literature Review

The conceptual framework of sustained competitiveness

In the new millennium, it is critical for an exporting country to sustain in the intensely competitive global export market based on the determinants of sustained competitiveness. The conceptual framework shown in Figure 1 illustrates the three major attributes of sustained competitiveness of clothing industry and details are shown as follows:

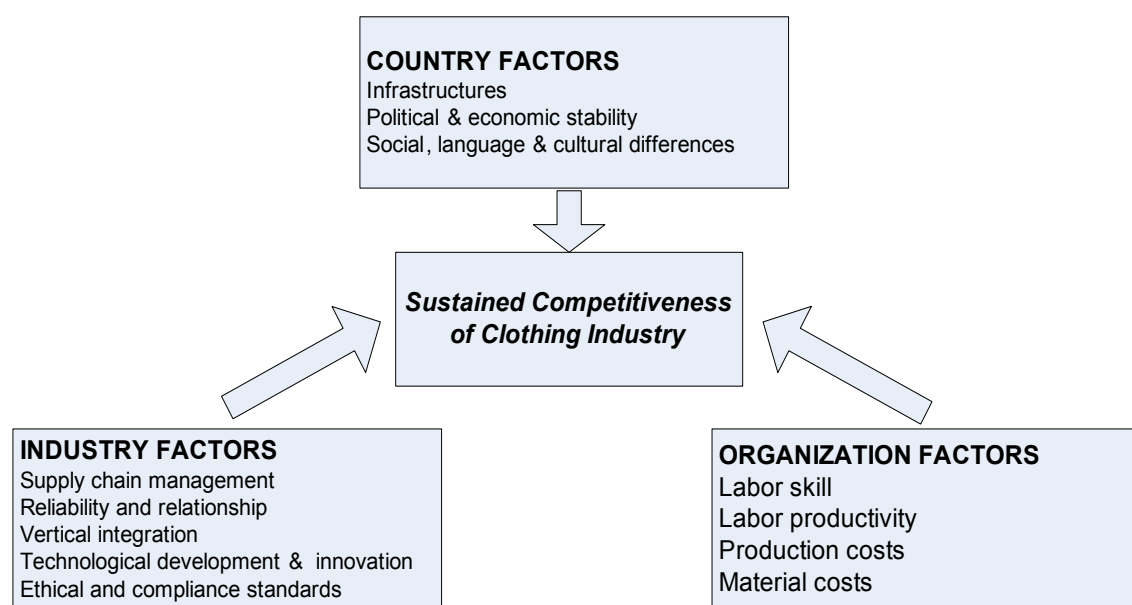


Figure 1: Determinants of sustained competitiveness of clothing industry

Country factors

The internal strength of a country plays a decisive role in shaping its sustainability in clothing export. The stronger the internal strengths of a country, the higher the chance of it to sustain in the intense export market competition. Factors include infrastructure, political & economic stability and social & culture differences contribute the country to achieve long-term success in the world clothing export market.

A well-developed infrastructure system can minimize the total lead-time in the supply chain. The infrastructure factor can be assessed by the number of transportation modes (airports, railroads, roads and sea ports), quality and reliability of utilities (e.g. water supply, waste treatment, power supply etc.) and telecommunication systems (Atthirawong and MacCarthy, 2002). Second, country that has political and economic stability always favours the foreign purchases to concentrate their orders there (Tait, 2002). Third, social, language and cultural barriers between the host countries and home countries might discourage foreign firms from moving to offshore destinations. On the other hand, if the host countries are possessing similar language and culture with the home countries, it hence favors the foreign firms to source there and boosts the export trade. All these internal factors of a country do have positive influences towards a country's sustained competitiveness.

Industry factors

At the industry-level, the sustainability of a country in export sector is fueled by having efficient production system and a creditable social compliance standard. Technological capability is one of the determinants in driving a sustainability of a country export sector (Abernathy *et al.*, 2006; Jones, 2003). Foreign buyers are now paying more attention to research and development (R&D). A higher level of technological development and innovation

capability resulting from advanced R&D processes will sharpen the competitive edge of the industry (Wong and Au, 2007). Furthermore, the ability to have an efficient and effective supply chain management that ensure to deliver products in a speedy, flexible and reliable way are particularly important in responding to an ever more demanding market with rapidly changing fashions (Tait, 2002). Firms in foreign countries are seeking a consolidated supply chain with a predominance of large factories, superior vertical integration capabilities as well as a long-term, reliable relationship with suppliers (Brettschneider, 2006). Furthermore, compliance with ethical standards is a prevailing topic among western consumers. This includes the respect of basic human ethics such as minimum wages, the absence of child or forced labor and good working conditions (Berthiaume, 2006). If the industry fails to meet the compliance standard, it might seriously lose the business from western countries.

Organization factors

Nowadays, clothing manufacturers are competing with quality and costs. To rival in the intense competition, clothing firms strive to achieve good quality and low costs. The superior quality might be contributed by experienced and skilled workforce while the costs are constrained by the material and production costs as well as labour productivity.

Today's consumers are more quality conscious and willing to pay a higher price for good quality products. Introducing high quality products is a good way to establish a firm's reputation as a quality leader (Cho and Kang, 2001). Conversely, poor quality may affect the profit margin and also rate of return by dissatisfied customer. Product quality is assessed by the quality of the basic material, specialization in production and design and most importantly, highly skilled sewing details (Abernathy *et al.*, 2006). In addition, the sustainability of a country's clothing export sector arises from the drivers of profitability. Cost consideration is therefore the major impetus in striving for the competence of a clothing export sector, provided that factors of production acquired should be balanced against factors affecting revenue (Abernathy *et al.*, 2006). With the relative differences in production cost, foreign retail brands and manufacturers disperse their sourcing orders globally, mainly towards low-cost countries (Su *et al.*, 2005). In large part, foreign T&C retailers and firms weigh familiar issues of labor, material and shipping costs (Hathcote and Nam, 1999; Jin and Kim, 2006).

Research Method

Stage one: Convergent Interviewing

In this stage, an exploratory qualitative research using convergent interviewing was adopted in which face-to-face in-depth interviews were conducted. The progressive nature of the interview permits the investigators to refine content and process of each interview in order to narrow down the broad research issues into more focused ones at the end of the research program (Dick, 1990 & 1998). The main goal of the interview is to identify the factors that will be the real determinants of our model among potential determinants acquired from prior researches and literatures.

Emails requesting interviews were sent to the top executives of the leading clothing firms with follow-up phone calls. A total of 10 clothing companies were interviewed for formulating the questionnaire with the evaluation criteria. The face-to-face in-depth interviews were conducted with the top personnel of the companies during March – August 2008. All the interviewees are directly involved in strategic issues of the organizational sourcing activities, thus the judgments and expressed opinions of the respondents could be considered to be representative of the company.

Stage Two: Questionnaire Survey

Questionnaire survey serves two main purposes. First, it was employed to acquire industry views of the industry on the relative importance of the determinants of sustained competitiveness of clothing export sector, using a seven-point Likert scale. Second, the participants were asked to rate the performance of the selected countries with a five-point rating scale. The corresponding five-point scale was described as ‘outstanding’, ‘good’, ‘average’, ‘fair’ and ‘poor’ respectively. Personal administered questionnaire was adopted in the survey, so that doubts can be clarified with the respondents on the spot. A total of 47 usable questionnaires were collected for this study, yielding a response rate of 10%.

Findings and Discussion

The data obtained from the questionnaire interview were compiled and then analysed with statistical software. The result findings reflect two scenarios. First, the relative importance assigned to each determinant of sustained competitiveness of clothing industry at three different levels was obtained. Next, the rating score for each studied country was computed and prioritized.

Relative importance of determinants of sustained competitiveness of clothing industry

At the country level perspective, both the basic infrastructures and political & economic stability are the two major factors to maintain the sustained competitiveness in clothing industry (Figure 2). The intensive competition in today’s global clothing market results in pressure to minimize the lead time and enhance delivery reliability. A reliable infrastructure system of a country including a well-planned transportation system, telecommunication networks, and power and water utilities would significantly enhance the product delivery and thus culminating in the sustained competitiveness of a country in clothing export.

On the other hand, the respondents also highlighted that political and economic stability are the second important element at the country level in determining the sustained competitiveness of clothing industry. They agreed that the political risk and economic factors such as tax incentives, custom duties and inflation have been receiving more emphasis in their organizational sourcing location decisions.

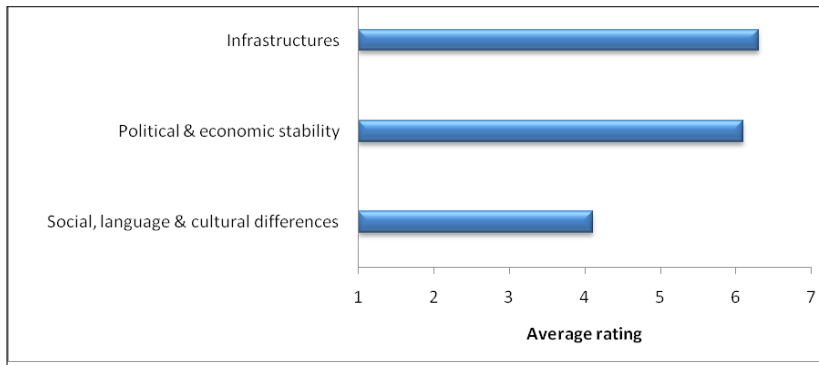


Figure 2: Factors for sustained competitiveness of clothing industry at country level

For the industry factors, technology development and innovation capability plays the influential role in shaping the sustained competitiveness of clothing industry (Figure 3). Technology is not only a buzzword, but is truly a 'must' in today's clothing manufacturing industry. Buyers from developed countries are increasingly paying more attention to the manufacturing country's R&D levels. Firms that actively participate on learning and innovation activity are pivotal to upgrading and achieving long-term sustainability of garment operations as well as export trading.

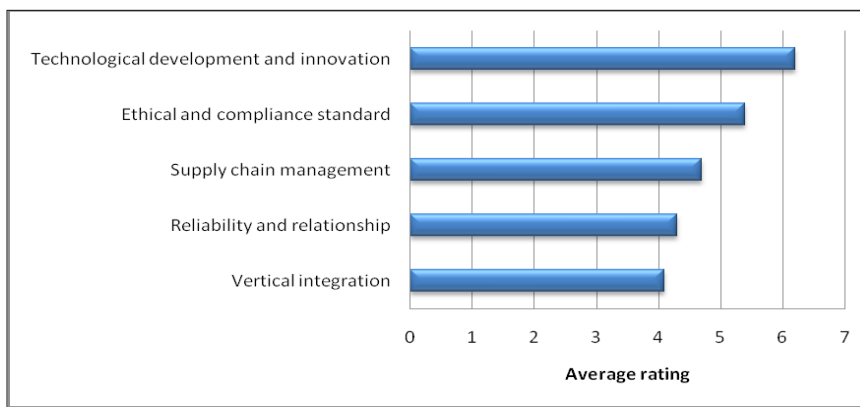


Figure 3: Factors for sustained competitiveness of clothing industry at industry level

At the organization level, labor skill and material costs are revealed as the most important factors in driving the sustained competitiveness of clothing industry (Figure 4). Since today's customers are more quality-conscious, they are demanding high level of product quality. The clothing industry is involved in new product development including trend forecasting as well as design, fabric, pattern and garment technology. Thus, the existences of skilled and well-trained labor and experienced management teams are the core competences of success and sustain in the clothing industry.

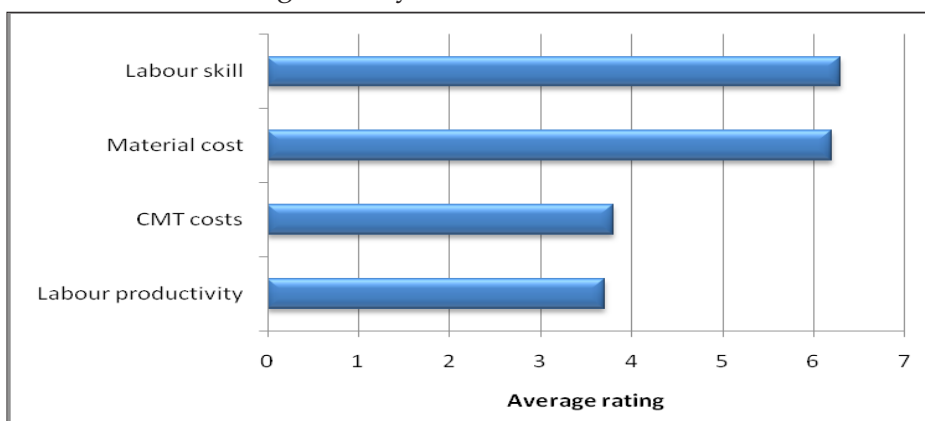


Figure 4: Factors for sustained competitiveness of clothing industry at organization level

Material cost is the second critical element in determining the country's sustained competitiveness in clothing industry. It was asserted that material costs comprises the largest portion of a clothing item in an overall garment production cost, in particular fabric often representing 60% of the FOB price (Birnbaum, 2000).

Performance of countries

The empirical results achieved by the questionnaire survey provided some indications of the sustained competitiveness of China in the clothing industry. The competitive advantages of the selected five leading Asian clothing exporting countries are discussed, including China, Bangladesh, India, Vietnam and Indonesia.

As depicted in Figure 5, China is perceived as the leader with the major sustained competitiveness factors. China has significant competitive advantages in exporting clothing products, particularly with the stable political and economical environments, a high standard of technological development and innovation as well as the skilled workforce. All these competitive advantages are considered to be prestigious and contributed to the sustained competitiveness of China clothing industry. Among the major Asian clothing exporters, China is probably the exporter that is least adversely affected by uncertainties related to war and subsequent security problems in the region.

In addition, respondents commented that the labor skills of Chinese workers are the best among all other studied countries. The Chinese clothing factories capable to give the customers what they want, from patternmaking to final stock garment shipment (Birnbaum, 2002a, 2002b). Furthermore, with their continuous improvement in terms of technological development and innovation, Chinese clothing products have become known in the West for their high quality. Foreign retail buyers are willing to place their sourcing orders in China despite the increasing material costs in recent years, and as a result enhanced its apparel export trade and helped sustain its competitiveness in the global clothing market.

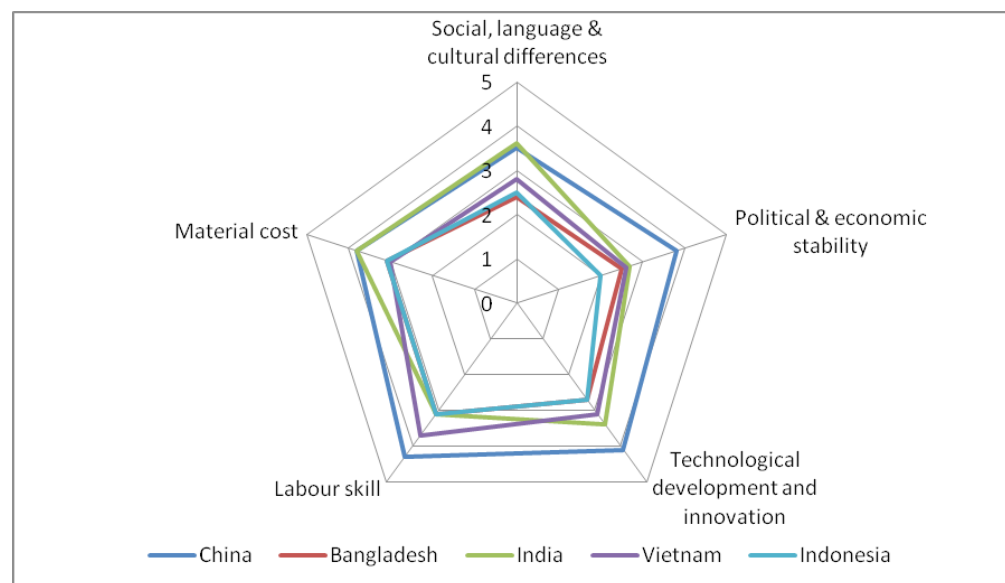


Figure 5: The management perceptions on major sustained competitiveness attributes of five leading Asian clothing exporters

Conclusion and suggestions

With the proposed model of sustained competitiveness, this study aimed at exploring the determinants of sustained competitiveness of China's clothing industry with respect to other Asian leading clothing exporting countries. The data employed in this study was collected through in-depth face-to-face interviews with the top managers of clothing trading firms. Questionnaire surveys were conducted to assess the competitive factors of China's clothing industry with respect to other major Asian clothing exporters.

The sustained competitiveness of clothing industry consists of three levels: Country, industry and organization attributes. From the empirical results, the relative priorities of sustained competitiveness factors at country level were (in sequential order): infrastructure, political and economic stability, and lastly social, and language and cultural differences. In terms of industry factors, technological development and innovation were the most important elements in shaping the sustained competitiveness of clothing industry. At the organization perspective, labor skill and material cost were the major concerns for determining the sustainability of clothing export.

In addition, the empirical results provide some indications of the sustained competitiveness of China clothing industry in relation to other major Asian clothing exporters. China is envisaged to sustain competitiveness in the major input factors for clothing production and exports. With its stable political and economic environments, an escalating standard of technological development and innovative aspiration as well as the pool of skilled workforce, China has established herself as a sustainable clothing exporter in the competitive global arena.

It is recommended that to sustain competitiveness, the country's advantageous factors should be constantly reviewed in order to counteract the cheap labour cost of clothing production in many emerging economies.

Acknowledgments

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Appendix 1: Clothing exports of major Asian clothing exporters, 1995- 2008 (US \$ Mn)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
China	24049	25035	31803	30048	30078	36071	36650	41302	52061	61856	74163	95388	115238	119978
Bangladesh	1969	2218	2689	3786	3868	5067	4772	4818	5654	6296	7510	8318	8855	10920
India	4110	4217	4343	4782	5153	5960	5467	5705	5829	6802	8596	9465	9786	10854
Vietnam	n.a.	n.a.	1384	1302	1622	1821	1867	2633	3465	4250	5550	5579	7400	7458
Indonesia	3376	3592	2904	2630	3857	4734	4531	3875	4052	4286	4959	5760	5870	6285

Source: WTO trade statistics database

Appendix 2: Percentage changes of major Asian clothing exporters, 1995- 2008

	Growth %		
	1995-2000	2001-2004	2005-2008
China	50.0	68.8	61.8
Bangladesh	157.3	31.9	45.4
India	45.0	24.4	26.3
Vietnam	n.a.	127.7	34.4
Indonesia	40.2	-5.4	26.7

Source: WTO trade statistics database

The garment label and its potential marketing messages; is anyone listening?

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Keywords

Fashion, consumer behaviour, globalisation, Corporate Social Responsibility, Country-of-Origin.

Abstract

The Multi-Fibre Arrangement (MFA) and the transitional Agreement on Textile and Clothing (ATC) came to an end on the 31st December 2004. This further encouraged the globalisation of the textile and apparel sectors, with developing and least developed countries seeing the potential for international trade.

In the United Kingdom (UK), the law states that the fibre content of a garment must be declared on its label, but, unless the design or specifications suggest that the garment has originated from a specific location, identifying its country-of-origin (CoO) is currently not compulsory. However, the CoO can hold marketing messages for the prospective consumer, including the potential externalities created in its production and the Corporate Social Responsibility (CSR) issues that this may raise. Furthermore, the European Commission (EC) is debating whether CoO labelling should be made mandatory for garments imported into the European Union (EU). Therefore, this information could be used by consumers to make informed purchase decisions if they were motivated to do so.

This paper considers the level of consideration given by the consumer to a garment's country-of-origin. Utilising a quantitative methodology, involving a questionnaire, the research surveyed 100 respondents based in the UK, aged between 18-26, who had bought an item of clothing in the previous month.

The research found that only one in eight respondents usually or always looked at a label of a garment to see where it was manufactured, with more than half stating that they never or rarely considered such information. Furthermore, there was a lack of knowledge of the terms developed, developing and least developed countries and how each benefited from the globalisation of the textile and apparel sectors.

As the proportion of fashion brands investing resources into CSR policies grows, the paper discusses the relevance of CoO information and whether such information impacts on the purchase behaviour of highly motivated consumers in the fashion sector. However, this research argues that such considerations are marginal in garment choice. The theoretical

underpinnings of fashion sector globalisation are explored.

Literature review

Globalisation

In 1974, the Multi-fibre Arrangement (MFA) was implemented after the textile and clothing sector negotiated an exception to the normal trade rules under the General Agreement on Tariffs and Trade (GATT) (WTO, 2009a). The MFA was designated as a protectionist policy intended to support textile and apparel producing manufacturers in the European Union (EU) and the United States of America (USA) (The Independent, 2004). This included setting quotas, which restricted the amount of textile and apparel imports produced by developing and least developed countries from flooding the EU markets and undercutting the domestically produced products. However, the MFA had its critics, with Searjeant (2004) claiming that "The MFA allowed a fiendishly complex system of individual quotas to be imposed on low-cost exporting nations", which he argued was "perhaps the most damaging kind of trade barrier".

The World Trade Organisation (WTO) deals with rules of trade in products, services and intellectual property between nations at a global or near global level (WTO, 2009b) and currently involves 153 member countries. These countries are described as developed, developing, or least-developed and their status is negotiated and agreed with the WTO. Less than 25% of the member countries are categorised as developed, with the majority of countries being in transition to market economies (WTO, 2005).

At the time of the WTO's inception, in 1995, the decision was taken to rescind the MFA. According to Cable (2005), "Governments agreed and it was decided in World Trade Organization (WTO) negotiations to phase out MFA quotas, giving threatened producers the comfort of a ten-year phase-out, on top of the previous decades of "temporary" protection".

Thus, the transitional Agreement on Textile and Clothing (ATC) took over between 1995 and the 31st December 2004. This was a bridging agreement, lasting ten years to allow businesses to develop their long-term strategies to take into consideration the forthcoming free trade conditions. However, according to The Independent (2004), the promise of free trade from 2005 created a global garment industry dominated by China, which led to a flood of imports into the EU and the USA after the ATC elapsed. To deal with the influx, the EU and USA placed a temporary ban on imports, and then re-imposed quota restrictions on a selection of Chinese clothing products (Cable, 2005), which lasted until 2008.

Corporate Social Responsibility

The retail market in the UK has become increasingly saturated with providers. In an attempt to create an identifiable promotional proposition, brands have looked for tactics and strategies to differentiate themselves from their competitor. Increasingly, Corporate Social Responsibility (CSR) policies have been used to promote the ethical credentials of companies. These policy documents generally relate to two main areas of concern, environmental impact and social provision (Fisher and Lovell, 2006), representing, according to Brassington and

Pettitt (2006), "an important step in the evolution of corporate reporting".

CSR Environmental Considerations of Global Trade

In an effort to advance their economies, the WTO aims to help developing and least-developed countries by encouraging their participation in the global trading system (WTO, 2009c). However, the increasingly global nature of trade has led to the International Energy Agency predicting that there will be an increase in world energy demand by 60% between 2002-2030, with fossil fuels dominating through a dependency on oil for transport and other essential elements (Kirby, 2004a), which includes energy used in production processes. Furthermore, as world trade grows, experts predict that carbon dioxide emissions produced by global shipping, which transports 90% of the world's trade in products, could rise by 75% during the next 15 to 20 years (Vidal, 2007).

McKay (2007) defends shipping by pointing out that, per tonne-mile, it produces less greenhouse gasses than other modes of transportation. Despite this, there is still a price to pay for the pollution or externalities caused by global production and transportation. Kirby (2004b) claims that a simple principle should apply; that the polluter pays the price of the externalities caused, but adds that sometimes it is not obvious who should shoulder the blame of the damage caused. In the fashion sector, it could be deemed that either the manufacturer, the brand, or the consumer is responsible. Kirby (2004b) continues by suggesting that throwing away less by designing products that last longer, or that are able to be recycled, could be a strategy for reducing externalities. However, this creates a paradox as it may reduce the demand for the products which are made by developing nations and thus affect their efforts to trade their way out of poverty.

CSR Social Considerations of Global Trade

Whilst the WTO regulates the rules of trade between nations, working conditions are the remit of the International Labour Organisation (ILO). The ILO is responsible for drawing up and overseeing international labour standards (ILO, 2009), which, coupled with environmental considerations, are the benchmarks upon which many CSR policies are based. According to the ILO (2009), these standards relate to the promotion of "opportunities for women and men to obtain decent and productive work, in conditions of freedom, equity, security and dignity", the principles of which are encompassed in Declaration on Fundamental Principles and Rights at Work. This declaration covers four main areas: freedom of association and collective bargaining; elimination of forced labour; abolition of child labour; and the elimination of discrimination (ILO, 2009).

In 2004, the ILO commissioned a report on globalisation. They concluded that, "deep-seated and persistent imbalances in the workings of the global economy which are ethically unacceptable and politically unsustainable" (ILO, 2004). They claim that the global economy is increasingly polarized, with the least-developing countries becoming less able to compete in the world's markets.

The Ethical Consumer

During the consumer decision-making process, consumers assess a possible purchase using a multitude of evaluation criteria (Solomon, 2002). According to Mintel (2007) consumer concerns include, "the ethical and environmental cost of manufacturing the clothing items, and the travel method and distance the garment has travelled". Furthermore, they report research by YouGov that claims 78% of consumers want to know more about how and where garments are made. The Cooperative Bank (2007) are in agreement that consumers are motivated by ethical concerns and claimed that year 2006 "saw the emergence of a significant number of consumers claiming to avoid budget clothing outlets on the basis that low cost is taken as a likely indicator of poor supplier labor conditions". Further to this, they add that sales of ethical clothing had increased by 79% in 2006 and 71% in 2007 (The Cooperative Bank, 2008).

However, this increase must be put into context, as it only relates to a market of £59m and £89m respectively (The Cooperative Bank, 2008), compared to a total women's wear market (excluding lingerie and accessories) worth £21.2 billion in 2008 (Mintel, 2009). This total market figure for women's wear was a 2.2% increase on the 2007 level, which was a smaller monetary increase than in previous years. However, the volume of sales is continuing to rise exponentially, which suggests that consumers are buying a greater quantity of clothes, but at lower prices (Mintel, 2009). Therefore, these figures call into question whether consumers are motivated by the ethical issues which can be associated with low-cost mass produced garments or if price still dominates their purchase decision.

Garment Labelling

The Cooperative Bank (2005) believes that, "even among committed ethical consumers, a lack of availability and information has inhibited purchasing behaviour". As consumers search for information during their decision-making process, one source available to them is the physical label on a garment. In a move to increase easily accessible information, the Cooperative Bank (2005) suggests that universal ethical labelling would provide assurance and consistency for customers.

CoO disclosure and the identification of where a garment has originated from can imply a message relating to the conditions under which it was produced and environmental externalities that it has created in during its life-cycle. Currently, under UK laws and regulations, the label on a garment should include information on fibre content. However, a garment does not have to be labelled with its CoO unless there are elements in the design or presentation that would suggest that it has come from a specific location, for example if a garment has a Union Jack flag on, it must have a label saying where it was made unless it was made in the UK (Nottinghamshire County Council, 2009).

Therefore, unless compelled to do so, a producer can decide not to make production location information available to the consumer, or they can manipulate labels to exploit positive associations towards particular countries (Jones, 2006). However, this may change due to a proposal currently being discussed by the EC, which would compel importers into

the EU to declare the CoO of a range of consumer goods including clothing (Banks, 2009). This move is being opposed by an EU-wide body, EuroCommerce, which represents business and consumer groups. Banks (2009) quotes a spokesperson for the organisation who claimed that "In global production chains, products are often processed in different countries. Indicating one single country of origin would be misleading for British consumers". Therefore, supply chain complexity in the fashion sector would make identifying a single CoO difficult.

Solomon and Rabolt (2004) suggest that "consumers are often unaware of the origin and many don't care". Furthermore, D'Souza *et al.*, (2006) suggest that consumers' comprehension of labelling is determined by their knowledge of labels, the information they contain and their perception of the brand involved. This is backed by Blowfield and Murray (2008) who suggest that one of the constraints in the CSR agenda is consumer ignorance or indifference. Additionally, whilst the location of production could infer the environmental and social impact created by a product, this may only be of relevance in their decision-making if the consumer is aware that global sourcing strategies have CSR implications.

To be able to assess the implications of CoO information requires knowledge and understanding of the issues involved. Therefore, in light of the current labelling debate in the EC, this research aims to examine the depth of comprehension in the 18-26 year old fashion buying consumer in regard to their knowledge of the CoO information and its impact on their purchase decisions.

Methodology

This research considers the consumers' knowledge and understanding of CSR related concerns and the level of their consideration of CoO when they purchase a garment. It was designed to articulate theoretical underpinnings through dialectic analysis (Fisher and Lovell, 2006). To achieve this, the methodology involved utilising both secondary and primary research methods. The secondary method involved a critical examination of current thinking published in relevant literature, to connect the study to the contemporary ongoing debate by authors writing in the field (Creswell, 2003).

The primary research involved deduction, utilising a quantitative approach (Bryman, 2001) through the piloting of a questionnaire that is in development for a larger study, to investigate the depth of the respondents' understanding, involvement, and commitment to take into consideration possible CSR issues in the global fashion supply chain. To achieve this, a combination of questions types were used, eliciting for both open and closed responses, and allowing for scaled opinions to be expressed.

To make the process of data collection manageable, the process utilised non-probability purposive sampling (Crouch and Housden, 2003), with 100 respondents, all of whom had purchased an item of clothing within the 31 days preceding the survey. Their age range (18-26) is the middle range of the definition by Mintel (2006a), who identified those between 15-34 years as the consumers who focus on fast-moving fashion. This segment was also identified by Mintel (2006b) as the consumers who are most likely to spend on discretionary items such as fashion garments and to enjoy shopping. Analysis of the collected data was achieved using

SPSS and used both descriptive measurements and correlations between variables.

Results

The respondents' 18-26 year old age range divided into 57% who were in the category 18-20, 24% being 21-23 and the final 19% aged 24-26. They were asked to state, in order of important, the factors that they consider when purchasing a garment. A scale allowed for a maximum score of seven (most important) compared to one (least important), which enabled the comparison of percentage rating (the average being 14.3%) and mean score (3.5). The results showed that style (19%, mean 5.31), fit (18%, mean 5.1), and price (15%, mean 4.28) were seen as the most important factors. Promotional image, which includes CSR, was seen as the least important factor (10%, mean 2.86) (Figure 1).

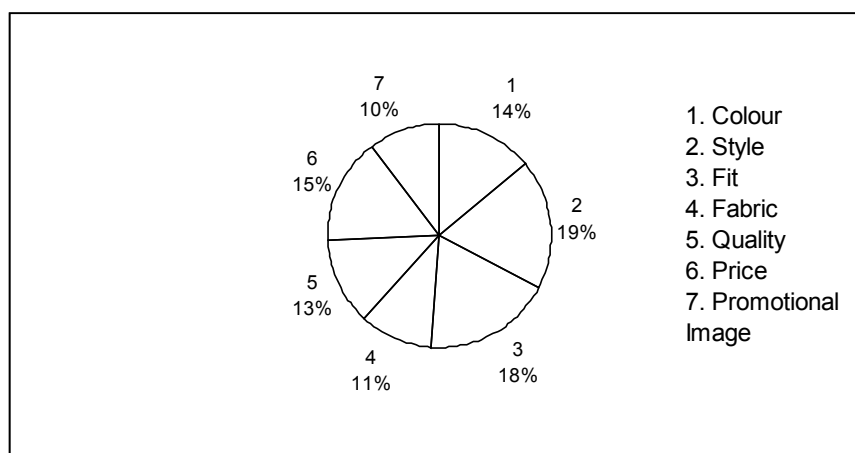


Figure 1: Purchase Behaviour

The respondents' level of knowledge of sector related ethical issues was investigated, with 39% of the respondents stating that they were not aware of relevant issues. Of those who claimed they were aware, 21% did not actually identify the issues. The remaining 40% of respondents reported social conditions (34%), the use of animal skins (3%), and a combination of the two (3%). None of the respondents identified environmental pollution as a concern.

The research investigated the respondents' knowledge of developed, developing and least-developed countries. 59% of the respondents could define what a developed country was and nearly half (48%) could name relevant nations; however, 28% reported that they could neither define the term, nor state relevant countries.

Just over half the respondents (51%) could define what a developing country was, with marginally more (54%) being able to define the term least-developed country. However, when the respondents were asked to name relevant developing countries, just over a third (37%) were able to answer this accurately. Furthermore, this dropped to a fifth (21%) in the least-developed category. Two out of five (40%) of the respondents could neither define what a least-developed country was, nor identify any relevant nations. The same portion was found in the developing countries category. Furthermore, there was confusion over what CoO meant with respondents unsure whether it referred to the whole garment or the final stages of production. Finally, there was uncertainty over the category status of some countries, with China and India being named and placed in each of the three categories (developed, developing and least

developed) by different respondents.

All the respondents stated that they had brought a garment within the previous 31 days; 76% of these had made their purchase within the six days preceding the research. Over half (54%) reported that they never or rarely look at a garment label to see where it was made, with one in eight claiming that they usually (12%) or always (1%) did.

Do you ever look at the label of a garment to see where it was manufactured?	When did you last purchase an item of clothing? (%)		
	within the past 6 days	1 week to 1 month	TOTAL
Never	19	5	24
Rarely	23	7	30
Sometimes	25	8	33
Usually	8	4	12
Always	1	0	1
TOTAL	76	24	100

Figure 2: Country-of-Origin identification

When asked about their most recent clothing purchase, 10.5% of the respondents who had bought in the past six days claimed that they could state where the garment was made. This figure dropped to 9% for those whose purchase was made up to a maximum of a month before. Thus, approximately 90% could not identify the CoO of their latest purchase.

The respondents were asked whether CoO information affected their purchase decisions. Half (50%) responded that location either never or rarely affects their decision to purchase. Only 7% stated that this information impacts on their decision-making process.

Discussion and Conclusion

This research considered the consumer perspective on CSR issues in the fashion sector and the relevance of CoO information to the 18-26 market segment in the UK.

The end of the MFA and ATC, on the 31st December 2004, freed the global supply chain in the fashion sector from many of the barriers to trade that had existed for the last 30 years (Searjeant, 2004). However, the growth of global sourcing in the fashion sector encouraged the proposition that consumers were now focusing their concerns on how and where garments are made (Mintel, 2007, The Cooperative Bank, 2007). To manage these concerns, fashion brands have increased the promotion of their social and environmental credentials through CSR policies (Brassington and Pettitt, 2006).

However, the primary data showed that promotional image, which encompasses CSR, was considered to be the least important factor, with respondents concentrating on style, fit and price as their main evaluation criteria. Furthermore, although 61% of respondents claimed they were aware of ethical issues related to the sector, only 40% could actually identify appropriate social concerns with none of the respondents showing knowledge of environmental considerations.

The ILO has expressed concerns that the global economy is getting increasingly polarised (ILO, 2004) with the differences between nations getting more acute. However, there was a lack of understanding of the terminology used to categorise a country's stage of development, with just over a third of respondents (37%) able to name and identify developing countries and only a fifth (21%) accurately defining and identifying what a least-developed country was. There was also confusion over the status of mass fashion producing nations like China and India.

The Cooperative Bank (2005) has called for greater access to information through labelling and this issue is currently being debated by the EC (Bank, 2009). However, this research found that only one in eight respondents (13%) claimed that they usually or always looked for information to see where a garment was made, with only 7% reporting that the location of production impacts on their purchase decisions. Furthermore, more than half (54%) stated that they never or rarely sought out such information when purchasing a garment. This disputes both Mintel (2007) and The Cooperative Bank (2007, 2008), who claimed that consumers are motivated by such issues.

Blowfield and Murray (2008) sounded a note of caution by claiming that consumer ignorance and indifference is constraining the CSR agenda. Furthermore, critics in the current labelling debate claim that CoO labelling could be confusing due to the complexity of fashion supply chains (Banks, 2009). Therefore, it is essential that consideration of the multifarious nature of the global supply chains in the fashion sector, which span developed, developing, and least developed nations, be at the forefront of labelling information negotiations. Otherwise the information produced has the potential to be meaningless to a 18-26 year old consumer segment who lacks the motivation to decipher it.

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The Transformation of a Charity Shop into a Specialist Fashion Store

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Keywords

Charity shop, fashion retailing, models

Abstract

More than ten years ago, a Guardian columnist observed a growth in the charity shop sector due to an increase in the number of such outlets on the high streets of towns and cities in the UK. The Guardian more recently reported on a new charity store image evidenced by brand-new charity fashion boutiques being launched by Oxfam in London. This new mode of charity store sold selected re-styled and re-designed items created by young designers from the London College of Fashion. The article stated that 'the charity was taking its first step towards a more fashion-conscious image: away from the slightly battered shoes and oversize floral skirts it's known for and into the world of designer one-offs and couture accessories' (Freeman, 2008). It is unquestionable that charity shops have the potential to offer good value fashion to people on a budget as well as attracting fashion-conscious customers. However, if the charity shop is to make the most of this opportunity then certain retail practices are in need of change. The aim of this research was to explore the current trend of UK charity retailers upgrading towards a new target market through the launching of specialist fashion stores and to examine effective strategies for charity shops to achieve up-market fashion retailing. Three retail models from the literature review were used and the research makes use of illustrated visual evidence to demonstrate the performance of charity shops compared to up-market fashion stores. Structured observations, photography and semi-structured interviews were used to develop a new 'Mannequin Model' to provide a strategy for charity shops wanting to move into the mid-upper levels of the fashion market. A combination of the strategies of localisation and specialisation was found to have potential for launching a specialist fashion outlet in the charity retail sector.

Introduction

Charity shops offer good value second-hand fashion products to consumers on a budget. In the current economic climate there is further opportunity to attract other fashion-conscious

customers who have to readjust their fashion-spend. However, in order for charity shops to make the most of this opportunity and become key players in the marketplace, changes need to be made to their current retail practices. In 1990 there were around 3,200 charity shops across the UK and around 6,300 a decade later (NGO Finance, 2000). Broadbridge and Parsons (2003) believed this growth to be a result of competition in the sector accompanied by changes in the way the sector operated. Such changes included the management and organisation of charity retailing through to the overall orientation of the sector. However, attempts to explore the development of charity shops thus far in academia, particularly into the transformation of charity shops into specialist fashion stores, is limited. Much of the work is focused on the causes in changes of charity shops in a broad sense, such as intense competition (Broadbridge *et al.*, 2003), professionalism and commercialism of management (Parsons, 2002) and the whole European retail environment (Dawson, 2000). This study aims to explore current charity fashion retailing in an attempt to highlight the necessary changes needed in retail strategies in order for charity shops to realise the benefits of moving towards a specialist fashion retailer concept. To achieve this three existing retail models were used as theoretical tools to assess the inherent nature and the future transformation of charity retailing through primary research. The development of the charity retail sector and reasons for their evolution were defined from a literature review in order to explore a re-imaging of the second-hand purchase process which could be associated with the growth of charity retailing.

Objectives

The aim of this research is to explore the current trend of charity retailers upgrading towards a new target market through the launching of specialist fashion stores and to examine effective strategies for charity shops to achieve an up-market fashion retailing concept.

The objectives are:

- To review the development of the charity retail sector and changes in charity retail strategies.
- To review general retailing theory models and apply them to retail trends in the charity fashion sector.
- To explore the premises and necessary conditions required in order for charity shops to upgrade to a specialist fashion store.
- To develop a new theoretical framework applicable for charity shops to upgrade towards up-market fashion retailing.

Methodology

This qualitative study draws on observations conducted in Yorkshire and London in the UK and semi-structured interviews with store managers to evaluate and rank the fashion performance of a number of charity shops through the retail aspects; overall look, environment and store design, the product mix and pricing strategies. In some instances photography was

used to support the observations. A total of 45 charity shops were selected, 30 were chosen at random within Yorkshire and used to understand the current status of the UK charity retail sector. A further 15 specific examples were targeted from the London 'chic charity shop list'. The purpose being to explore the premises and conditions necessary for charity stores to move towards being specialist fashion stores. A check list comprising 20 criteria was designed to facilitate the grading process and fashion performance evaluations shown in figure 1.

Merchandise Mix

- Highlight clothing items
- Specific area for fashion items
- High quality fashion offering
- Only selling fashion items
- Introduction of new concept fashion merchandise

Environment & store fitting

- Sufficient browsing space
- Clean and organised layout
- Elaborate interior maintenance and refurbishing
- Soft decoration
- Consistent layout with distinct fashion taste

Price

- Wide range of prices
- Clear price strategy
- Higher price strategy than normal charity shops

Figure 1: Checklist criteria

In order to simplify the data from the observations into a more manageable form a score or rating system was used to identify the fashion context and performance of each charity shop sampled. The interviews were used to further understand and identify each shop. Following the data collection process the number of '✓' on the check list was used to rank the fashion performance for each shop, each '✓' being equal to one point and a total of 20 points were available. In order to clearly determine each shop's fashion performance a fashion grade ranking table was designed comprising of six levels classified according to the colour system used by the martial arts taekwondo belts, shown in Figure 2, where black is the highest level of fashion

performance for a charity shop followed by red, blue, green, yellow and white representing the lowest level.

FASHION GRADING BELT



Figure 2: Fashion colour belt

Further, two more tables were designed to re-rank shops by location and branding and a set of portfolio charity shop cards were designed showing a photograph, the appropriate fashion colour belt and the name and location of the shop. The portfolio cards visually reflect the fashion performance of each shop and an example is given in Figure 3. Finally a new theoretical strategy framework was developed specifically for charity shops to upgrade towards an up-market fashion retailing concept termed the mannequin model.

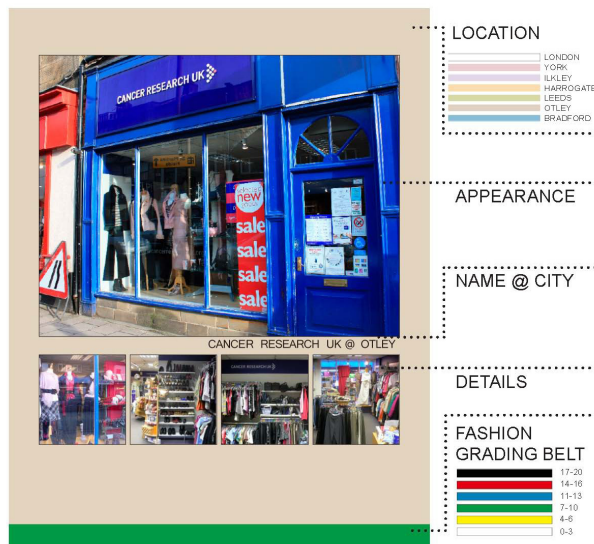


Figure 3: Portfolio card showing fashion performance of each shop

The development of the charity shop retail sector

The charity shop has evolved over time from simply the trader of second-hand goods for the benefit of charitable causes to a more bona fide business and fashion retail contender on the UK high street. The Salvation Army popularised the charity shop concept back in the 19th century through their endeavours to provide the lower classes with cheaper second-hand clothing. The charity shop concept became dormant in the UK throughout the first and second world wars despite still being widespread and also popular in the USA (Horne, 2000). The charity shop, as we know it today, is essentially a post-1945 phenomenon. Horne (2000) attributed the birth of the world's largest charity retailing business Oxfam to the idea of converting donated goods into cash after surplus donated goods originally to be sent to people suffering in other countries was sold in a specific shop in order to raise funds for

their continuing work. In the 1960s many charities followed suit and commenced launching their own charity shops in order to fundraise mainly through second hand clothing sales. By this time, incomes had generally increased and society was moving into the era of consumer disposables, described by Horne (1998) as '*one of buy and discard*' rather than the wartime ethos of '*make do and mend*'. The jumble sale, often housed in church halls etc, were once regarded as the most widespread form of selling second-hand goods to commonly support local and nation-wide causes. However, during the economic boom of the 1980s charity shops blossomed on the high streets, though the most rapid expansion in their development had gradually taken place since 1985. Horne and Maddrell (2002) claimed that this phenomenon was mainly concerned with the upturn of the economy in the UK in the mid-1980s, which brought an abundance of greater disposable wealth and surplus goods. Moreover, due to a buoyant economy social services were cut by a conservative government policy and it therefore became necessary for charities to rely more on profits from sales, with this, there was a significant transformation in the charity retail sector. Due to the recession of the late 1980's and a large number of specialist stores moving to out-of-town locations, charity shops became a more prominent feature on UK high streets benefiting from the reduced rents for these vacant premises. However, the increase in turnover for the charity shops was slow due to the competition in the newly-formed charity shop sector and the need for volunteers and donated stock. Horne and Maddrell (2002) argued that the growth of shop numbers since the 1980s was accompanied by a number of changes, such as increased competition for donors. From the late 1980's charity shops began to supplement their offering by buying-in new merchandise as the rapid expansion of shops, combined with the financial recession had resulted in a lack of good quality, saleable, second-hand goods. This strategy served to raise the profile of the shops by improving their image to attract a more diverse customer base and to compensate for the lack of good quality goods and in doing so, the nature of the retail operation changed (Horne, 1998). Throughout the 1990's, charity shops benefited from an approximately 8% annual growth mainly due to many charities concentrating on brand development, particularly through brand image. However, this growth began to slow down in 1995, though a second growth period did take place between 1996 and 1999 when sales began to stabilise once again (Horne and Maddrell, 2002).

After considerable growth in the charity shop sector of the 1990's, a shift also occurred in the management and organisation of these businesses. Early studies showed that the majority of paid staff were those working in the regional or head offices having responsibilities for policy formulation and implementation (Horne and Broadbridge, 1995). By the late 1990s paid shop managers, usually with previous retail management experience, were introduced throughout the sector as many charity shops moved towards a more mainstream retail ethos. The emphasis for development focused on professionalism rather than expansion and maximising profit through investments such as the improvement of management and operations and brand image. This involved the location of shops in prime high street positions, improved shop fittings and decoration, merchandising and window displays, a move to selling more new products and the adoption of standardised pricing systems for donated goods, as well as the cost of increasing paid staff with qualified management ability (Horne, 1998). Charities began to realise the importance of creating a good brand image and profile for their fund raising efforts. Some charity shops undertook complete store refurbishments,

while others modernised their fascias and became more customer focused. As a consequence, throughout the 1990s it was possible to trace a pattern of overall improvement in both shop location and merchandise presentation, and overall expertise and professionalism. According to Horne (2000) there was a trading up of the retail charity environment through a more centralised and professional operation. While some charity shops closed in the early 2000s, Parsons (2002) reported an annual increase and suggested that there may be a larger market need than previously surmised.

Changes in charity retail strategies

The introduction of head office management was regarded as one of the strongest proponents to re-image and rework modern charity retailing by a number of scholars including Broadbridge and Parsons (2003) who had observed that head office management from senior management positions had the most impact on the transformation of charity retailing towards a more professional sector image. They realised that most of the senior management positions were occupied by individuals with commercial retail backgrounds, and that such people benefited charity shops realising a more professional status through the transference of retail skills, commercial abilities of understanding the markets, store layouts and consumers. Gregson *et al.* (2002) also acknowledged the term 'professionalism' to denote the wave of retail-led changes currently sweeping through many charity shop operations and concludes that this professionalisation reflects practices in the commercial retailing sector and encompasses image enforcement, shop standardisation, segmentation and specialisation. Parsons (2002) also discussed the professionalism and commercialism of charity shop management and identified the increased formalism of the charity shop manager's role as the main reason for the new image of the charity shop. Furthermore, Parsons identified the introduction of paid managers at shop level in 1997 was considered to be the most widespread and far-reaching shift in terms of charity shop staffing. Through increased employment of paid staff at shop level and the introduction of mainstream retailing methods, charity retailers were seen to becoming more professional. At the same time, competition was becoming fiercer both between the charity shops and competitive mainstream retailers. Horne and Broadbridge (1995) put forward the mix of donated and bought-in merchandise as another cause of transformation of charity shops. They also identified a positive relationship between the maturity of a charity retail operation and the percentage of new goods sold in the shops. Furthermore, the product mix had been redefined by the introduction of the new goods. Owing to transformations in European retailing summarised briefly by Dawson (2000), which included increased competition, expansion, technological advancement in information dissemination and rising consumer sovereignty, retailing has become increasingly heterogeneous and recent trends suggest that many aspects of retailing are still diverging. With respect to charity retailing in the UK, it is necessary to refine retail strategies due to structural changes outlined by Dawson to enable a more commercial or business-like image for the charity shop sector in a fashion context.

Retail theory models

Horne (2000) offers a useful framework for conceptualising changes in charity retailing with reference to the use of McNair's (1978) "Wheel of Retailing" to explore the origin of the organisation. The wheel of retailing model is possibly the most commonly used theory as it attempts to explain changes in retailing institutions. This descriptive model was later improved by Hollander in 1960. The wheel sought to account for the rise and fall of particular types of retail formats and explores features identifiable in the retailing establishment using three phases of retail evolution; the entry phase, the trading-up phase, and the mature or vulnerable phase. Each phase represents an increase in location prominence, operational costs, quality and appearance of merchandise and standard of premises. Horne observes that after an initial entry phase charities pass through a trading up phase to reach a mature phase in their cycle of development. The trading up phase involves improvements in the store's appearance and the quality of goods. Throughout the 1990s shops moved to improved locations, the merchandise was presented to a higher standard and there was an overall rise in professional standards. At the mature phase, aggressive corporate marketing and expansion is where quality and service preside over price. Charity shops would need to balance the tensions between the profit making motive and the charitable activity; therefore balancing commercial orientation and social service orientation. Horne (2000) successfully used the wheel of retailing model to explore and highlight elements of charity retail transformation providing a theoretical framework and identifying patterns of retail change and purpose at each stage of the cycle and the continuum.

Hollander's retail accordion (1966) was developed from the original wheel of retailing by taking the concept further to incorporate the continuing fluctuations between general and specialist retailers (Reynolds and Haword, 2007). This historical development in retailing appears as an accordion pattern, hence the name. The model emphasises the swings of domination of general product stores to more specialised, narrow-line retailers. The model attempts to combine the patterns of diversification and specialisation empirically whilst analysing variations in merchandise strategy decision and assortment mix (Hart, 1999). The retail accordion model was further developed into a theory of retail growth and development rather than being simply the theory of assortment where Hollander suggested the mix of retail store types and the nature of their assortment mixes would resemble that of a well-designed shopping centre. He implicitly indicated the need for diversity which is derived from the demand consideration. In the illustration of the theory, this cyclical model is regarded as a basic theory for providing the answers to the research questions posed about the current and future trend of charity retailing specifically in the transformation towards becoming a specialist fashion outlet. It provides both a viable and effective approach to analyse the innovation and merchandise strategies of charity retailing, and is a useful tool to help unveil the cause of the currently diverse formats in the field of charity retail such as fashion boutiques or vintage stores.

The Big Middle is another popular concept for indicating format evolution, which was first introduced by Levy et al (2005). The model defines a desirable market-space, in which the largest number of retailers compete and where the largest number of potential customers reside through four structural segments; innovation, big middle, low-price and in-trouble. Relative price and relative offerings, as two retail strategy dimensions are depicted as horizontal and vertical axes respectively. Using this model, retail companies tend to originate

as either innovative or low-price retailers and the successful ones migrate to the big middle. During this process, it is necessary for innovative retailers to appeal to a price-conscious market while low-price retailers directly target the quality-conscious market by delivering a high value offering. Big middle retailers who fail to maintain their value proposition may fall into the in-trouble segment. In other words, the perceptions of innovative leaders or low-price leaders are suggested to be successfully transformed to a hybrid of the two that appeals to a much larger customer base and provides great value for a broader array of merchandise (Levy *et al.*, 2005). According to Reynolds and Haword (2007) retailing success or failure is influenced by how product/market specialist strategies combine with innovation/low-price strategies in the big middle and new retailers can be categorised as product specialists or market specialists that fulfil certain consumer needs. Product specialists were defined as those offering a deep and broad product array that has a wide appeal, and market specialists as those meeting the needs of a particular market, such as demographically or geographically. This retail model has the potential for a suitable theoretic framework for the charity retailing sector to move out of the low price sector into the big middle segment. The model is considered to be reliable and effective in offering help and suggestions for charity retailers who struggle with competitors.

Transformation of a charity shop towards a specialist fashion store

In order to understand the current state of the charity retail sector and explore the premises and required conditions necessary for charity stores to turn into specialist fashion shops charity shop portfolio cards were produced. The charity shop portfolio card was designed as a result of the structured observations and semi-structured interviews and supported by photography; an example can be seen in Figure 4. The fashion performance of the selected charity shops in London was found to be significantly greater than that of the randomly selected shops in Yorkshire.



Figure 4: Portfolio Card

Given the distinction of the fashion performance of the same charity brand in different cities and towns in Yorkshire, 30 charity shops were categorised by branches and ranked by fashion totals. The purpose was to explore the effect of the brand's head office policy beyond the transformation of the charity shop towards a specialist fashion store. It was identified whether head offices were using standardised or localised policies through analysing the differences between the highest and lowest marks in a branch's fashion scores. If the difference was small, this suggested that the brand was adopting a standardisation policy; a larger difference suggests the implementation of localisation. Blue and red belts, which were associated with outstanding fashion performance, relate to the localisation policy of the brand's head office. Shops identified as using standard policies were generally those with low fashion totals. Therefore, the brand's head office policies and market strategies were found to play a crucial role in the transformation of a charity shop towards a specialist fashion store.

A new charity mannequin model

A new mannequin model shown in Figure 5 was developed to provide a strategic approach for charity shops to upgrade to an up-market fashion outlet. There was an interesting correlation between the mannequin's shape and the distinct market strategies of charity shops upgrading. Using this model, a charity retailer can ascertain their position within the whole charity retail sector and then followed the corresponding suggestions of how to upgrade to a higher level until achieving the top of up-market fashion store. The theoretical framework was used as an heuristic device for identifying features of market strategies in the current charity retail fashion sector and secondly a continuation of usage with which to provide effective strategies for charity shops in diverse phases to achieve up market fashion retailing.

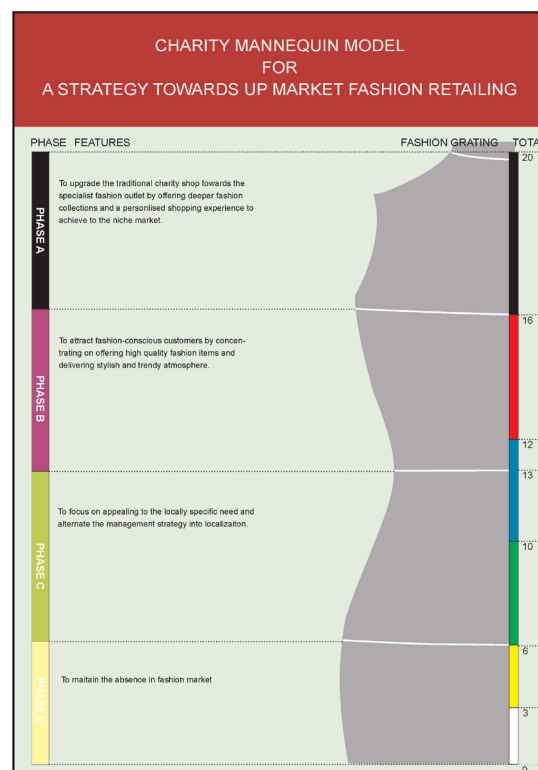


Figure 5: The mannequin model

Conclusion

The transformation of a charity shop towards a specialist fashion store was explored through a practical study and a theoretical study. The qualitative approach was good for the exploration and understanding of the new phenomenon in the charity retail field. Quantitative data was used to identify the factors that influence the transformation of charity shops upgrading specialist fashion stores. The new charity mannequin model and charity portfolio cards produced would enable charity retailers to ascertain their positions within the whole charity retail sector. According to the fashion belt colour, the portfolio card was positioned on the relevant phase of the charity mannequin model. It would be of advantage for charity retailers to identify and examine where they were regarding Strengths, Weaknesses, Opportunities, and Threats, in comparison with the existing cards of other sample charity shops on the mannequin model. The selection of charity shop portfolio cards with the fashion grading belt was a major feature of the research which was presented with one of six defined fashion grades according to assessment of overall fashion image providing a standard measure of charity shop fashion levels. It was beneficial to perceive the current status of charity retail.

Limitations

Firstly, data collection from practical study which involved mixed qualitative and quantitative approaches took place at limited research sites and time. A total 45 charity shops in Yorkshire and London were used in the investigation. Without the time restriction, a higher number of respondents would have been involved, which would increase the reliability and

persuasion of this study. Secondly, there was lack of evaluation process to examine the validity of the outcome owing to the limitation of time. Considering the new charity mannequin model on the strategies for charity shops upgrading into up-market fashion, the researchers would have employed further interviews or questionnaires which focused on the managers of charities and staff at the head-office level of the charity retail. This would have enabled the researcher to assess and prove the validity and practicability of the new theoretical framework in charity retail fashion sector.

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Sustainable Ethical Business Practices: Streamlining Communication between Buyers and Manufacturers in the Australian Clothing Industry to Achieve Sustainability

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Keywords

Sustainability; Communication; Supply Chain; CAD Design; Skills.

Abstract

The aim of this paper is to examine how more effective work practices can lead to sustainability in the Australian mass fashion industry. Too often sustainability is seen to be out of the reach of the wholesaler or supplier to the mass clothing market. Global sourcing is widespread in this price sensitive market and cost is often provided as a justification not to think about sustainability. This paper argues how accurate and efficient practices among Australian clothing suppliers can make mainstream, cost conscious suppliers more sustainable. Business depends on effective and accurate communication with offshore suppliers for product to be manufactured. Understanding of garment construction, print processes and textile knowledge is important for efficient communication. Well represented and illustrated graphics of garments and prints can cut out inefficiencies when communicating with offshore suppliers. The landscape of the Australian mass fashion market has changed dramatically from manufacturers and wholesalers doing the garment manufacturing and sourcing, to retailers doing their own product sourcing direct from offshore suppliers. Because of these changes product developers or buyers may not have the correct training to effectively communicate garment construction and textile print processes to offshore suppliers. This paper argues the case for on going training for product developers and buyers to understand all processes when ordering fashion products and how to communicate with the supply chain in the most succinct and tangible way by using graphic representation. The implications of this training will streamline the production process as well as minimise inefficiencies in the supply chain.

Introduction

The Oxford English dictionary definition of the word “sustainability” is: Adjective 1: able to be sustained. 2: (of industry, development, or agriculture) avoiding depletion of natural resources.

I will start with an anecdote from one of the retailers I work with. This retailer has just started using fashion graphic artists to help in the preparation of their production packages. Up until recently the retailer has been sending samples (garments) that they have bought on overseas buying trips with notes attached providing instructions on what colour and style changes to make and a size specification sheet and some information about fabric. The consequences of these actions have resulted in the retailer regularly factoring into their deliveries 10% garment cancellations. This anecdote is not indicative of all firms but is perhaps the worst case I have come across. To illustrate some possible consequences of these actions:

- The production could easily be completed and the retailer has not accepted it – at least 1200 - 1400 garments will have to be sold well below cost in the markets or possibly dumped - this would be the worst case scenario;
- This cancelled production order could be part of an integrated co-ordinated delivery of merchandise (a story) – this compromises all the other pieces and could affect in-store sales;
- The cancelled production order has been advertised in a catalogue, already printed and ready to be distributed to stores and customers – wasted time, paper, money and other resources;
- 10% of the retailers funds for purchasing product (open-to-buy) is potentially tied up in product that may never happen – how will they be able to find money to react quickly and re-order best sellers in time?
- The fashion consumer demands fast reaction to changing trends driving the need for retailers to react quickly. (L. Barnes, 2006).

Based on these observations it appears that this is not a sustainable policy both for this business and the environment. Textile and garment samples being sent between the supplier and the retailer will use resources such as fuel and energy in the production of the samples as well as energy in the electronic communication between the supplier and the retailer. The human resources (people who are doing the work) to produce the samples from the initial orders through to the initiating of production and in some cases even finishing production would be financially unsustainable. Sustainability depends on building good working relationships throughout the supply chain. Open and informed communication would circumvent possible pitfalls in manufacturing and lessen both sides' exposure to possible environmental, economic, and waste of human resources. The best way to go forward would be to understand the requirements for effective communication. In this paper I focus on waste minimisation at the beginning of the lifecycle of a fashion garment, not on the longevity or disposal of worn garments.

Literature Review

There is a lack of formal academic investigation into the Australian clothing industry and the industry's context within the global supply chain. I have gleaned literature from other disciplines to support my research to date. Based on Norman K. Denzin's explanation of

“instrumental” data collection (Norman K. Denzin, 1994) I am in the process of conducting in-depth, semi structured interviews with industry stakeholders. The subject, not the case studies, will facilitate a deeper understanding of training needs.

There is a global trend among retailers to manage their own supply chains and not to sit in their offices waiting to be shown garments by a wholesaler. If this is managed well it will “eventually translate into better management of inventories and lower markdowns in store” (Magretta, 1998). Whilst the economics for this are sound, given the supply chain is well understood and can be managed, a lack of understanding can affect the profitability of firms. In this paper Sharifi looks at both the design “of” (Supply Chain design – SCD) and design “for” the supply chain (Design for Supply Chain – DfSC). Considering the variation and speed of change within the clothing industry we cannot necessarily change the design of the supply chain, but by understanding the supply chain we can design for it, paying particular attention to the characteristics of the supply chain (H. Sharifi, 2006). Sharifi argues that the key to success is agility in the supply chain – the supply chain’s ability to adapt and change to market needs. A set of skills and competencies are necessary when designing for a supply chain and the understanding of both internal and external skills and capabilities of the supply chain. Managing this knowledge and understanding when and where to use internal skills or procure external services is very important in understanding the whole supply chain – both internal and external (Lane and Probert, 2006). This emphasizes the commercial importance of investing and rewarding knowledge within a firm, as knowledge is an intangible asset that a firm can cultivate. By doing this, a firm ensures their competitive advantage over other players (Barney, 2001; Barney, 1991).

Research design and methods

This paper sits within the wider context of my current Masters thesis on graphic communication in the Australian mass fashion and fashion textile industry. The study has been prompted first by my own practice as a fashion graphic artist – I had worked in the fashion industry for a total of thirty years, initially as a cutter on the factory floor and working my way through the different departments from grading to pattern-making to design manager in a children’s wear firm. My work experience has exposed me to the intricate details of both garment production processes and print processes as well computer aided design (CAD). I have co-authored a book for the fashion industry on how to create fashion graphics on computer and I teach this subject to fashion students. I am well placed to study the apparent needs of both sectors. The lack of formal academic investigation into the Australian industry and the industry’s context within the global supply chain has further driven my interest in this area.

I am in the process of conducting in depth interviews with the following sectors:

1. Fashion retail, approximately - 10 to 15 interviews;
2. Fashion wholesales and manufacturers or suppliers - approximately 10 to 15 interviews;
3. Education institutions - approximately 10 to 15 interviews.

These interviews are not complete and my findings are preliminary. I have collected data using a case study methodology in the form of semi-structured in-depth interviews. Throughout the period of data collection my own experience as a practitioner, a fashion graphics design artist, working within the retail environment allowed me to be in the position of participant observer. Both methods are instrumental as the research interest is not the actual case but the subject – the case facilitates the understanding of industry needs and how education or training can be tailored to meet these (Norman K. Denzin, 1994).

Australian Fashion Manufacturing and Wholesaling - Background

From my working experience I have found that Australian mass fashion market wholesalers have had to form strategic alliances with retailers to survive. The Australian manufacturers and wholesalers' position in the supply chain has been effectively that of the "middle man" managing the manufacturing supply chain. Australian manufacturers and wholesalers source garments off shore. Australian Textile, Clothing and Footwear Industries (TCFI) have an ability to work with short lead times which can be attributed to the fact that Australian quantities are lower compared with those of other countries' quantities. As Australian quantities are relatively low it is possible to find fabric stocks in Chinese markets where a lot of manufacturing is done. The relative proximity of Australia to China is also a factor in the short lead times. For many years Australian firms have not had to pay high tariffs for importing garments into the country and this has resulted in Australian firms establishing, over time, reliable import supply chains. The companies are structured in such a way that a team will be managed by an account manager who will negotiate between the customer and the supplier. Wholesale companies will usually have a manufacturing background and will more often than not have a design and manufacturing structure in the business. Designers manage product development under the guidance of an account manager. The success of a wholesale business will often rest in the relationship they have with a retailer. The account manager is the key to this relationship and often the product developer or designer is secondary in this process. Employing an experienced designer is more costly for a wholesaler and under present economic conditions a number of interviewees have said that firms have cut costs by hiring younger and less experienced designers in an endeavour to stay competitive in the market place. The issue of mentoring or "lack" of it came up often with all interviewees lamenting the fact, but also saying that there is simply no time. So even though they are still employing designers, the expertise is not necessarily within the wholesale firm to train these designers to be able to effectively communicate with suppliers and the account manager may not necessarily have the garment and textile expertise to effectively communicate the cost details to an inexperienced designer.

Australian Fashion Retailing - Background

There is a global trend among retailers to manage their own supply chains and not to sit in their offices waiting to be shown garments by a wholesaler. If this is managed well, it will "eventually translate into better management of inventories and lower markdowns in store" (Magretta, 1998). However, to understand present practices we need to understand

career paths in the Australian clothing retail industry. In the case study interviews I have conducted, as part of research for my own thesis, I have found that the typical career path for a person who is responsible for selecting and or developing garments to be manufactured may not necessarily have a background in garment or textile design. More often than not these employees may have come from a retail or merchandising background, both being important prerequisites for the position, but they will not have enough knowledge and understanding to manage the role of product development. One of the respondents had worked in firms outside of Australia and believed that the nature and size of the Australian industry is to blame for this disparity between the role of a buyer/product developer and the choice of people in these roles. The Australian industry is relatively small and relies quite heavily on the supply chain for information:

“A lot of people [who] have ended up in product development roles have been in basic admin jobs and a job may come up where they find themselves doing product development!...and generally I find that Australian companies are not good at mentoring, I think it is a cost thing!” (interviewee # 1R)

This statement highlights the need for formal academic study of the Australian industry as this concept has come up often in informal discussions I have had with a variety of industry participants.

Often fashion product developers will think of the supply chain as a process that starts once the order has left the buying office and has been placed with a supplier. For a product to succeed it is important to take into account the design of product, paying particular attention to the characteristics of the supply chain (H. Sharifi, 2006). Sharifi argues that the key to success is agility in the supply chain – the supply chain’s ability to adapt and change to market needs. In mass fashion garment development this would translate to understanding what is commercially acceptable within the negotiated price. For example, can a certain print process or construction process be achieved by a supplier with the cost and fabric quality constraints imposed on them by the product developer or buyer? Or is it not better to start this process from a more informed position at conception stage where buyers are negotiating prices from a position of product knowledge and awareness of the supply chain they are working within? A buyer should be aware of the availability and the costs of certain processes and factor these into the initial design rather than have these constraints imposed on them once the manufacturing process has begun. All the information should, in turn, be communicated throughout the companies’ own chain of command from design brief to quality assurance.

Communication – who needs to talk to whom and what do they need to know?

Negotiating a final garment price between the buyer/developer and the supplier is the key to the actual quality and finish of a garment. The agenda on the buyer’s side is to obtain a commercially acceptable garment, priced to suit the market place, delivered on time. The agenda on the supplier’s side is to meet the buyer’s needs and deliver the goods as fast as possible so that they can be paid! Between these two positions a lot of

clear and concise information has to flow and be communicated. It is important at this stage that both the supplier and the buyer are aware of any quality compliance issues – such as specific trim, lining and interfacing standards. A supplier will often have to negotiate a price on a sample that production will be “based” on and will not know what the firm’s quality assurance requirements are if they are not told.

“A buyer will often negotiate so hard on price that the only way to make the garment would be in the countryside [in China] at least three hours drive from any main centres where most trims are easily available. Often the supplier can supply a Chinese equivalent of a German lining that is available in the local market, but the firm’s Quality Assurance department will not accept this” (Interviewee # 4 P, China based supplier)

The above statement highlights the importance of knowing the supply chain and information transparency allows the supply chain to be more responsive to change. Once a price has been agreed upon it is important for the buyer to clearly communicate down the firm’s internal supply chain. The buyer should accurately brief a fashion graphics artist and the quality assurance department. A detailed contract outlining what was negotiated as well as any of the firm’s quality compliance requirements should be written which will assist with preparation of the production package.

In this context, the issue of sustainability means that a clear flow of information from an informed position could curtail the environmental impact by creating the correct garment initially rather than having to re-do any part of the process and limiting the need for copious communication between supplier and buyer. By adequately communicating something as seemingly insignificant as the choice of interlining and where to purchase it, to accurate graphic representation of the final garment design and good representation of any prints or any other garment accessory details will assist all members of the supply chain to function more effectively. In summary, sustainability is having adequate and open access to all details of the components that were initially negotiated in the price. With all of this information up front all parties can work towards the common goal – on time, good quality in-store delivery!

The use of Computer Aided Design (CAD) as a Communication Tool

The speed and change in the retail fashion industry demands fast and effective forms of communication and CAD is an efficient way to communicate with suppliers who often do not speak the same language as the buyers. Most of the interviewees state that every word on a garment specification sheet will be translated into the language of the supplier, so it is best to keep communication as succinct as possible. Clear and correct graphics are the best way to do this – “a picture paints a thousand words”. Even though we have been using CAD in the industry for at least ten years, it is still the domain of young designers who do not have the experience and product knowledge to correctly represent garments and prints. Designing and prototyping new garments, even if they are based on existing samples, still requires several skilled activities such as technical aptitude for garment construction, the most cost efficient methods of producing the garment, quality standards and fit, in addition to fabric knowledge

and print process knowledge (Lane and Probert, 2006). Designers need to know what the properties of fabrics are and by what method they will be printed to be able to effectively design a garment that can be produced on a commercial scale. All of this knowledge is taught within most Australian design courses, but it is not easy to grasp unless a designer has experienced the production process or, as all my respondents said, “[the designer has] had a reality check!” By investing in human capital and more precisely, competencies, such as production of garments and textile knowledge as well as how these are precisely represented graphically, a firm can increase their competitive advantage and lessen the environmental impact through a reduction in unnecessary mistakes.

Conclusion and Implications for the Industry

In conclusion, looking at the issues, further research needs to be done on the impact of skills loss in the fashion industry and the subsequent consequences of this loss. Also, we need to focus on career paths and how to fill the knowledge gap as well as highlighting to industry the value of knowledge. As one of my respondents said when referring to a designer she had placed in a firm:

“.. look M... at S & T, for instance, she understands garment construction like no one else in the industry and the reason why she is doing so well and she has done so well is because she knows how to put a garment together and also a range...”

This designer is well valued in the firm that she works for. Knowledge is an intangible asset that a firm can cultivate. By doing this a firm ensures their competitive advantage over other players and by acknowledging the value of human capital within a firm, this will in turn increase employee loyalty and ensure that a competitive knowledge asset stays in the firm (Barney, 2001; Barney, 1991).

This falls neatly into the “Triple Bottom Line” approach where a firm costs into the bottom line the social and environmental impact of their business practices. This method of financial reporting is being encouraged in listed firms so that investors can make ethical decisions when investing in the firm, due to the relative newness of this approach there is still much left to debate on various issues (Deegan, 2002). Considering the nature of fashion wholesale and retail firms, the motivation to look at the “Triple Bottom Line” would more likely be “economic rationality” – that is there might be business advantages in appearing to do the right thing (Friedman, 1962 as cited in Deegan, 2002). The motivation may not be “doing the right thing” but rather saving time and money. This is the motivation in this highly, price-driven sector of the fashion industry.

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Organic fashion: A sustainable strategy for fashion retailers

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Keywords

Organic fashion, sustainable strategy, fashion business

Abstract

The contemporary fashion product life cycle is short-lived. Fashion marketers and manufacturers strive to keep pace with the fast changing market scenarios and respond to the consumers. In recent years, consumer's concern about climatic change has become a lifestyle choice, especially among young trendsetters who have paved the way for ecological consciousness in fashion. In response to the growing importance of green consumerism, fashion manufacturers and retailers have launched a new line in recent years - "organic fashion". Organic clothing is made from materials that are raised or grown without the use of chemicals in the form of pesticides, herbicides or other chemicals. Popular retail chains such as Target, ZARA and H&M have brought attention, awareness and distribution to the organic fashion market. In addition, manufacturers are providing an increasingly diverse product mix in eco-friendly garments and home textiles. As a result, sales in the organic clothing experienced year-over-year double-digit growth in 2007. Market research publisher SBI forecasts that the global sales predictions for organic cotton products will increase from US\$ 1.1 billion in 2006 to US\$ 6.8 billion in 2010.

The objective of this paper is to study the market opportunity of the organic fashion products in Hong Kong. Questionnaire survey was conducted to examine the popularity and market acceptance of organic fashion. The empirical works also analyzed the potential market opportunities of organic fashion in Hong Kong. The study provides indications to fashion retailers in formulating their sustainable strategy. Fashion firms are envisaged to sustain competitiveness with the establishment of organic fashion.

Introduction

Facing with keen global competition, the survival of fashion business depends on their ability to derive sustainable strategy. To compete in the intensive rivalry, firms must have their long-term sustainable development and strategy. Sustainable development means that firms can meet current needs without compromising future generations' welfare (World Commission on Environment and Development, 1987).

The fashion industry is highly competitive and dynamic. The trends of the fashion business always change as well as the life styles and preferences of consumers. Nowadays, consumers are seeking for fashion that reflects their lifestyles and personal expression, but not just the clothing they wear. Consumers have a better understanding on a product, from the knowledge of how it is made, through its raw material to the end product, rather than just through (the exaltation of the experience of) consumption (Clark, 2008). In recent times, consumer concern about climatic change has become a lifestyle choice, especially among young trendsetters who have paved the way for ecological consciousness in fashion.

In response to the growing importance of green consumerism, fashion manufacturers and retailers strive to keep pace with the changing markets and respond to the consumers. In recent years, a new line "organic fashion" has introduced in the market as a result. Organic clothing is made from materials that are raised or grown without the use of chemicals in the form of pesticides, herbicides or other chemicals. Popular retail chains such as Target, Ralph Lauren Home and H&M have brought attention, awareness and distribution to the organic fashion market. In addition, manufacturers are providing an increasingly diverse product mix in eco-friendly garments and home textiles. As a result, sales in the organic clothing and environmentally friendly textiles market experienced year-over-year double-digit growth in 2007 (Organic Exchange, 2009). Market research publisher SBI forecasts that the global sales predictions for organic cotton products will increase from US\$ 1.1 billion in 2006 to US\$ 6.8 billion in 2010.

The objective of this paper is to study the market opportunity of organic fashion products in Hong Kong. Questionnaire survey was conducted to examine the popularity and market acceptance of organic fashion. Based on the results, this study analyses the potential market opportunities of organic fashion and further to provide some insights to fashion retailers and manufacturers in formulating their sustainable marketing strategies.

Organic fashion is a kind of sustainable fashion?

Sustainable fashion is a part of the growing design philosophy and trend of sustainability. It is of the larger trend of sustainable design where a product is created and produced with consideration to the environmental and social impact it may have throughout its total life span (Wikipedia). Nowadays consumers are becoming more environmental-conscious. In response, fashion designers and retailers introduce eco-conscious methods at the source through the use of environmentally-friendly materials and socially responsible methods in garment production.

Organic fashion is gaining global attention over the last decade. Organic apparel market is growing every year as consumers are seeking to expand their organic lifestyle, including clothing products (Hustvedt and Dickson, 2009). Organic is a labeling term as defined by the United States Department of Agriculture, that refers to ecological production management system that promotes and enhances biodiversity, biological cycles and social biological activity (USDA). The principle guidelines for organic production are to use materials and practices that enhance the ecological balance of natural systems and integrate the parts of the farming system into an ecological whole. In general, the organic fashion may achieve sustainability by

the following three attributes:

Economic attributes

Economic sustainability is the central element and it is also a prerequisite for any successful business. Fashion companies strive to earn maximum profit through retail sales. With the recent 'green consumerism', the organic fashion market has experienced massive growth and contributes significant financial revenues to many fashion retail businesses. According to the Organic Exchange report (2009), global retail sales of organic cotton apparel and home textile products reached US \$3.2 billion in 2008. This figure represents a 63 % increase from the \$1.9 billion market in 2007. The report also points out that most brands and retailers selling organic cotton products are continuing their sustainability measures, which plan to expand product lines by 33 % in 2010 to create an estimated US\$ 5.3 billion market sales in 2010.

Social attributes

Equity is important in today's business world because of the social norms and conventions of human rights. It includes the social fairness and social compliance. Nowadays, fashion companies, especially those in developed countries, consider social responsibility as their prime role in doing business. A growing number of fashion firms are now practicing ethical sourcing, which is the application of a code of conduct based on internationally recognized human rights and labor standards throughout the supply chain (Berthiaume, 2006).

Environment attributes

Consumers contribute to a 'green' cause by buying organic fashion. Organic fashion is produced with non-synthetic materials that are grown without the use of chemicals. Fashion companies, like Mango, Zara, H&M and Gap implement the use of organic fabrics. These companies also emphasize their use of safer dyes that contain and release fewer toxins, thus being less harmful on the planet. Fashion firms achieve environmental sustainability through eco-friendly means, or through efforts to minimize waste and promoting recycling and reuse.

Research method

In order to investigate the popularity and market acceptance of organic fashion in Hong Kong retail market, questionnaire survey was adopted in this study. The survey method is an appropriate mean to obtain information in a systematic way and to gather market information towards a new product. Non-probability sampling i.e. judgmental sampling, was employed in questioning respondents. Questionnaire surveys were distributed to respondents through face-to-face interview, so that any questions could be clarified on-site.

Findings and discussion

Respondent background

There were total 200 respondents answered the questionnaire and involved in this study. The proportion of male and female respondents was 55% and 45% respectively. More than half of the subjects (53%) were between the ages of 21 and 30, about one-fifth (19%) were younger than 20, and the other one-fifth (20%) were aged between 31 and 50. A majority (76%) of the subjects were educated with a diploma or higher. The detailed profile of the respondents is listed in Table 1.

<i>Gender</i>	
Female	55 %
Male	45 %
<i>Age Range</i>	
< 20	19 %
21-30	53 %
31-50	20 %
>51	8 %
<i>Education level</i>	
Master or above	6 %
Degree	38 %
Diploma	32 %
F. 5	20%
Others	4 %
<i>Occupation</i>	
Unemployed	3 %
Self-employed	12%
Sales	22%
I.T. / Engineering	7%
Professional	7%
Customer service	12 %
Student	29 %
Others	8 %

Table 1: Respondent profile

Results of questionnaire surveys

Among the respondents, more than half (58 %) heard about organic fashion product before. The majorities of information sources are from school (50 %) and work (25%). However, about 40 % of the respondents have not heard about organic fashion yet. Most of them were aged at 50 years or above.

In addition, it is worthwhile to note that the organic fashion has not received high level of popularity in Hong Kong retail market. The empirical results revealed that only a small proportion (16%) of the subjects had prior purchasing experience, despite more than half of the respondents had a general knowledge and understanding on organic fashion.

Moreover, 66 % of the samples mentioned that they just bought the fashion items without any specific preferences and picked up by random. This implied that consumers in Hong Kong are not aware of the importance of 'organic' nature in buying clothing and apparel products. The 'green consumerism' has not received a high attention in Hong Kong when comparing those in western countries.

According to the survey results, 50% of respondents explained that they did not prefer to buy organic fashion because of the comparatively higher price. A quarter of respondents were curious about the quality of organic fashion while 20% of them could not find out any advantages for organic fashion.

On the other hand, it is noted that 'environmental friendly' was the major reason and incentive for the respondents to buy organic fashion. More than half of the subjects (55%) believed that organic fashion had less negative impacts on the environment. Consumers are exposed to have a general understanding and knowledge that organic fashion was made by organic cotton, hemp and bamboo, and other natural fibers. Also the production processes were attempted at reducing ecological waste throughout the whole apparel supply chains. Last, it was surprisingly to highlight that more than 90 % of respondents were willing to buy the organic fashion in the future, even if higher prices would be charged. Hence, it reflects that there is a great market potential for organic fashion in Hong Kong. Fashion retailers are envisaged to sustain competitiveness with the establishment of organic fashion. For the details of the survey results, please refer to Table 2.

Q1) Heard about organic fashion	
Yes	58 %
No	42 %
Q2) Source to know organic fashion	
At work	25 %
At school	50 %
From media/magazine	10 %
From peers	5 %
Others	10 %
Q3) Experience in buying organic fashion product	
Yes	16 %
No	18 %
Just randomly choose	66 %
Q4) Reasons for not purchasing organic fashion	
Concern on quality	25 %
Comparatively higher price	50%
Not any advantages	20%
Others	5 %
Q5) Major advantage of organic fashion compared with non-organic fashion	
Better quality	20 %
Environmental friendly	55%
Save for humans	15 %
Reflect culture norm	10 %
Q6) Willingness to buy organic fashion in future	
Yes	93 %
No	7 %

Table 2: Survey results

The empirical study revealed that the organic fashion market is a growing business in Hong Kong, despite it is at introductory stage. To further sustain in the retail business, fashion companies and firms should strive to promote the philosophy and importance of “organic” fashion as well as eco-friendly lifestyles to consumers. Constant investment on ‘green’ consumerism should be made to raise public awareness and concerns of eco-lifestyles. In addition, investment should be made on the research and development of green textiles and clothing. Strong commitments as well as regulations are fulfilled and ensured every steps of the fashion value chain are complied with the global organic standards.

In addition, fashion retailers should put themselves into position of mass-marketing of organic fashion. From the consumers’ viewpoint, organic clothing sometimes is unstylish or looked just the same as conventional clothing but it costs more. In this sense, fashion retailers should create better collaborations with fashion designers and marketers to improve the designs as well as the images of organic clothing. Moreover, the survey results revealed that the main reason for consumers not buying organic clothing is attributed to the relatively higher price. Therefore, in order to enhance popularity and public interests on organic fashion, fashion retailers should determine a reasonable mark-up and deliver the certified organic fashion products to end consumers at affordable price.

Conclusion and suggestions

To conclude, organic fashion is no longer a market niche to satisfy green activists. Today stylish and sustainably produced clothing are available off the rack in retail stores. Large fashion retailers gain sustainability by offering items made from ecologically grown textile fibers. One of the world’s largest fashion retailers - H&M - understands that organic fashion is not a trend, but it is a long-term sustainability. H&M is continuing its big venture into organic cotton in all departments. The company has established a five-year set of goals for increasing the percentage of organic cotton used in their collections. The goal is to boost the use of organic cotton by 50 % compared to year 2008’s target (H&M, 2009).

In conclusion, this study discussed organic fashion as a kind of sustainable movement for fashion business. By conducting questionnaire survey, this study examined the popularity and market acceptance of organic fashion products in Hong Kong. The empirical works also analyzed the potential market opportunities of organic fashion in Hong Kong. The study provides some indications to fashion retailers in formulating their sustainable strategy. Fashion firms are envisaged to sustain competitiveness with the establishment of organic fashion.

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Sustainable lifestyle: Realizing the intent

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Keywords

Sustainability, Communication, Sensitive, Developing Countries, Media

Introduction

We are heading towards a reality when there will not be any traffic jams, no reservation required for anything be it air journey or booking a hotel, no long queues, no power cuts and ease on many other issues, like poverty, etc. This is because there would not be enough places on earth that could sustain human life. There wouldn't be enough fuel left to power enough motor vehicles to cause traffic jams and nothing to power air travel.

List of benefits of carbon rich lifestyle may be dreamed to precision, but the question is, for how long. Process of depletion of natural resources is at a higher pace than the rate of its replenishment and is poised to gain more momentum with new economies joining the consumption wagon. People from least developed country or developing countries would also meet the world average and eventually exceed the current per capita carbon emission.

Talks are on since many decades and this process of engagement will continue before environmentalist run out of time to put earth back on track of recovery. This engagement from Montréal, Bali, Rio de Janeiro, Kyoto and now Copenhagen, milestones in this process has proved to be good but is largely limited to engagement only. There is urgent need for citizens and government in countries where per capita carbon emission is high to bring it down as early as possible. Also, developing and least developed countries have to put control on population that they add every year.

Communicating Sustainability

Efforts done by governments, non-governmental organizations and individuals have helped. These international meets and reporting on incidents by various media help build awareness on this issue. But to take it to another level of cognition or from awareness to action, a different set of strategies are required. Providing information is not enough. It would be good to take note of few concepts that help us understand how new ideas are processed by people before they start taking action. First is diffusion of innovative concepts that Rogers (1964) suggested on how innovation get adopted by 'societies' in a given situation. He defines

diffusion as “the process by which an innovation is communicated through certain channels over time among the members of a social system.” On assessing society’s response to a new idea, we find that it is not spontaneous. Initially, only a few people would (2.5%) take up the innovation, followed by early adopters (13.5%), early majority (34%), late majority (34%), and finally laggards. Though it is not possible that all 100% people would agree to an idea or concept, it is a broad generalization, which holds true for communication on sustainability also. Thus if we are communicating on sustainability and want people to adopt sustainable lifestyle, we could see that all would not respond in first go and parallels could be found in studies on response to communication on sustainability (Centre for Enterprise and Economic Development Research, 2009).

Another concept is on how communication is processed by ‘an individual’. A basic communication model most well-known is AIDA (attention-interest-desire-action) is attributed in the marketing and advertising literature to Strong (1925b). Sheldon (1911) included ‘permanent satisfaction’ as a fifth step to make it AIDAS. This explanation of process of communication on cognition-affect-conation sequence was taken further by Lavidge and Steiner (1961) as a seven step process. This hierarchy of effects model has stages such as, Unaware, Awareness, Knowledge, Liking, Preference, Conviction and Purchase. First exposure helps to develop cognition. Further, it goes on to greater comprehension and then we could expect action.

Thus there are two positions, one is to communicate with the society and another is to talk to individuals. Talking to society would involve, use of mass media, while to talk to individuals, communication needs to be direct, personally addressed and contextualized. Rogers also suggested that the individual, who gains knowledge, gets further persuaded to collect more information. Then he takes decision that could be adoption or rejection. If adopted, one implements the decision and confirms to it (Rogers, 1964). According to Rogers, some people within the social network take lead and other follow. But diffusion of this lead (innovation) depends on the innovation, types of communication channels available, time or rate of adoption, and the social system which frames the innovation decision process.

Hence we find that reaction to sustainability campaigns get different response in different societies and all have different rates of adoption, as has been discussed later that developing world’s response to sustainability campaigns is much different than that of the developed world. As has been supported by ‘diffusion of innovation’ model, an adoption spreads faster if it is taken up by respected individuals of the society.

Correspondence could be drawn to stages found in studies on communicating sustainability, a few people are totally unaware, some know about it, some have greater comprehension on the subject, some others have a liking, for others, it is a preference, while some others practice it a bit more and a few also take action. There are some additional roots, which this model does not answer. For example, free riders, like SUV drivers, who still use big cars while diehard environmentalist might be driving small cars. But the average impacts on the environment are shared equally by both of them. We cannot omit effects of others factors in a given situation, like, competitive thoughts. For example, if others are not doing it, why should I take the lead? And for how long I should keep taking lead. Colley (1961) cites countervailing forces like competition, memory (limitations) lapse, resistance, etc. being some

of the factors, apart from user dissonance and evaluating their choices. Thus, even if we have motivated a person to start practicing sustainable lifestyle, he may go back to old methods, if there are not enough or continued incentives and gratification.

Lavidge and Steiner (1961) referred to the concept of respondent 'involvement'. According to them consumer's (user) psychological or economic commitment would have an important bearing on moving to another stage. Roger's model was expanded by Robertson (1971) when he proposed an awareness, comprehension, attitude, legitimization, trial and adoption hierarchy.

These phenomenon happen simultaneously. While talking to society, you are also talking to individuals. Similarly, even if that communication is addressed to an individual, he would generate some word of mouth and communication would penetrate to others in the society. Thus, when media reports and other efforts have caused awareness, talking to people at individual level might work.

We encounter possibility of making our lifestyle more sustainable every moment. It could vary from using more public transport or less internet searches, to not keeping pets. But suppose, one doesn't know that internet search also needs energy. One search needs energy as is required to make two cups of tea. Very few people know the details of how the activities of our day-to-day lives generate emissions of carbon dioxide and other harmful gases (Goodall, 2007).

Many people have intent to practice sustainability, but because of lack of knowledge on how to do and suitable help required to do so is hampering to get the intent realized. This intent could have several reasons. One could be the real intention to help the environment. Other could be to be known as a person concerned about sustainability. Good point is that you are getting known as a concerned person in both the cases. But there is more to it. In a study in UK, 77% people were found to be either fairly concerned about the environment or very concerned, but 77% (not same) endorsed that most people are not prepared to make big sacrifices to help climate change. This establishes that though people are aware and have intent also, but are not getting it realized (IPSOS-Mori, 2008).

Realizing the Intent

Rogers (1964) clearly defines several intrinsic characteristics of innovations' influence an individual's decision to adopt or reject an innovation (here, sustainable lifestyle). These are:

- Relative advantage or how improved an innovation is over the previous generation (current practice).
- Compatibility, i.e., the level of compatibility that an innovation has to be assimilated into an individual's life.
- Complexity of using an innovation also tells whether it would be adopted by an Individual.
- Trialability, determines how easily an innovation may be experimented with as it is being adopted.

- Observability or the extent to which an innovation is visible to others to drive communication among the individual's peers and personal networks to create more positive or negative reactions.

Thus to realize the intent, we need to work at a individual level and it should tackle all issues.

It is ironic that per capita carbon emission is very high in developed countries as compared to developing countries. But people in developing countries are more concerned (HSBC launches international survey of public attitudes towards climate change, 2007). Based on a sample from nine countries and across four continents, this study demonstrates that around 60 percent of respondents registered a high level of concern in China, India, Mexico and Brazil, compared with only 22 per cent in the UK and 26 per cent in Germany. People's assessment of their commitment to tackling climate is higher in developing economies. Around 47 per cent of people indicated high levels of personal commitment to combating climate change in India and Brazil, compared with only 19 per cent in the UK. At this point many researchers argue that this is the situation despite better technologies available in the developed world to counter climate change. On the other hand, developing countries face lot of problems, like illiteracy, poverty, corruption, media reach, etc.

Pew research centre reports that in percentage of CO₂ emissions, US leads with 20.9%, while it hosts only 4.7% of world's population. To take an example of a developing nation, India hosts 16.8% of world's population, but, only 5.5% of world's CO₂ emissions. Even if we keep aside this imbalance, integration of developing countries, particularly, India and China, with the world's economy and resulting prosperity, would boost not only global trade but emission of green house gases also. (Climate Data: Insights and Observations, 2004)

Market of products that could help a person to lead a sustainable lifestyle is definitely there and would only grow. Need is to identify products and ease out life to realize the intent. Suppose carbon emissions are because of the need to heat up homes, alternative methods or small size rooms might solve the purpose. If source of emission is Air travel for business, use more of net enabled video conferencing.

One Earth

This concept of 'our own take' resonates in communicating on sustainability also. Importance of communicating on sustainability or using natural resources available sensibly is becoming urgent every day. This earth houses very many people, intentions, ideologies, policies, gods, religions, prophesies, technologies etc. But just like we had one Confucius, one Gandhi, one Martin Luther King, one Nelson Mandela, we have only one earth. As, we share all these ideologies and draw inspirations from all these great people, our take on these inspirations to develop our own version. We tend to generate our own interpretation. It leads to our own beliefs and definitions/ methods of practising what these great people had professed. These concepts lead to action when we delve deeper into these fields. We tend to build beliefs and conviction around it to finally generate words of mouth.

We have only one earth and we all share resources provided by this earth. Sharing could be open, paid or competitive, but is something that brings us to same platform, one earth. All issues in sustainability lead to one earth. This word of mouth is only on those aspects and issues that we get conversant with, while that prophesy or ideology may have many other facets to it.

When governments plan or promise to enforce emission cut or other pollution control policies, it doesn't work as currently there is no electoral advantage addressing climate change. In fact, the opposite is true. It turns out to be a disadvantage with voters complaining about restraints (Goodall, 2007). This suggests that while communicating on sustainability, communicators, marketers and designers need to talk to individuals and not community, making them an important change element. Intellectuals are taking lead by setting examples. Like last year, Governor of a populous state of India, Mr. Ramgopal Gandhi, who happens to be the grandson of father of the nation, Mahatma Gandhi, asked to have regular power cuts at his official residence, just like normal people. Examples from known people work better as people relate with the immediate environment better. Leaders don't need to talk about sustainability but practice it, followers will take it on their own. Thus it is evident that there is a personal angle to adopting sustainable lifestyle and policy initiative or compulsion would come if there is sizable proportion of voters supporting the cause. Altering public attitude towards risk is a key part of planning (Giddens A., 2009) a policy.

Clegg (2007) suggests some solutions to get relieved from climate change related stress. Solution is to build self esteem, have a workout, walk more, share chores, laugh, take a break, sleep well, meeting rituals, listening to music, managing time, change loving, reading books, have traditional entertainment, being creative and inspired by nature. Logic goes like this that if a person is under such stress, he is not only aware but is concerned also. Now this person goes further to get stress relieved by adopting such method and if the stress is relieved, there is enough correspondence to believe that people who have these suggested habits might be walking sustainably also. If that is the route, let's try to build these and have a sustainability compliant life style.

Response to a stressor like impact of global warming is dependent on our emotional state and self image (Clegg, 2007). This empirical study points that for this communication, there are certain categories that we could put the audience into. These categories are as follows:

- Uninformed/ unaware of this issue
- Informed but do not know about importance and urgency
- Informed about importance but not urgency
- Informed about urgency also but do not know how to do or have no info or approach to utilities of sustainable lifestyle
- Informed about urgency also but doing convenient disposal of responsibility (fad): there people who feel that to be known as people practising sustainability is in fashion. To make a mark as such a person is necessary.
- Intent to help environment as and when opportunity comes: Many times, even

concerned people have to use means unfriendly to environment only because there is no other option available. Majority of them feel that they are following sustainable lifestyle but are not doing something.

- Die hard environmentalist

A DEFRA study (Department for Environment, Food and Rural Affairs, 2008) categorises public into seven clusters on their appreciation of the threat of climate change and their willingness to respond to the level of their day-to-day lives which more or less corresponds to categories mentioned above.

This study suggests that awareness level and conviction increased when an audience was informed about climate change and sustainable lifestyle through a workshop (Giddens, 2009). Various ways of engaging would help realise the intent. Same literature also suggests that giving a checklist to people also works.

Even though people know about importance of sustainability, when they get opportunity to practice it, they either forget or postpone. This needs either a constant reminder to make progress taking the individual from cognition to conviction and then realizing the conviction (and intent) to be environmentally conscious or limited to projecting to be so. Lately poverty is also being handled one by one or family by family. So if development communication works at individual level, why make it a point to use this as a strategy while communication or designing a campaign on sustainability to convert each and every person or plant stories that have potential to spread.

Blind Spot

Small efforts serve as a good example to follow, but are statistically insignificant. For example a Zero energy home in US may become a point of discussion but in a country that contributes more than 20% of the global CO₂ emission, this is inconsequential. But the person who would read it or others with whom he would share this news with may feel that something is happening and would become a reality soon (optimism). Statistical insignificance may not be known to these people. Media projects false impression of risk to the public (Giddens, 2009). So one such good news is considered as a big relief and hence a false effect again. In mass media studies, this effect is known as catharsis effect. At individual level, little act of sustainability makes them feel that they are following sustainable lifestyle. This prevents people from sensing the urgency that this issue needs. This makes them loose focus of the real issue. A reality check is required at individual level, and communicators and designers have this task of making sustainable lifestyle a more comprehensive act rather touching on the tip of the iceberg.

This gets compounded by attention fatigue when media reports on environment again and again. People feel that if the situation is so bad and going worse. People say that if it is so bad, just stop worrying about it (Giddens, 2009).

Policies being framed by international forums are required by where sustainability is primarily at the individual level. It happens at an individual level. We may frame laws and

give directives, but if we have not convinced individuals to practice it, we cannot be sure of the compliance. It goes well with the saying that "if everyone is responsible, no one is responsible". Thus make a person responsible for his part and see him/ her meets individual goal of sustainable lifestyle.

Discussion

To know, how to realize the intent, a survey questionnaire was administered on 118 respondents. When asked to define sustainability, most of them had their own definition which revolved round using materials sensibly but a few also mentioned that it is a jargon to be understood. Similarly, when asked to as to how do they practice sustainability, responses varied from less use of plastics, polluted rivers, reducing use of paper and segregation of waste.

While enquiring on what motivates a person to take up sustainable lifestyle, most of the people mentioned that it is individual's own call to practice sustainability, while reasons could be different. It could be moral education from teachers or grandparents or some critical incidents that make them pro to these inputs. It was also evident from majority of responses that those practicing sustainability are either intellectuals or are perceived to be so.

When asked as to how many people in their circle practice sustainability, there were two main categories. People in first category said that 60-70% of people they know practice sustainability. This category constitutes about 25% of the total people surveyed. For rest 75% people, only 20% people in their circle practice sustainability. This suggests that practicing sustainability is either popular or is a craze in certain social setup or spreads (diffuse) in a social setup. It is there in masses also but is limited to early adopters only. Those who practice sustainability also practice it as something fashionable, while for real practitioners it is a self owned responsibility.

Majority of people, who are not concerned about practicing sustainability, cite lack of information on how to practice as the main hindrance. But it is inherent in the question that they know as to what is sustainability. Lack of effort to know, how to practice sustainability, is also evident. Also evident is that others are taking care of the environment so their bit is not so much required.

When it was asked as to how sustainable life and lifestyle is different, the outcome was that though these people are aware of all modern amenities and luxuries, they opt for simpler and minimal lifestyle and use as per requirement thing. They are more sensitive, more organized and self driven. Those who have adopted sustainable practices in their lifestyle are typically younger in age, have a higher social status, have more financial lucidity, advanced education, and are more socially forward (Rogers, 1962).

Katz and Lazarsfeld (1955) arrived at influence of Opinion Leaders in the diffusion process. Characteristics that set opinion leaders apart (from their followers and other individuals) are that they typically have greater exposure to the mass media, more cosmopolitan, greater contact with change agents, more social experience and exposure, higher socioeconomic status, and are more innovative. Same was found in the profile of people who practice sustainability.

Challenge in communicating on sustainable lifestyle is that there is no immediate evidence affecting people in most of the situations. So it is not an immediate reality to have a gratification from sustainable lifestyle or threat from not practicing it.

When asked about what people do to be more sustainable, for majority of them (77%), using less paper is a sustainability act they have done in past 10 days. 22% had not done anything, while other responses were using public transport and sharing cars, using old clothes, stopping to litter, segregating waste, reusing glass bottles and planting trees.

When asked as to what would motivate a person to adopt sustainable lifestyle, responses revolve around making them sensitive towards sustainable lifestyle. A few were more vocal and suggested using shame as a strategy. But more than 40% talked about having a consolidated campaign informing people (making them more sensitive). Most of the respondents mentioned that we could make people sensitive by making them to experience the real problem and the urgency. Availability of right kind of technology was also one of the prime concerns.

When respondents were asked as to what would be more effective to pursue as a strategy while communicating on strategy, 67% selected the option of demonstrating through your action. Next best was to treat people with a 'shock' by telling them about the graveness of the situation. Educating through workshop and media report was also cited while celebrity engagement was the least preferred thing.

Thus we could easily arrive at the conclusion that for realizing the intent of practicing sustainable lifestyle, there is a need to tackle the issue at individual level and devise a comprehensive campaign to help people move up in the stepwise communication process.

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The impact of Advanced Knitwear Technology: Fashion, Sustainability and Innovation

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Keywords

Knitting technology, Complete garments, Innovation, Sustainability, Fashion

Abstract

The ability to knit and construct complete garments on one flat bed knitting machine was commercially achieved in 1995 after many years of research and development. One of the key advantages driving the technical advancement was the elimination of waste, an inevitable side effect of most methods of clothing manufacture. The machine builders, enthusiastic to promote implementation of the technology emphasised its capacity to reduce labour, costs and yarn consumption, innovate the knitted garment and even radically influence fashion. It was however the issue of labour reduction that appeared to be the prominent factor of influence regarding knitwear manufacturers' decision to invest. This paper describes a qualitative investigation to determine the benefits derived by knitwear producers through implementation of complete garment technology. The UK has a rich knitting heritage and a long history of innovative practices. In the current climate where traditional manufacturing industries are threatened by cheap imports, remaining competitive is problematic. Two surviving knitting Industry clusters in the Scottish borders and East Midlands are made up of highly specialised niche companies. A number of these have begun to invest in complete garment technology. Case studies were conducted over a period of a year in the UK with purposively selected complete garment manufacturers all from these cluster regions. Findings relating to the experiences of the manufacturers are discussed, in particular a complex and uneasy relationship between the potential to create a more sustainable product and the urgency to satisfy a market demanding increasingly rapid change. Attitudes and perceptions of those responsible for developing the products show that the very nature of creating fashion also generates the notion of short term gain.

Introduction

Many of the clothing manufacturers in the UK who have survived recent industry decline, operate within highly specialised niche markets. The knitwear industry in the Scottish borders and East Midlands have been identified as examples of these (Intel, 2008). In an intensely competitive global market, knitting manufacturers in high labour cost regions need to identify

sustainable ways to remain competitive. Innovative complete garment technology is claimed to enable producers to create new garment design, improve garment quality, eliminate material waste and reliance on manual labour (Nakashima and Karasuno, 1996 and Mowbray, 2005). It would therefore seem opportune, to make an assessment of the true benefits of complete garment technology. Particularly in regards to its ability to help sustain both niche producers of a luxury product and those trying to satisfy the fashion demands of the high street retailers.

Historically knitwear manufacture in the UK has generated both economic (Chapman, 2002 and Barty King, 2006) and technological advancement (Brackenbury, 1992 and Spencer, 2001). An expansive market for hand knitted stockings at the end of the sixteenth century is credited with initiating the impetus for mechanising the knitting process. (Black, 2001 and Spencer, 2001). In contrast to the tubular stockings created by the circular method of hand knitting, the new knitting frame produced a shaped flat piece of knitted cloth that was sewn together to form the garment. (Brackenbury, 1992 and Power, 2007) This has had a lasting impact on manufacturers utilising traditional flatbed knitting machinery, as it necessitates post production labour, often blamed for causing delays and bottlenecks (Eckert, 2001). Knitting fully fashioned panels is a far less wasteful process than cut and sew manufacturing. However the ability to shape using flatbed knitting technology is limited and a degree of cutting is required to generate the desired dimensions of the finished garment. Traditionally the cutting is done by hand, causing additional labour cost and material waste. In the current global market, massive disparity of labour costs between developed and developing countries provides added impetus to UK knitters to reduce these labour intensive bottlenecks.

Literature Review

Implied benefits through implementation of complete garment technology

Flatbed knitting technology with the capability to knit and construct the garment and thereby eliminating the need for post production processes and material waste was commercially launched in 1995 by the Japanese company Shima Seiki (Spencer, 2001; Hunter, 2004b; Mowbray, 2005). Previous research leading up to this achievement had been in progress since 1940, with many different commercial companies competing and collaborating (Brackenbury, 1992; Hunter, 2004a; Power, 2007). The German company Stoll are credited with introducing important developments that enhanced commercial viability (Hunter 2004a). Currently Shima Seiki and Stoll are at the forefront of commercial application (Choi and Powell, 2005). Reports in trade journals documenting the experiences of the first manufacturers to utilise complete garment technology have documented a range of benefits such as; reduced sampling and production times, the ability to produce unique and innovative garments, reduced yarn consumption, alleviation of skills shortages and the creation of increased garment comfort and fit (Mowbray, 2001 and 2002; Davis, 2003; Curtis, 2007; Hunter, 2008). None of these advantages however were fully explained and it is difficult to gain a balanced view regarding how effective the utilisation of complete garment technology really is

for knitwear manufacturers.

Technology, fashion and sustainability

Scaturro (2008) suggests that the use of technology can help to create growth of sustainable fashion practices through thoughtful manufacturing processes. In relation to complete garment technology and its ability to eliminate material waste, this statement could be justified. However, other factors must be taken into consideration when making an evaluation on sustainable practice. Technology utilised to enable manufacturing efficiencies for fast fashion systems, driving rapid and constant product change (Davis, 1992 and Wilson, 2003) and built in obsolescence, cannot be perceived as generating sustainable practices, aiming to negate environmental depletion and safeguard future generation's needs (Thomas, 2008). It is therefore the attitudes and motivations of the technology users that will determine whether a more sustainable approach to fashion production and consumption is adopted.

Clarke (2008) includes the concept of 'locality' into building sustainable fashion production. The use of local resources, skills, knowledge and materials, should promote fashion diversity not homogeneity. UK knitwear companies, using traditional materials and local skills to generate products that reflect a rich knitting heritage would satisfy this step towards sustainable practice. Innovation and newness are also crucial considerations when producing a fashion product (McRobbie, 1994; McKelvey and Munslow, 2003). Utilisation of complete garment technology could introduce an innovative approach but would also result in the loss of local skills and traditional craft production. There is therefore a compromise between adopting novel methods to overcome current problems and maintaining traditional evidence of locality and individuality. Through case study research conducted at three UK knitwear production houses, this report evaluates the impact of implementing complete garment technology on the traditional knitwear producer and those supplying high street fashion retailers in relation to production of a sustainable product.

Research Method

Literature identified a variety of implied benefits through utilisation of complete garment technology. Case studies that include multiple methods of data collection enable the investigation of a contemporary phenomenon within its real life context (Yin, 2003), appropriate to gain deeper understanding regarding the true value of complete garment technology and its impact on garment development, fashion and sustainability. A process to map the UK knitwear industry was initiated. This entailed cross referencing data, collected from primary and secondary sources. The final case study sampling frame consisted of seven UK companies, utilising complete garment technology. Table 1 illustrates the process through which the sampling frame was established. Those companies selected for case studies were all located within traditional knitting heritage regions.

Semi structured interviews were conducted with personnel from each company, nine in total. Each one was audio recorded and fully transcribed. The method of analysis followed one developed by Knodel (1993). Pre-established themes informed the questions and formed

the initial coding for analysis. A secondary level of coding corresponded to new themes that emerged during analysis. Working documents explaining company practices were also collected. Photographic data formed the basis for observational analysis through which to evaluate garment innovation.

Knitwear manufacturers utilising complete garment technology (Case study sampling frame)	No. of sources of identification	Source of Identification
B S Attwall	3	2, 3, 6
Glenbrae high performance knitwear (Spectrum yarns)	2	1, 3
Hawick cashmere company Ltd	3	1, 3, 6
John Smedley	4	1, 2, 4
James Johnston & Co. of Elgin Ltd	3	1, 2, 6
Quantum Knitwear Ltd	5	1, 3, 4, 5, 6
Viva knitwear	2	2, 3

Table 1: Case Study sampling frame

Findings and discussion

An outline of each case study company background is provided. Significant is that two of the companies can be categorised as traditional niche producers and the third company supplies to the high street retailers in the UK. It is therefore possible to make data comparisons between companies who are potentially compromising their heritage tradition and one which is using the technology for quick response to a fashion led market.

John Smedley

John Smedley was founded in 1784. In 2006, a number of complete garment machines were introduced (Smedley, 2007). They promote themselves as a traditional, quality knitwear manufacturer, emphasising their use of local skills to produce hand finished garments. The literature also stresses their use of new technology and lists collaborations with internationally renowned designers such as Vivienne Westward and Comme des Garcons. An online sales facility includes a complete garment range, described as seamless garments with superior moulded fit and unique futuristic qualities (Smedley, 2008).

Hawick Cashmere

Originally the Hawick Hosiery Company founded in 1874, they changed their name to Hawick Cashmere in 1990. It is clear from their promotional material that they place value on

this knitting heritage. Significantly, there is no mention of the use of advanced technology or innovative garments. Hawick cashmere was reported to have invested in complete garment technology in 2005 (Mowbray, 2005c). They place themselves within a luxury market sector and operate eighteen of their own retail outlets.

Quantum Knitwear

Quantum Knitwear was a subsidiary of a large UK clothing company, formed after a management buy out of Coates Viyella in 2000. Quantum claim a history dating back to 1865. Their promotional material emphasised innovation and an ability to provide a highly responsive service with a fast turnaround. Operating eighty complete garment machines, they produced 600,000 garments per year (Quantum, 2007). At one time reported to be the most profitable knitwear company in the UK (Mowbray, 2002). In 2009 however, after the case studies for this research had been conducted Quantum ceased to manufacture in the UK.

Complete garment technology implementation

Primarily the motivational factors that encouraged each case study company to invest in complete garment technology were investigated. Most significant and common to all were recruitment issues. Skilled labour shortages were perceived to be reaching critical levels at Hawick Cashmere. Radical strategies to encourage new employees, such as recruiting Eastern European workers had been unsuccessful. John Smedley faced a similar situation, finding it increasingly difficult to locate skilled personnel for fine hand linking and sewing processes. Comments from the Quantum personnel also show that implementation of the technology enabled circumvention of difficult to find skilled labour.

Principle advantages of implementation experienced

Analysis of the interview responses identified three principal advantages of complete garment implementation; flexible production capability, garment innovation and product diversification. Although experiences from each case study company varied. There is therefore some deviance particularly regarding John Smedley's experience of flexible production capability.

Flexible production *capability*

The complete garment production capability had been tested to its limits at John Smedley. A range of fashion garments incorporating novel sculptural shaping was found to be over ambitious for bulk production. As a result garment faults were high and knit times excessive causing delays in delivery. This had influenced interview participant's attitudes regarding the potential for a more flexible approach to production. The technical manager concluded that although the process had been problematic it had greatly increased his skills, knowledge and abilities. Additional difficulties have been experienced with integral neck trims and it has been

necessary to link neckbands on as a post production operation. John Smedley was the only company producing fine gauge complete garments. This, it was acknowledged, increased the production problems experienced.

Production flexibility at Hawick Cashmere was noted as a positive benefit. Styles could frequently change without suffering serious production inefficiencies. Perhaps the greatest indication of production flexibility was that garment customisation, demanding the ability to construct one off individual garments had been introduced. This, it was claimed, would have been impossible without the new technology. John Smedley interviewees also reported interest in initiating a customised complete garment service.

At Quantum knitwear respondents described the elimination of post production bottle necks as a considerable advantage. The technical director claimed that their ability to deliver small batches on a fast turnaround was greatly under valued by their retail customer. This failure resulted in an inability to fully exploit the machine capabilities.

Experiences regarding production processes varied between the case study companies. Hawick and Quantum were clear about the benefits, John Smedley interviewees, conscious of problems that were occurring at the time, were less positive.

Garment innovation

Analysis of garment innovation was conducted through interview data to ascertain the interviewees' opinions regarding the relationship between utilisation of complete garment technology and garment innovation. In addition photographic evidence was collated and documented to support this analysis.

John Smedley have introduced innovative methods of shaping the complete garment such as zigzag armhole shaping, (Figure 2) parachute necklines, dresses and skirts shaped integrally to create even flare from waist to hemline. The fashion range described as testing the machinery to its limits in the section above (Figure 2) also shows that the introduction of new methods of manufacture had increased the ability to produce a very different type of knitted garment.

Hawick cashmere initially experienced extensive design restrictions after implementing the technology, through inexperience and lack of knowledge. This has changed and they listed a number of innovative design features incorporated since the introduction of complete garment technology. These include integral button holes, pockets and belt loops. Recently trousers, shorts capes and wraps have been added to the range, styles that would have been beyond manufacturing capability.

At Quantum Knitwear the capability to incorporate a variety of knit structures into a garment had been extensively exploited. This, it was suggested, had improved Quantum's capacity to compete in an over competitive fashion driven market. Unique design details such as integral shaping on a dress or skirt (Figure 4) were used to differentiate their product. Quantum, have also produced a greater variety of garment styles since the introduction of complete garment technology.




Company		 <p style="text-align: right;"><i>Image 1</i></p>			
John Smedley					
Gament					
V neck zigzag					
Range	Size				
Spring	M				
Knit structure					
Plain body and sleeves Rib neckband sleeve edge and hem					
Special feature				Source of image	Photograph taken by the researcher
Innovative zigzag amhole (Image 2)				 <p style="text-align: center;"><i>Image 2</i></p>	 <p style="text-align: center;"><i>Image 3</i></p>
Shaping					
The zigzag shaping on the amhole (Image 2)					
Other					
The neckband is knitted separately and linked on as a post production procedure (Image 3)					

figure 1: Zigzag armhole fashioning



Company		 <p style="text-align: right;"><i>Image 1</i></p>			
John Smedley					
Gament					
Balloon sleeve top					
Range	Size				
Spring	M				
Knit structure					
Plain body and sleeves rib cuffs and neck and hemline					
Special feature				Source of image	Photograph taken by the researcher
The sleeves are an exaggerated balloon shape that forms a point at the widest part (Image 2). The cuffs are extremely long. The ribbed cuffs and hemline create gathering (Image 1)				 <p style="text-align: center;"><i>Image 2</i></p>	
Shaping					
The sleeve is fashioned to create the balloon shaping. the amhole is seamless set in (Image 2) No bust shaping. The rib waistband shaped the waist					
Other					
The neckband is knitted separately and linked on as a post production procedure.					

figure 2: Intoca balloon sleeve garment




Company		 <p style="text-align: right;"><i>Image 1</i></p>	
Quantum Knitwear			
Gament			
Pointelle skirt			
Range	Size		
Spring	12		
Knit structure			
Rib waistband Pointelle skirt			
Special feature	Source of image	Photograph taken by the researcher	
Waist shaping and fit achieved through utilisation of differing knit structures	 <p style="text-align: center;"><i>Image 2</i></p>	 <p style="text-align: center;"><i>Image 3</i></p>	
Shaping			
flared skirt achieved through integral fashioning			

figure 3: Lace skirt shaped integrally

Product diversification

All the case study companies had exploited the machine capabilities in an attempt to introduce product diversification. At John Smedley, the potential to eliminate waste was seen as an opportunity to introduce new luxury fibres into their range. At the time of the study, trials were still being conducted. John Smedley are currently producing garments knitted from cashmere and micron (John Smedley 2009). A children's range has also been successfully introduced which, in terms of production, has been made possible through the implementation of complete garment technology. Hawick Cashmere have introduced a garment customisation service. This is limited to adaptations of garments in the range, predominantly colour changes. They will also make small dimensional adjustments such as lengthening the body or sleeve. Quantum Knitwear have undertaken a number of product development collaborations. These include technical garments for the glass industry, advanced sportswear and medical; garments developed for babies suffering with eczema. Although Quantum Interviewees recognised the potential for such developments, they were sceptical of Quantum's ability to capitalise on this type of niche market. Their primary concern was to produce fashion garments for the high street.

The impact of complete garment technology on the niche manufacturer

Both John Smedley and Hawick Cashmere exploit their heritage status as a marketing tool. Implementing technology that eradicates the reliance of traditional skills could be perceived as a compromise. This section documents interview data regarding the ability of complete garment technology to enhance the niche product, the strategies adopted in regards to the possible deviance from tradition and the impact of practices introduced as a direct consequence of implementation of complete garment technology.

John Smedley, have marketed their complete garment range as novel, modern and innovative. They are able to differentiate this new range from their fully fashioned manufacturing tradition, thus maintaining claims to traditional craft production and technological advancement. Perhaps, because the core business of fully fashioned classic menswear was not affected by the new capability. John Smedley's strategy towards utilisation of complete garment was experimental. This was evident from the description of the collaboration with Japanese designers Intoca. Garments incorporating voluminous balloon shapes and exaggerated proportions, (Figure 2) predominantly to be sold in Japan through their distributor. In contrast to the Intoca range the John Smedley designers have developed complete garments that show more subtle innovation, such as a classic shaped garment incorporating novel zigzag armhole shaping (Figure 3). This approach, it is hoped, will develop new John Smedley classic garments.

The interview data from Hawick cashmere revealed how strongly they identify themselves with the notions that traditional Scottish knitwear producers signify quality. Interviewees were sensitive to the possibility that eliminating hand skilled processes could threaten this status. They therefore described themselves as a company that is exploring modern methods whilst maintaining the luxury associated with Scottish knitwear. Unlike John Smedley they were not actively promoting their use of new technologies to demonstrate an innovative approach. Hawick claim they were unable to find designers to exploit the capabilities of complete garment technology. Originally a Japanese designer who was able to liaise directly with Shima Seiki technicians was employed on a freelance basis. This partnership enabled significant improvements in design development at Hawick. Currently a French designer is contracted to Hawick Cashmere.

Since the implementation of the technology, both Hawick knitwear and John Smedley have produced garments designed outside of the UK, detached from the local knitting heritage. At John Smedley however the most successful complete garments are those that have been developed in-house. They appear to be successfully marrying innovation and tradition to produce garments that do reflect the classic John Smedley design profile. Hawick Cashmere are pursuing a similar strategy, retaining the classic style of the garment.

The influence of fashion on complete garment development

In contrast to Hawick Cashmere and John Smedley, Quantum Knitwear were supplying high street retailers in the UK. Exploitation of their capacity to eliminate post production bottlenecks enabled Quantum to provide quick response. Comments showed that this strategy entailed a considerable degree of uncertainty and an over reliance on retailers trading in season. In addition the retailers' demands for a constantly changing fashion product resulted

in the Quantum designers' prioritising trend analysis research rather than focussing on exploiting the unique design capabilities of complete garment technology. It was apparent that the Quantum designers' were under pressure to impress the retail buyers who they admitted had no understanding of complete garment technology or its potential to innovate the knitted garment. All the Quantum interviewees agreed that despite this lack of recognition from their customer they were producing a unique product.

Hawick Cashmere were not producing fashion for a change driven fashion market, their garments are expensive and made for longevity. They did however stress that the design process was initiated by trend research. Examples of fashion garments such as a puffball dress were mentioned and they recognised the importance of including some fashion garments for window display. Hawick's approach is to produce a classic range that changes very little and include a few fashion pieces. John Smedley interviewees consider themselves to be primarily a producer of classic knitwear and it was very apparent that they expect style longevity when investing time in development. They also introduce ranges that may only last one season. This enables them to maintain their core classic business whilst still promoting a high fashion profile.

Conclusion and suggestions

All the companies studied experienced benefits through implementation of complete garment technology. Hawick Cashmere and John Smedley had recognised the potential to knit individual garments for mass customisation. Quantum Knitwear were able to offer small batch orders and short lead times for quick response. Each company had developed an individual approach to garment design and innovation. While John Smedley, retaining a classically styled garment with a modern slant. On the other hand, Hawick Cashmere preserving their fully fashioned status, had found the ability to incorporate unique integrally knitted features. Quantum Knitwear had exploited the ability to produce garments with a range of differing knit structures. All three companies were manufacturing a much wider range of garments since introducing complete garment technology.

At John Smedley and Hawick Cashmere utilisation of Japanese technology has been influential in their choice to contract Japanese designers, a tactic that could compromise the relationship between the product and its individual locality. Notably these design partnerships have been short term and have served to develop the skills and knowledge of key personnel within the UK. Influence from outside the company has therefore been limited. The acute shortage of knitting skills in the UK had enforced abandonment of traditional knitting methods.

John Smedley and Hawick Cashmere's classic garments are less susceptible to trend obsolescence, encouraging consumer patterns that are more sympathetic to a sustainable approach. Quantum knitwear's product is more likely to be under valued and quickly discarded by the consumer within the fast fashion market. Case study evidence suggests therefore that in the niche market, complete garment technology if used sympathetically can introduce innovation that enhances a traditional product and sustainable manufacturing approach. Currently high street fashion retailers appear not to appreciate complete garment

innovation and therefore it remains largely unexploited within this sector.

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Extravagant Expenditure on Wedding Ensemble” FASHION WEDDING.....TIME TO GET REAL AND SUSTAINABLE

Saroj Bala and Tripti Gupta

Key words

Fashion Weddings, Sustainability, Green Designer, Underutilization, Dead Investment

Introduction

The word sustainability has been a buzz word for the last few years and a concept discussed in many forums. What one understands by the word sustainable has been debated and many definitions formulated to encompass all aspects of human well being. Sustainability is applied not only to human sustainability on earth but to many situations and contexts over many scales of space and time, from small local ones to the global balance of production and consumption. It can also be a future intention: “sustainable production or green fashion” is not necessarily a current situation but a goal for the future, a prediction. For all these reasons sustainability is perceived, at one extreme, as nothing more than ‘*feel - good*’ buzzword with little meaning or substance but, at the other end is an important but unfocussed concept like “liberty” or “justice”. One of the issues today is that money power has completely blinded many people who cannot think wise and judiciously about resources and its consumption therefore indulge in extravagant expenditures on social occasions - wedding being the most important. This was the triggering thought to choose the topic for a debate and discussion.

Marriages are made in heaven is an old saying, but now to make them look like heaven is the latest trend. People book exotic locations, order customized sweets, chocolates, exclusive invitation cards and shop for gifts, jewellery and clothes. Weddings are a big project and the planning starts well in advance. Weddings have become a perfect excuse to show off wealth and status. People even sell their properties and invest for this grand occasion. Every body is in the right mood to splurge into heavy shopping. It’s not only the preparation for the bride and bridegroom but it becomes a community affair where relatives also spend as much as the immediate family of the bride. The ceremonial value of marriage as a sanctimonious occasion has given way to opulence showoff business.

In today’s world weddings for celebrities, holly wood and bollywood stars, high profile public figures, television stars, industrialists and other prominent public personalities have made the auspicious occasion of wedding into a cultural show biz. Melania Kauss wore a custom designed Dior dress worth \$100,000 that weighed nearly 50 pounds. Catherine-Jones raised the ante to a \$250,000 dress when she married Michael Douglas. Vanisha Mittal daughter of steel industrialist spent ₹30 million for her trousseau. So much so that the



Picture 1. Wedding of Melania Kauss and Donald

Source: www.treehugger.com



Picture 2 Wedding of Shilpa Shetty to Raj Kundra

Source: *The Times of India*, New Delhi, November 23, 2009, front page



Picture 3: Influence of Bollywood on Common Man

Source: Personal Picture of Deepti Gupta

designers Renee Strauss and Martin Katz Jewelers teamed up to create the diamond Wedding Gown Beckened with 150 carats worth of diamond priced at 12 million dollars. These are just few examples. There are many more one can cite- the latest being Shilpa Shetty, Bollywood star and winner of 'Big Brother'.

Somewhere this has influenced the masses in general and every individual wants to look the best and invest their life time savings in this ritual to emulate and make this an extravagant affair. The consumer has an unprecedented pressure to find visibility in the circle.

Across the world, the wedding ensemble is held very close to the heart by the bride. With different diverse cultures and traditions, wedding ensemble is the symbolic representation of expression of the rituals and traditions representing the cultural heritage of a community. The wedding wear market thrives on the emotional value of the occasion and is a booming market world over. The wedding market has undergone a sea change in the last decade. With tastes changing and expectations rising for younger generation, the wedding market has metamorphosed to cater to the demand of young brides and grooms. This has made wedding wear into a big fashion business having a great scope to spread unilaterally. Approximately 2.4 million weddings are performed in the US every year and 15 million weddings happen

in India. In the US, the market is close to \$ 71.79 billion and “It is estimated that the current wedding wear market in India it is close to Rs. 38.4 billion and it is set to grow at a rapid pace of about 13.5 percent over the next four years.” In US a bride on an average spends \$800-\$1,075 on wedding gown, in UK £1,200 and in India on an average, a bride spends Rs.12, 000 on the wedding ensemble. Wedding wear is therefore a huge market for designers, manufacturers, & retailers.

The bottom line is that “*an ensemble which is created by craftsperson working tediously day and night, bought with lot of emotions and sentiments priced exorbitantly hardly gets worn by the owner*”. This is of great concern for *sustainability as it is nothing but a dead investment*.

The focus of this paper is to highlight consumer perspective, designer perspective and retailer perspective to understand whether there is a scope for making this huge investment into a sustainable investment. Is there any scope to change consumers mind set and push designers to design something which can be ‘green’-used many times and recycled to justify the cost and heavy investment?

Methodology

A research was conducted and 100 consumers, 10 Designers, 10 Retailers in Delhi, the capital of India were interviewed through questionnaire technique. Some questions were closed ended and few were open ended to find their views on wedding ensemble. The data and findings are discussed under different headings below.

Consumers Views

Purchasing of the wedding wear is an emotional experience in itself. For many it’s an ensemble they have dreamt since their childhood. Everybody wants to look their best. People go through bridal magazines, visit fairs and exhibitions before making up their mind to what they want. They are influenced by trends and choose something which is traditional yet contemporary in look. Social customs, peers, reel and real weddings of Hollywood, Bollywood stars have an influence on them. The razzle and dazzle of the silver screen imprints a particular look in their mind. The selection of wedding wear is not only the choice of the bride to be, but peers and relatives also influence the choice. Before the actual purchase they visit designer stores and retailers to do a market survey who further influence their mind. To look different and larger than life people stretch themselves beyond limits either comfortably or uncomfortably...willingly or under social and status pressures.

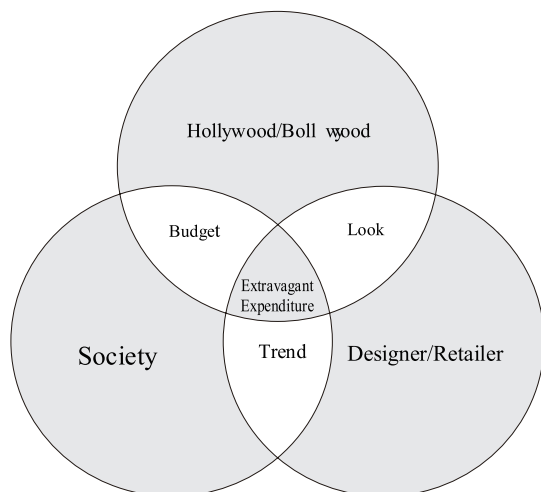
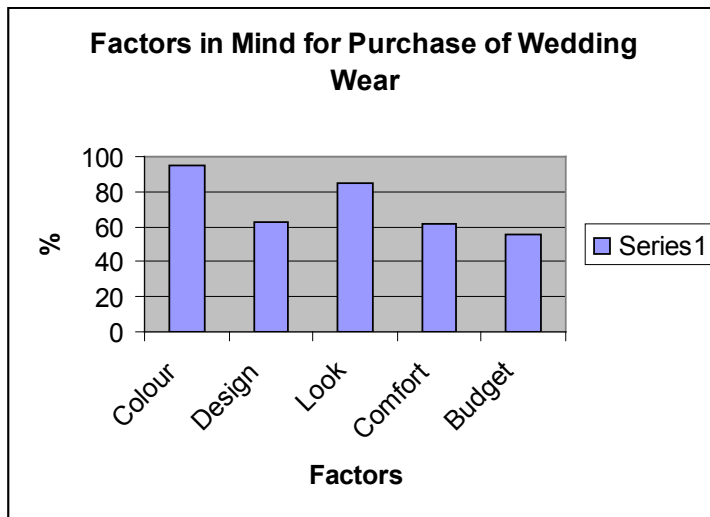


Figure: 1 Influences on Consumer's Decision for Purchase of Wedding Wear



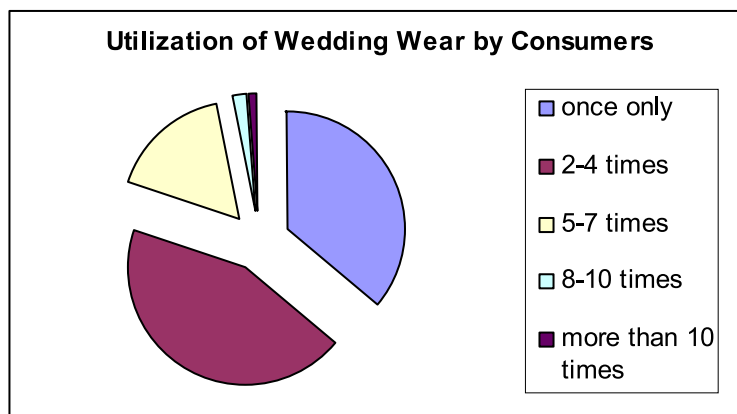
Graph-1 Factors in Mind for Purchase of Wedding Wear

While purchasing wedding wear brides have different things on their mind as shown in graph 1. Some have a particular look; some have a colour while some have a particular design. For few brides it's the comfort of carrying the garment which comes first while for others the 'feel good factor' is so important

that even if the wedding wear is bulky and heavy they are very

happy to wear it. For most, wedding ensemble is the first dress of the trousseau and hence budget takes a back seat on their minds.

The brides unanimously agreed that during wedding, the rituals and excitement of meeting guests kept them so occupied that they hardly thought about the wedding ensemble. This was quite disheartening to find. After few years of their wedding they all expressed that they have a lot of emotional value attached to the ensemble as it brings alive the memories of the D-day but they all agreed that it's the most underutilized garment..... Graph-2 shows



the utilization of the garment by consumers. Some of them wore the outfit for one or two occasions in the first year of the wedding but for most of them it's like a dead investment lying in the cupboard occupying space.

Graph-2 Utilization of Wedding Wear by consumers

Designers View

Wedding wear spells business for designers. The business has not slowed down due to the global meltdown and seems is almost 'recession proof'. Although it's a seasonal business it gives them an opportunity to reap maximum profits and sustain themselves. It also gives them lot of scope for expressing creativity. Since the garment is for one of the most memorable moments in ones life they really have to work hard to impress the client.

Designers are not only designing for the bride and bridegroom but they get a big opportunity to design for the immediate family to give a coordinated look. The sisters of the bride want to look as pretty as the bride. So they feel that they have more room for creativity

and hence more business.

The emotional quotient for the wedding occasion is so high that the designer gets an opportunity to exploit it for business reasons. 'Consumers think but they don't think too much...but good they don't think too much' quoted a designer. 'That is why they spend what they spend. Consumers are the major stake holders in the whole chain. The market swings according to their mood and taste. The client is quite confused with ideas as they always have a look in their mind which they want the designer to translate and make something exclusive for them. Some times clients may just want to imitate a particular look and ask the designer to replicate it with some changes. It is important for a designer to put himself in the shoes of the client and manipulate the ideas accordingly which limits his creativity at times. Designing of wedding wear takes a toll on designer as it requires maximum attention and saps their energy. Each creation needs to be crafted to perfection to satisfy the consumer. Designers are the major risk takers and come with innovative yet traditional outfits every season. They have quite a demanding task.

Some designers feel that too much is happening in terms of embroideries, sequins, beads, rhinestones etc. which makes the garment very bulky and to some extent the balance of aesthetics and workmanship gets lost as the fabric base is hardly visible. Some designers also take the advantage of this and use inferior fabric as it is going to be masked by embroidery in any case. Some designers feel that the grandeur look and larger than life image of the bride can be enhanced by overdoing and making it more overpowering. Many times it is consumer's choice who wants a heavy look and so the designer is forced to add more work on the outfit. This at times creates imbalance in the design and aesthetic sensibilities of 'Designer Wear' lost.

Retailers Views

The retail market also thrives on wedding wear enormously as the profit margins are very high. They cater to wide range of segment of the society as they have much more variety to offer to a consumer in terms of design and price point starting from Rs.12,000 -1,00,000. Some retailers source ready to wear ensemble while some are manufactures. The advantage to these manufacturers is that they are able to replicate and produce 'designer wear' at almost 1/4th the price. This might hurt the sentiments of a designer who takes a lot of pain and risk for creating original and innovative ideas for designing. Brand building does not happen over night and this concern is expressed by designers. No matter what, designer will always be the leaders and trend setters. Retailers produce for the masses and to fulfill the aspiration they will always be following the designers. In this process it's the consumers' edge to get 'designer wear' at a reasonable price.

The retailers know how to play with the emotions and psychic of the consumer. Their words work magic on the consumer. They not only influence the choice but entice the consumers to stretch their budgets beyond limits. Its sometimes because of their selling skills one overshoots the pre decided budget.

Since the individual taste varies so much the retailers have to store a lot of variety to offer to the consumer. They cater to not only their consumers directly but also to small boutiques

who flourish on them to run their business. During a particular season some colors and design move while others may not. If the stock does not get sold it becomes a dead stock for retailers. Many retailers say that the dead stock piles up to 25% in a season. Some of the dead stock deteriorates in storage especially discoloration takes place on the exposed layers and fabric gives way at the folds. They have to take care of these losses in their pricing.

Sustainable Solutions

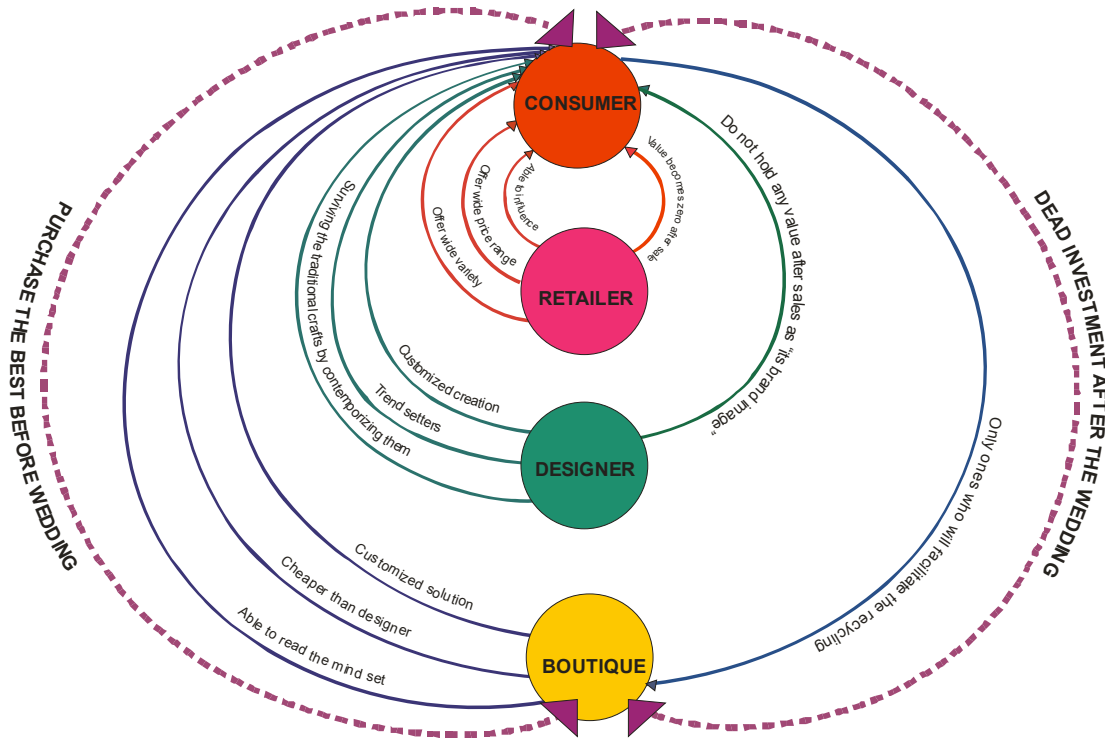


Figure: 2 STAKE HOLDERS FOR SUSTAINABILITY

The major stake holders in the wedding wear business are consumer, retailers, designer and boutiques as shown in Figure-2 All of them can play a significant role to contribute to the sustainability business. The sustainability has to be looked from two aspects:

- a. Increasing the wear ability of the wedding ensemble
- b. To reuse and recycle it.

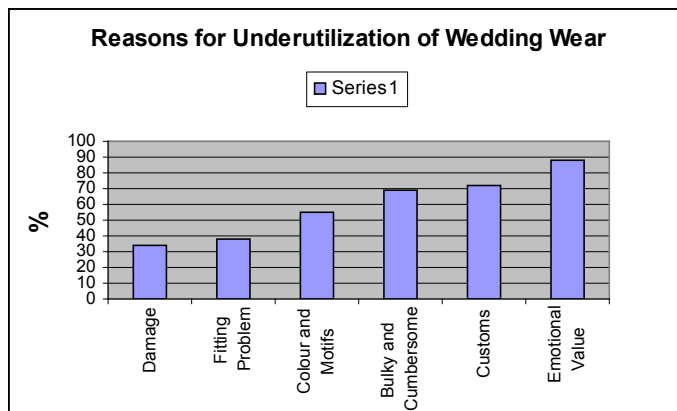
It is not that recycling is not taking place; the survey revealed that only 4% is being recycled. The quantum of under utilization is very high and is a matter of concern. The Table 1 below cites the figures, which are alarming. These figures are only for women’s wedding wear.

No. of weddings happening every year in India =1,50,00,000
For each wedding ensemble minimum fabric used =6mts
So, Total amount of fabric used per year=9,00,00,000 meters
As 4% of people recycle their wedding ensemble, the fabric being recycled=36,00,000 meters
Fabric lying dead in Cupboards=8,40,00,000 meters
If per meter cost of the fabric = Rs 275.00

Table 1: Calculations showing the money becoming dead investment every year because of underutilization of wedding ensemble

The amount Rs 23.10 billion is on the lower side and includes only the cost of the fabric adding the cost of embellishments, the labour and other surcharges the actual figures would be rocketing high..... The world population is projected to reach 7 billion in 2012 and 7.9 billion in 2050. This will also increase the number of weddings happening every year. It seems to be one garment but when we multiply it by the population the quantum of wastage is alarming and poses a challenge to sustainability.

The reasons for underutilization expressed are depicted in graph: 3. The emotional value scores the highest for underutilization followed by social customs where the wedding ensemble is considered to be too



auspicious to be recycled. It is to be worn only on special religious functions or transferred as an heirloom. The study revealed many consumers had more than one reason for underutilization.

Graph-3 Reasons for underutilization of Wedding Wear

Consumers are key holders in the whole cycle. So they have to take onus of sustainable solutions. Right now they have dual mentality. On one side they want to look the best and spend maximum on the ensemble and on the other side after the wedding they feel that it is a dead investment. They want value for money but at the same time feel superstitious to recycle their wedding dress especially if they have to cut it. It's up to the consumer to decide what is more important.... something lying unused and deteriorating inside the closet or at least find some usage. They need to rethink on recycling before the colour fades and fabric deteriorates.

Retailers can play a significant role in sustainability. They are the ones who are supplying to the mass market. A sales man has prima facie evidence of knowing the taste of consumer so they can impress upon and convince the consumers to change their mindset. It can be big step for sustainability if they can encourage consumers to come back to them with used ensemble and then convert them into more wearable garments. But would they like to do it?? Since they have to sell more to get more business and profits they are not thinking on these lines right now. But this can also be a new economic business proposition. Very few retailers cum manufacturers recycle in terms of providing customized solutions.

Designers can equally contribute to new values of fashion sustainability by promoting minimalist look, exhibiting lessons in less, going for classy looks, and promoting slow fashion. They can achieve this by

Picture-4 Minimalist looks by Sabyasachi

Source: Bridal Asia 2008



mix and match garments, fusion wear, convertible garments and thereafter minimize waste. Annexure-2 provides illustrations showing, mix'n'match and convertible garments. The job of a designer is to give 'value for money'. Designers could educate their consumers to choose something which can be more practical and still give a grandeur look. Some designers are making a conscious effort to do so. Consumers could also strike a deal with designers that after the wedding it could be converted into something which is more wardrobe friendly. This kind of green fashion can give them a new 'brand identity'.

Some designers are making a conscious effort to do so. There are a section of low profile designers who are 'self driven' in their cause towards sustainability business. They have the time and attitude to work towards minimizing wastage and recycle the wedding wear. These designers feel that creating something 'new' which can be appreciated by everybody challenges their creativity and gives them a great 'sense of achievement' and 'customer satisfaction'. Also recycling means that it will at least find 'visibility' else it would be lying inside the cupboard

unutilized. These are the 'green designers' who have tremendous contribution to the sustainability business as they work to increase the longevity of these expensive materials. They have smaller business; offer customized solution and a very wide product range as shown in Annexure-1 They believe in bringing green fashion revolution but unfortunately such designers are very few in number.

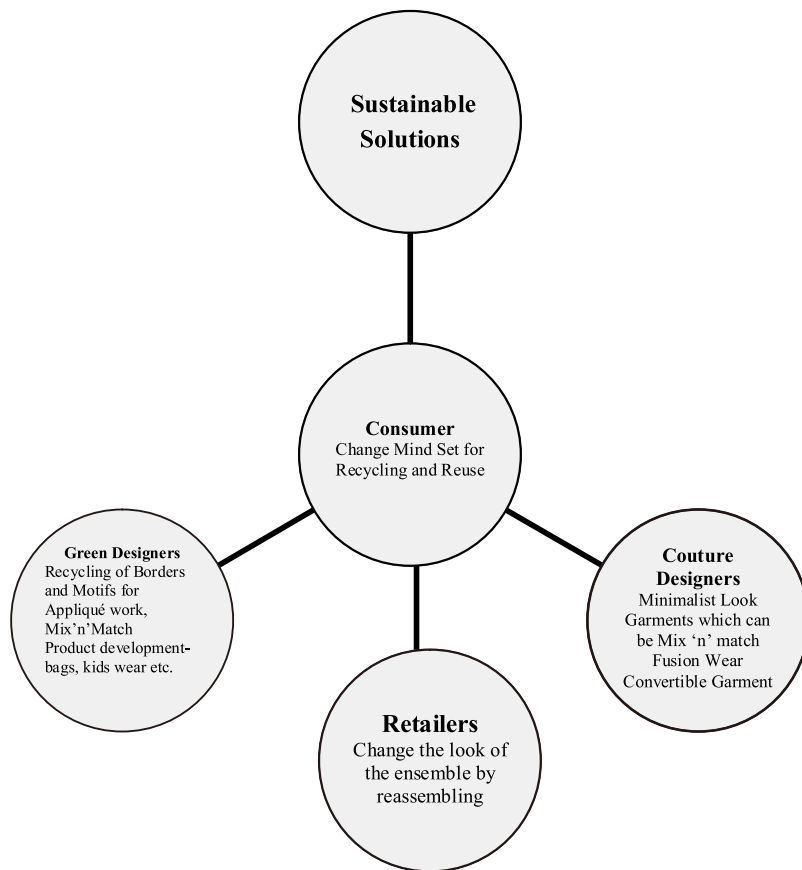


Figure-3: Sustainable solutions

Conclusion

Technological advances over several millennia have given us power and luxurious lifestyle but it should not mean unsustainable usage. We also need to change our thinking and mind set at the same pace to guard resources for a sustainable future. Since the population is growing in an exponential way, extravagance and underutilization of resources can lead to *global concern*. The Indian consumers are holding wedding wear as a dead investment because of emotional reasons. 'The product might be dead but the emotions are alive.' Consumers need to understand that by changing the look they can even keep the product alive. There is a saying

“charity begins at home” so we can say “sustainability also begins at home and small drops make an ocean”. The consumer has more responsibility to be aware and make a conscious effort- reuse and recycle. This should become a large scale social movement otherwise we will be ‘*green washing*’.

Many consumers would like to recycle their wedding ensemble and there is a definitive market gap for recycling. Can designers change the face of fashion by recreating and recycling? Can this be another brand building exercise... a second chance to redesign to keep the garment alive? It seems that the designers have a big economic opportunity and a huge social responsibility for taking forward the issue of sustainability. It can be like recycling of denims. The market recycles adults’ denims for making kids wear. They do brand new embroideries and accessorization to make it look new. This is how the seconds’ goods market functions. Can we take ideas from this market?

Leasing is an old concept in the west which contributes in a big way to sustainable solutions but in the Indian context this concept is at a premature stage. The rituals and customs don’t approve usage of pre-owned clothing as new clothes are a symbol for entering the new life. Do we need to change this mind set? Can leasing of wedding wear become popular as leasing of costumes for stage shows.

People are talking about sustainability in all aspects of the garment industry and trying to map the lifecycle of a garment to calculate carbon footprints. Organizations like Forum for the future, DEFRA-Department for Environment Food and Rural Affairs and RITES-Return Intention Towards Ecological Sustainability are doing a lot of work to study the environmental impact of the clothing Industry and clothing disposal. It would be interesting to map the life cycle of a wedding wear and work towards making it more sustainable.

This paper has only been able to deal with ideas of sustainable solutions mainly with the help of designers, retailers and consumer’s views. Since the wedding wear has a lot of emotional value it’s the prerogative of a consumer to assess, decide and make a judicious choice to make it long lasting. There is an urgent need to look into and construct an *ethical economical model* for the society which can be path breaking and revolutionize the social sensibilities on wedding wear -its selection, utilization, reuse and recycling.

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ANNEXURE-1

Recycling and Reuse of Wedding Wear



Picture 5 a & b Recycling of Wedding Wear for yokes and Appliqué Work

Courtesy: Deepa Boutique



Picture 6 a, b, c, d, e : Recycling to Produce Bags

Courtesy: Nupur from Ananya



Picture 7a & b : Recycling of Borders and Motifs Courtesy: Rashmi



Picture 8 a & b: Recycling to make cushion covers
Source: Original visual research by authors



Picture 9: Recycling to make kids wear
Source: Original visual research by authors

ANNEXURE-2

Illustrations showing Mix 'n' Match and convertible garments.



Illustration 1&2: Convertible Garments by Mayank Bansal Fashion Design Student, Pearl Academy of Fashion





Illustration 3 & 4: Mix'n'match Garment by Mayank Bansal and Detachable Embroideries by Sidhant Minocha, Fashion Design Students, Pearl academy of Fashion



A Study of New Business Model Development of Poly-Ethylene-Terephthalate (PET) Recycle Products

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Keywords

Environmental sustainability, Eco-friendly textile products, Jeopardize the nature, Recycle PET collaboration, Business model

Abstract

The industrial revolution has great impacts on human beings' life even though it only has the history of 200 years. The results of industrialization are unlimited expansions that have damaged the earth seriously. Therefore, regulations, rules, new materials, new products, new production ways and many other factors pertaining to environmental sustainability has become world's critical issues and the direction of the future development. Many business opportunities have arisen, in particular, the eco-friendly textiles products.

Textiles and clothing industry has been one of the most important industries in Taiwan. It created so-called Taiwan economic miracle in the past. However, pollution, especially in the dyeing process, is unavoidable during the manufacturing process. Therefore, to know how to create a new environment friendly business without jeopardizing the nature is not only valuable but also has its urgency for Taiwan textile industry. This study investigates how eco-friendly textiles & clothing business developed. This research is exploratory in nature and, therefore, case study is used to explore the new phenomena. Cases are selected from each one of the most representing company in each stream from the recycle PET collaboration.

The results of the findings are: 1. The new business for such a novel product needs special business model. Such business model integrates manufacturers from up-, mid-, and down-stream to develop eco-friendly textiles and clothing in order to create certain power to promote. 2. It is imperative for all the collaborative team members to share the same vision and mission toward environmental sustainability in order to develop no promising novel product. 3. They are all the disciple of Cheng-Yen, the founder of the religion group Tzu-Chi in Taiwan. To protect the earth and nature is one of their endeavors that made this project works. 4. Tzu-Chi has 62,000 volunteers working on 4,500 PET bottle recycle plants which supply around 40% of the PET recycle material. However, they still need to rely on importing recycle raw materials which brings the manufacturing cost on the high side. Therefore, how to further reduce the cost and develop well designed products are urgent lessons for those companies if they want to promote these environment friendly products.

Introduction

Background

Plastic bottle was introduced into US market in 1978, and became popular within a very short time. It was commonly used in the packaging of drink, wine, and healthcare products. The glass bottle was shortly replaced by plastic bottle in Taiwan in 1980 especially in mineral water package. The bottle contained 70%~73% PET and is classified into three types: transparent, green, and others in the market. The treatments for the waste bottle include burning, land-filling, and recycling. However, burning and land-filling causes air and land pollution, respectively. Therefore, recycling becomes the best method for waste treatment. Plastic bottle recycling is usually applied to enhance fiberglass with engineering plastics, then transfers to unsaturated polyester resin, hydrolyzes to terephthalic acid and granulated. It is then drawn into fiber. Though, many corporations had developed eco-friendly products, the majority of them are suffering with problems of high cost and small scale production.

The statistics from Taiwan Environmental Protection Bureau indicates that the quantity of waste recycling was 140,000 metric ton in 2005. It reduced waste treatment cost by around \$7 million and created recycled material value by around \$100 million. Over 90% of one recycled PET plastic bottle can be used into polyester fiber. To recycle one-kilogram bottle equals to save 0.8-liter crude oil or equivalent to 50 grams polyester. Consequently, this recycled polyester fiber not only reduces the environmental impact, but also saves some mineral oil. It also reduces around 80% energy consumption and 75% carbon dioxide (CO₂) release during the transferring mineral oil to polyester fiber production. The Industrial Technology Research Institute (ITRI) of Taiwan indicates that the low-molecular-weight recycled PET bottle needs no additional processing steps and has great potential for large scale production. However, the whole process involves upstream, midstream, and downstream companies to work jointly. Lacking any one of them will make the final product unable to compete in the market place. A group of companies in Taiwan have been devoted in developing different products from recycled PET bottle. Therefore, the purpose of this research is to investigate the new business model of Taiwan recycled PET bottle fiber across the supply chain.

Research Method

Development of new products from recycled PET bottle is a recent phenomenon in Taiwan. Therefore, this study is qualitative in nature and case study method was used. In depth interviews from companies involved in the recycled PET bottle fiber in Taiwan were conducted. One of the most representative corporations from each stream was chosen. The corporation from the upstream is LeaLea Enterprise Co., Ltd. (LeaLea) which is responsible for PET granulation and fiber drawing; Super Textile Corporation (Super Textile), from the midstream, responsible for cloth weaving from PET fiber, and TEXMA International Co. (TEXMA), Ltd., from the downstream, responsible for garments making.

Case Introduction and Analysis

Tzu Chi International Humanitarian Aid Association (TIHAA), under Tzu Chi foundation, was established three years ago. One of the goals for TIHAA is to devote themselves in environmental sustainability. One of the actions they took is to develop eco-friendly products, i.e. recycle PET bottle fiber project. More than 10 textile corporations are members in this project. TIHAA set over 4,500 recycling stations in Taiwan which has around 40% market share of the total recycle PET bottle. These 4,500 recycling stations provide 250 metric ton PET for the project. Recycled PET fiber cost higher than traditional polyester fiber about 30%~50%. However, the recycle PET fiber uses eco-friendly way of production, requires no additional dyeing and finishing process which can save 100 kilograms of water while making one kilogram cloth. It preserves the original color of recycled bottle. Therefore, there are very limited colors to choose.

Every member in the project has the common consensus and was deemed to have high quality performance. They all devote themselves to develop products rather than arguing cost they have put in or the selling price they can have. To sell the product to Tzu Chi in cost price is the origin of faith to all suppliers. After three years' effort, the brand name, after the largest religion group's name "DaAi", was officially announced on November 4th, 2009. It's a declaration from TIHAA to fulfill the environmental sustainability goal. Three representative companies and their business model are described as below.

LeaLea Enterprise Co., Ltd.

LeaLea Enterprise Co., Ltd., is an officially public trading company in the stock exchange market. LeaLea is the largest company in producing polyester and 'nylon 6' in Taiwan. LeaLea also focus on developing special fibers, such as micro fabric, functional fiber. The products put emphasis on safety and comfortable functions including anti-UV, cross satin, sweat emitting and absorbing, high strength, anti-burning, anti-bacteria, and thermo insulator. LeaLea is the member of TIHAA. Therefore, eco-fiber using recycled material or no waste release during the production is crucial.

Super Textile Corporation

Super Textile Corporation developed high quality and high margin fabrics such as fabrics for hi-fi stereo. As the member of TIHAA, Mr. Lo, the chairman of Super Textile, believes that the way to expand recycled fiber products market can be through end-user education. Moreover, the image of Tzu Chi and the power of volunteers from Tzu Chi can expedite consumers' adoption and bring their consciousness on environmental protection.

TEXMA International Co.

TEXMA, the oldest apparel manufacturer in Taiwan, is the project leader and coordinator. TEXMA is responsible for making final end-products in various types of outfits. The ultimate

goal for TEXMA is using recycle as a start and to reduce the total waste in the end.

Collaboration model

This project has five steps, starting from plan, resources, manufacturing, transportation, and finally to recycle.

1. **Plan:** TEXMA Co. had set up a recycled PET bottle fiber department to coordinate the project. The team regularly meets with Master Cheng Yen, the founding mother of the largest religion group Tzu Chi, of Tzu Chi Foundation. The discussions include progress report, quantities for required materials, production quantity estimation and required items. The spirit for this step is to avoid wastage of resources in the execution stage.
2. **Resources:** All plastic bottles came from 4,500 Tzu Chi recycling stations. Then thousands of Tzu Chi volunteers do bottle-cleaning and bottle-classifying to ensure the quality of the raw materials.
3. **Manufacturing:** The manufacturing process starts with LeaLea who perform the granulation and make it into PET fiber. Then, Super Textile weaves it into cloth, and finally TEXMA uses it for garments manufacturing.
4. **Transportation:** This project has been going on only for three years and products are not yet officially in the market but for Tzu Chi Foundation's internal use. Therefore, the procedure is simple, starting with order processing, warehousing, and inventory control, and finally shipping to the disaster area.
5. **Recycle:** The products so far limit to Tzu Chi volunteers and people in disaster area. Defective products will be sent back to Tzu Chi Foundation directly for future improvement.

The collaboration model between non-profit organization (NPO), in this case is Tzu Chi Foundation, and profit organizations in this project was integrated through various ways. The virtual leader, Tzu Chi Foundation, integrate corporations who have the same belief to fully devote in developing and promoting the eco-friendly products. The manpower from Tzu Chi Foundation is also provided by Tzu Chi volunteers to clean plastic recycle bottle from 4,500 stations as well as to promote environmental sustainability and education. The advantage of having good NPO image, the new brand "Da-Ai" might get the advantage of having good NPO image when entering the market.

The business model of the collaboration

The analysis of this business model uses the model proposed by Mitchell & Coles (2003) who use 7 dimensions (5W2H) to analyze the business model.

- (1) **Who:** For fulfilling the spirit of Tzu Chi, every team member has the same common consensus. The project was jointly developed without signing any commercial agreements. It purely bases on trust and relationship to Tzu Chi Foundation. TEXMA was the project coordinator since TEXMA belongs to downstream which is close to end-user market and

can response consumers' requirement most quickly and efficiently.

- (2) **What:** LeaLea provides recycled PET bottle fiber which is a eco-friendly product. Two new products from LeaLea, and RePET™, can reduce energy consumption and CO₂ release. TEXMA is a coordinator across the entire supply chain in order to continuously develop branded eco-fiber end-products. The team has executed two projects in 2008, every project used around 100 metric tons recycled plastic bottle to make 600 pieces of garments. The goal for the future is to have a diverse product strategy. The team used around 436 metric tons of recycled plastic bottle to make 100,000 blankets and 32,000 sweatshirts in 2007 for disaster area and uniform for Tzu Chi volunteers. Tzu Chi has been very successfully doing social responsibility which definitely will help to deliver positive image to the society on recycling products and increase the possibility for end-user to adopt.
- (3) **When:** The market size of recycled PET bottle fiber is still very small in Taiwan. The main large orders are from Europe and US. The corporations from upstream and midstream, who developed related technology several years ago, in the emerging market in Taiwan. Therefore, it is the time to involve with the end-user by educating them on eco-friendly products.
- (4) **Where:** The recycle PET products are developed for two main purposes. One is for disaster areas; the other is for general end-users. The products for disaster areas place emphasis on function and practicability, such as protection or keeping warm. The latter is the channel where end-users could find the products. However, the newly established brand "Da-Ai" will be in-charge to develop the market. In addition, the media report and Tzu Chi volunteers will increase the market's awareness.
- (5) **Why:** The textile industry is known as a highly polluted industry. During the processing, large amount of waste water and additional chemicals generated are used which directly damage the environment. Mr. Lo, the chairman of Super Textile, joined the Tzu Chi for 11 years, and since then had put great efforts in recycling and reusing. The recycled fiber in dyeing and finishing process can reduce 80.54% CO₂ release, 87.65% water loss, 82.86% chemicals emission, and 76.02% chemical oxidation. The other corporation, TEXMA, contributes 10% of company's revenue to charity. Every member in this project had the same faith on recycling eco-textile in order to save the earth. Therefore, the goal of this project is to protect environment cross the entire supply chain.
- (6) **How:** Collaboration across the supply chain is based on resources of each corporation. TEXMA set up a department which is responsible for coordination. The involvement of rest of the members from the supply chain is according to their strength. Therefore, LeaLea, Super Textile, and TEXMA all have their duty in this project in order to produce garments which can be sold to Tzu Chi Foundation at the price of their cost.
- (7) **How much:** In general, the cost of recycle products is high. Therefore, the pricing for products could not be as competitive as non-recycle products. In addition, there is no dyeing process involves because of the eco-friendly concern. Therefore, the final products are not colorful or diversified as compared with the general products. However, due to the same common consensus across the supply chain, the selling price is determined within all team members as the sum of every process cost when it is sold to Tzu Chi Foundation.

Main Findings & Conclusions

A vertically integrated supply chain with same faith

The business model for this recycle PET bottle fiber business is different from the conventional one. It is a combination of profit and non-profit organization. However, both party have the same philosophy and consensus on public welfare. Nevertheless, the non-profit organization Tzu Chi is the core to adhere all members and have them devoted fully even though no contract has been signed. This phenomenon is novel. Therefore, using a third party, especially an influential one to link various groups could be very effective in uncertain and high risk new product development. Based on the concept and consensus of public welfare, the participating companies would do their best in order to reach the goal, rather than focus on their own profit. Furthermore, the companies would not be perfunctory, due to the sense of responsibility and reporting to Tzu Chi Foundation.

All participating companies are highly devoted to the PET fabric production from the recycled plastic bottles due to the sense of responsibility inspired by the common faith. Therefore, the involved personnel ranges from the primary production employee to the founder of the company. The senior managements facilitate the industrial interactions, examine the production procedures as well as allocate the internal resources to fully support them. The idea of not for self but for a better world triggers the good part of the man kind for doing a good thing. Hence, it generates an extraordinary outcome.

The faith dependent operations

In this collaboration business model, Master Cheng Yen is the highest spiritual leader, and the senior managements of all companies are involved. From the interview, no conflict between participants has been found. They are all using very positive attitude towards execution of the project and they are all quite happy and satisfied with the results. This is attributed to the religious organization, as the spiritual leader in this project is performing things by contribution. The raw materials are purchased from Tzu Chi Foundation at the cost price, and the end product price is accumulated by adding each production costs at every step on top of the purchase price. Since Tzu Chi Foundation has adequate financial capability for purchasing the final products, the cooperating companies have no stock burden. However, if the cooperation is aiming for profit, then the cost structure and the result would be totally different. Now volunteers from Tzu Chi bear most of the human cost in the stage of recycling, sorting, and handling the plastic bottles. The team members also charge the price with no additional profit. Both factors will affect the price for the end product in the market. This issue is worthwhile for members considering if they intend to promote such products in long-term. Another issue needs to think carefully is that the majority of consumer prefer diversified and rich products even though when it comes to eco-textile products.

The involvement of religious organization brings the novel senses of mission and belongings. It may not be the case in the competitive world. In addition, without the leadership and support of Master Cheng Yen and the involvement of the senior management of the cooperat-

ing companies, the business model of recycled PET bottle fiber might not be as successful as it could be now. If any company withdraws from the supply chain, or conflicts arise in the cooperation, the linkage and results of this business model may be seriously affected. On the other hand, it would be doubtful if such business model could be successful in other industries or led by another NPO, because it seems there is no NPO could provide such a strong leadership as Tzu Chi Foundation and Master Cheng Yen. Also, even if there is any similar cooperation built up in another industry, the sense of belonging and personnel supporting will still play very important role and will strongly affect the business.

Generally, the eco-textile products in this study have not had much impact to the industry because there is still limitation when it comes to mass production. However, the declaration of "Da-Ai" brand will have a great potential to worldwide market because of the endorsement by Tzu Chi Foundation, which is the most powerful Taiwan NPO and has worldwide network. In the future, the eco-textile will not only be for the salvation and internal use, but could also be for sale in the market. The famous Tzu Chi Foundation and its positive image will help the products to win the consumers' preference and confidence, and to promote and develop the market because of Tzu Chi worldwide network. However, it is important to be fully aware of the requirement of balance between private commercialization and NPO to avoid misleading the public to feel that Tzu Chi and the cooperating companies are applying the fame for the sales. Such bad feeling among the public may seriously damage the images of Tzu Chi Foundation and the cooperating companies. Therefore, it might be wise to focus on developing different products or adding on the additional product value in the current stage. Moreover, it is also time to educate consumers on eco-friendly textiles and seek feedbacks from consumers.

Re-considering the business model

The traditional business model usually consists of three parts: the value propositions, the delivery mechanism, and the profit realization. In this study, the business model contains very good value propositions, i.e. environmental protection and sustainability. And the delivery mechanism is to through collaboration from members of supply chain to jointly develop the recycle PET bottle fibers. However, no one in the team seeks for profit. The reason that this business can work is because there is an influential religious organization involves and is the core for the collaboration. The ultimate goal for a religious organization is to bring a better life and transform mankind to become a better person, not making money. Therefore, it is difficult to evaluate and quantify the outcomes in financial terms because the result might only be seen after a long period of time.

As for the industry, it is interesting to observe how a profit seeking company can work together without conflicts and profits. It might not work if this leading NPO is not a religious entity which can bring a strong bond and adhere them tightly because of the same faith and belief. The faith and belief make them selfless and cooperate efficiently. The cooperation has been lasting for 3 years and there is no contract signed among them. It is interesting to see if any change in relationship because of the change of the leadership or belief in the future. The brand "Da-Ai" was officially established in November 2009. It is also worthwhile to observe whether there is any change on the interaction and the relationship when the product is

marketed worldwide. It is a challenge as well on the duration of non-contracted cooperation.

Recommendations

Suggestions to the academic community

This study mainly focuses on the business model of the vertical collaboration. Therefore, few more possible researches can be conducted in the future. First dimension is to investigate the purchase willingness, or the consumers' perceived value. The second dimension is to continue on observing the changes and dynamic process. The last dimension is to study the road to commercialization, or the business model for successful commercialization.

Suggestions to the industry

Even though the success of recycle PET bottle fiber project in the textile industry has received a critical help and influence from Tzu Chi Foundation, however, the success also attributes to the willingness and strong belief from the top management of the participating companies. Therefore, this model might be able to apply to other industries if top management has a strong intent. Therefore, a very good generation can be derived from the research and a harmonious world might be expected if this model can also work on other industry. It is interesting that through the faith and belief that the ideal of NPO could be realized in the industry, and in turn the industry could also get benefit of good corporate image by doing so.

The study also found that there is a technical barrier, including coloring which affects the development and competitiveness of recycled PET fabric products. More researches from industry on how to lower the production cost or solve the dyeing problems are required. The diversified colored textiles may be created by hybridizing the fabrics in different colors or using the mixture of natural dyes so that consumers have more choices.

Suggestions to the government

The big difficulty in controlling recycled product is the resource and quality of the raw materials. If the government can educate people to recycle correctly, it's not only helping in waste sorting but also shorten the cleansing process. Government also needs to set a tax deduction or incentive for companies who develop eco-friendly products, update the regulation, laws, and issue certifications to support the environmental protection action. By doing so, it will not only bring in more companies in developing eco-products but also ensure the safety of environment for consumers.

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Designing Sustainable Retail Environments: Bridging the gap of Sustainability between the Retailer and Consumer

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Keywords

Sustainability, retail space, consumers, green products, retail environment design

Abstract

The paper explores the opportunities for environmental sustainability that exist at the very heart of any consumer society: the retail space.

Not that long ago, the word 'consumption' was used to describe an infectious disease. Today, it's a powerful economic force that drives the economy. 'Green' used to be a color, but it too has taken a new meaning, representing an increasing demand for a lifestyle that does not compromise with our environment. While these two forces have traditionally been at odds, more and more consumers and retailers are showing that they can be aligned for the benefit of all.

However, research shows an unexpected disconnect between the retailers and consumers pursuing sustainability. 'Green consumers' complain of lack of product availability, while the 'green retailers' claim of no substantial demand for the same. Although some international retailers, such as Wal-Mart, have made great strides by building a green dimension into its supply chain, and as a result, more green products are making it onto its shelves, indicating valuable supply-side accomplishments, but the bulk of the untapped opportunities lie in making sustainability desirable, on the demand-side - i.e. in the realm of consumers.

The aim of the paper is to explore various ideas and develop a successful model that provides a new perspective on the retail space - one that puts people first and engages them in new ways, helping in identification of the missing variable in the customer retailer equation.

To carry out the research a two pronged approach has been used. The first approach studies the concept of sustainability from the point of view of the customers and the second one studies the approach of the retail and the practices that indulge in to increased sales of 'green' products.

This paper would be of interest to members of the fashion retail industry and those interested in sustainability issues worldwide. It would provide a framework for further research in the area of sustainability in the fashion retail industry in India and will give an

insight into designing sustainable retail environment.

Introduction

Current sustainability status and developments across the India and world

Worldwide, most sectors have awakened to the ramifications of the environmentalism boom, which is the result of heightened public awareness of climate change and energy efficiency. The tsunami in late 2004, the hurricanes that devastated the US Gulf Coast in 2005, the increase in temperatures in summer, the melting of icebergs have all played a significant role in increasing awareness to this serious threat.

Retailers, much like other businesses across the world, are developing strategies to sustain themselves in the wake of climate change and are adopting a two-pronged approach to combat it.

First, by working towards developing a low carbon landscape. Businesses have undertaken efforts to optimize the carbon efficiency of existing assets (infrastructure) and products to comply with mandatory or voluntary compliance on greenhouse gases abatement. Moving forward with stricter Green House Gases (GHG) targets, there will be a growing demand for new low carbon solutions and products. Industries have taken steps to understand how they can modify their existing products and reposition them to ensure their sustainability in the market.

Retailers have also started working on these lines. JC Penney became the first retailer to attain the "Energy Star" for a retail store thereby reducing the carbon footprint of its operation. Going beyond, it has continued to measure and track energy performance of its 1,000+ stores. It has also achieved a "Designated to Earn the Energy Star" recognition for the new stores. Kohl's Department store has earned the Energy Star for superior energy performance for its over 160 stores.

Second, by building new low-carbon businesses. In tandem with the efforts mentioned above, there is a move to develop new radically-effective low-carbon solutions. Retailers across the world have also awakened to this change. Large retailers such as Tesco, Wal-Mart, Kohl's, Office Depot and many more have adopted green strategies and realized the significant benefits accruing from them. Green initiatives include, among others, green buildings, efficient consumer delivery systems, efficient lighting systems, the use of renewable power such as solar, wind and biomass and promotion of green products.

This is a promising opportunity for new organized retailers in India who are in their development phase. They can set up optimized green supply chains, which should help them to enjoy cost benefits and perhaps offset their later investments that could be costlier. In addition, this would reduce the impact of their products on the environment. A green infrastructure would also help to save on operation and maintenance costs. The marginally higher initial investment required for green buildings normally has a payback period of two to four years.

Apart from operational savings in the long term, retailers will also get an additional

advantage: their green corporate image among their consumers. This could help them attract and retain new consumers and build consumer loyalty. Cost and consumer perception are the two most important factors in the retail business. Both can comply with green retail norms, as the survey reveals. This is a promising deal for new retailers. The Bureau of Energy Efficiency in India has categorized the retail sector as an energy-intensive industry. The government of India's national action plan on climate change, released on July 30, 2008, aims to boost energy efficiency and put stricter regulations to reduce the demand for energy. Moving ahead with these regulations may help new retailers generate substantial benefit accruing from them.

With the current economic situation, more and more retailers have realized that sustainability is the new mantra. Greening the supply chains and reducing environmental footprint of the stores result in lower operational expenses. This also adds to the green image perception of the consumers are seeking for. The European retailers have formed "The Retail Forum" as part of EU action plan on sustainable consumption. Also, the synergy of environment and economic viability has given rise to new businesses. For example, Re-feel, has captured a unique market of re-filling cartridges making it economical and environment friendly at the same time. The move at the right time has helped it to secure 65 retail stores across India.

Further, retailers who adopt sustainable business practices would sustain themselves in business with higher profitability and greater consumer loyalty.

Sustainability through the eyes of the consumer

Consumer beliefs and behaviors_

Retail is one of the sectors where pricing is a key factor. The consumer's response to discounts and special prices is of great importance. Specifically, Indian markets are very price-elastic. This has been proved by success stories such as that of Big Bazaar. In such a price-sensitive market, operational costs are therefore of prime importance. Green retail is all about optimum utilization of resources and reduction of operational costs, while reducing the adverse environmental impact.

A recent survey conducted by a global research firm compiled around 23,000 consumer responses in 17 countries across five continents. It revealed that the vast majority of respondents from developing countries believed in the threat emanating from global warming. It also revealed that a large number of consumers in developing countries were willing to pay more for green products. The study paints a unique situation for retailers in developing countries – that consumers in these regions are willing to pay marginally more for green products. The survey highlights the possible cost benefits accruing from green initiatives from which successful and sustainable business models can be developed for retailers.

However, an individual concerned about the environment does not necessarily behave in a green way in general, or in their purchasing. This is known as the value-action gap. Kollmuss and Agyeman (2002) explored a range of analytical frameworks and external and internal factors that promote pro-environmental behavior and found conflicting and competing

factors related to consumers' daily decisions. They concluded that no single definitive model adequately explains the gap between environmental knowledge and pro-environmental behavior. A recent study finds that people who are environmentally conscious do not necessarily behave pro-environmentally: for example, people might throw rubbish away when most people around them do so (reactive process, as opposed to intentional decision making; (Ohtomo and Hirose, 2007).

One of the conflicting factors, also discussed by Karp (1996), is the dilemma raised by greater environmental protection that benefits everyone, and rational self-interest, often leading to environmental exploitation (behavior described by Hardin (1968) as "the Tragedy of the Commons"). It has been shown that when pro-environmental behavior aligns with self-interest (and this behavior is also normative) individuals comply (Ajzen, 1991). In this sense, the retail space is to be effective when the product meets consumers' needs and aligns with their values (e.g. saving money on fuel, and increasing children's safety). Conversely, the value-action gap may arise when pro-environmental behavior does not go along with self-interest.

The average consumer has less opportunity to form an attitude about a green product than about a main stream product, unless they have made a special effort to get to know the green product, as manufacturers of environmentally-improved products often make little or no green claims in their advertising (Rand Corporation, 2004).

When the decision-making process is examined, there are a number of reasons why green products continue to be niche goods, selling only to committed ethical consumers without the aid of mainstream marketing techniques. For example, advertisers make claims about the limitations of advertising, that it is futile to attempt social engineering by working against consumer desires or lifestyles (WFA *et al.*, 2002). However, it could be argued that such desires and lifestyles have reflexively developed as a result of advertising. Chaney (1996) shows that lifestyle and consumer culture have become interdependent in post-modern society. In other words, although some (manufacturing) companies would argue that they cannot influence consumer choice towards green products, they can and do shape consumption patterns through the products offered and how they are marketed (Rose, 2002).

Defining environmentally sustainable products

Defining environmentally sustainable products is complex. In a strict sense, there is no such thing as a truly sustainable or green product, as all products we buy, own, use and discard in our everyday lives will have negative environmental impacts at some stage in their lifecycles. However, products can be classified according to the scale of these impacts, and a quality threshold can be drawn (Cooper, 2000). If a product has a low environmental impact, it is regarded as an environmentally sustainable product.

Another definition of an environmentally sustainable product, for consideration in this article, is that products should be readily available for purchase and include those supplied by companies with a reputation for reducing environmental impacts from their manufacturing processes.

Methodology

The type of consumer chosen for this study were woman with children, who regularly shops at supermarkets. Ottman (1998) reports that the consumers most receptive to environmentally-oriented marketing appeals are women; as mothers, they would be motivated to secure their children's futures. Also, the characteristics of our respondents overlap those of the "swing group" consumers, who are neither active or non-active environmentalists and are willing to engage in environmental activities from time to time, but only when it requires little effort (Ottman, 1998). This swing group is the source of most conversions to green consumerism.

Results

The results of the survey conducted showed the following barriers to green retailing:

Lack of Awareness: The survey shows that the consumers know about climate change, understand that reducing their own greenhouse gas emissions will help fight climate change, and want to join that effort. But the survey also shows that consumers do not quite understand how to act on their greener impulses. More than one-third of consumers surveyed said they would like to take action against climate change but do not know what to do.

Consumers were equally confused about buying green products.

Distrust: Consumers doubt not only the quality of green products, but also their very greenness. Although they trust the environmental claims of scientists and environmental groups, they tend not to believe the claims of government, media, and business.

High Prices: Consumers who get past the checkered history of eco-friendly products often encounter a fourth barrier: their frequently higher prices. Because consumers perceive the benefits of green goods to be small and long term, they often view the often higher costs of these products to be too high.

Low Availability: Having decided to buy Earth-friendly items, many consumers encounter a final hurdle: They can't find them. The reason consumers cannot find these products is that retailers are not stocking them.

The ease of identifying more environmentally friendly products is reported as mildly difficult by the most environmentally concerned quartile of respondents.

These results are not surprising, as it is mostly the green niche consumers that are being targeted by the retailers' current strategies. The other three quartiles were significantly less aware of green marketing; their awareness decreasing in line with their level of concern. They reported that green products were not generally marketed or promoted in the store in a way that would have particularly engaged them. Given that all the respondents are likely to be exposed to similar general sources of influence, the level of consistency between an individual's environmental values and the personal relevance of identifying environment

friendly products is a possible explanation of this increased awareness of those products, i.e. the motivation to identify them is greater (Hoyer and MacInnis, 2004).

Product marketing communication

Respondents strongly agreed that they expected to be informed about new and improved product formulas and design. They want to be aware of the clear benefits (Alston and Prince Roberts, 1999) of the environmentally friendly products are. Opinion was evenly distributed across the respondents and not linked to environmental beliefs or behaviours. These findings conclude that effective in-store merchandise display will induce consumers to purchase green products.

Retailers generally pay close attention to effective communication with consumers. Markets are carefully segmented to reveal possible openings, for instance, by matching a brand to the characteristics of consumers. Product perception is influenced by situational variables and social reference groups. Product benefits are linked to specific lifestyles and designed to enhance or maintain a consumer's self-concept (Hawkins *et al.*, 1998). Particular values, needs or goals are targeted by exploiting prior knowledge in launching new brands (Hoyer and MacInnis, 2004). How consumers think and feel about a particular product is affected by what they are accustomed to, and expect, as indicated by the responses above.

Most green products in the store are displayed quite individually. This may be because their customers are not seen as "general" consumers, but as sensible restrained purchasers of essential supplies or niche products with no frills; market research is thus based on this knowledge. However, this cognitive-based visual merchandising strategy used for many environment friendly products is shown to be useful only in some of the ways consumers form attitudes, thus limiting their appeal. What is missing in this approach is emotion, which plays a part in consumer response to brands and is found to be effective in influencing decisions, forming attitudes and remembering (Hawkins *et al.*, 1998).

Recommendations

1. Consider 'shopping modes'

Not all shopping is equal. When people shop, they do so in one of five different 'modes' (see Figure 1). Needs and desires change with each mode, and the mode a shopper assumes depends entirely on context. By considering shopping modes, retailers can begin to explore latent and overlooked possibilities for sustainability. For example, the 'Mission Mode' – whereby shoppers want to get in and get out quickly – may not seem like a promising mode to start with; but once we recognize that time is valued above all else by this shopper, we can look at how sustainability might address that. For instance, could we eliminate the need to spend time and fuel driving to the store? Could green alternatives be placed in more convenient locations? For 'Background Shoppers', retailers may push the benefits of sustainability rather than removing the barriers to it. What if shelves included cut-out sections

featuring a green experience? Imagine a 'morning shower' cutout that features organic soaps, a water-saving showerhead, and non-chlorine bleached cotton towels. Background shoppers open to new ideas might try one or all of them. Supporting shopping modes puts people back in the centre of the equation. It gets beyond survey results and into solutions that help people take action.

Questions for further exploration:

Shopping Modes

Mission Mode:

These shoppers are looking for something specific, and basically want to 'get in, and get out.' Anything that distracts from their mission is ignored. Time is valued above all else. Offering new information is met with impatience and shut down.

Restock Mode: For these shoppers, the level of emotional involvement is incredibly low. Shopping is about replenishing the basics: it's a commodity experience. Shoppers are on autopilot and resort to habits rather than new ways of engaging.

Background Mode: These shoppers use shopping to accomplish something more important. Shopping with friends is 'background' to conversation – the more valuable outcome. Purchases are incidental, yet these shoppers are open to new ideas. On-site coffee and food offerings enable this mode to flourish.

Celebration Mode: Shopping is an event for these shoppers, who are out to treat themselves and feel they deserve it. For them, shopping is an opportunity for enrichment and exploration. This mode brings openness to new ideas, and even new stores. Temporary store events and limited quantity items attract this mode.

Beyond-the-Store Mode: Shopping is the physical activity, but the mind is elsewhere. The imagination is already making the leap to the occasion of use. Shopping for a specific event like a vacation or a formal party are examples. An immersive experience like the fitting room makes space for this mode.

- a. What modes do customers exhibit and how might sustainability support them?
- b. How might we enable new modes that would inspire new positive behaviours?
- c. Which mode is the most receptive to a green conversation? How do we speak to that mode, and what do we say?

Shopping Modes

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2. Design moments

When asked to describe memorable experiences, people rarely describe a specific thing, or even a space: instead, they talk about complex, full-bodied moments that take into account things, time, people, and actions. During the survey, a woman described a moment during lunch with her daughter at a hotel: she talked about the time of day, the way the light was shining, the conversation, the music, and the service they received – all contributing equally to a perfect, nuanced moment. Such moments inspire, and inspiration is important. Many retailers when asked said that they felt a need to educate shoppers about their green efforts in order to connect with them. Which was justifiable- there are new dimensions to green that need to be communicated, but without inspiration, those educational messages can get lost. A 'Made in India' sticker on a pair of trousers may inform that it is local, but is that enough to make someone want to buy it? How might stores enable moments that inspire shoppers on the importance of buying local?

What if aisles reflected the number of miles the items traveled? Local denims might be

placed closer to cash registers, while those from U.S are placed across the store. What if an out-door environment celebrated local and seasonal foods? Great effort goes into fabricating unnatural and uniform experiences in the store; an entirely different section inspired by natural systems may in turn inspire shoppers and reconnect with the seasons and better understand the value of local. Creating possibilities for 'moments' allows shoppers to learn for themselves. Sustainability is a concept that is still new to the retail space: engaging people on this topic will take moments of understanding for shoppers and retailers alike.

Questions for further exploration:

- a. How might we make small aisle sections dramatically stand out from the rest of the store, creating the possibility for 'moments'?
- b. How might that section inspire more sustainable lifestyle decisions?
- c. What kind of sensory experiences might reconnect shoppers with the natural world?

3. Enable community

Shopping is a social activity, even when we shop alone. In a connected world, opinions and last-minute requests are just a call or text message away. Having been marketed to constantly, today's savvy shoppers seek trusted advice: opinions from friends, or even strangers, are often what matters most in decision-making. To build trust, many retailers pursue transparency. By telling their stories and making data about sustainability available in the store, the hope is that shoppers will be better able to make informed decisions that match their values. The intent is good, but these efforts can often overwhelm, even cripple decision-making.

For example, when a customer is buying a pair of jeans and deciding between one brand made from organic cotton and another made in the U.S. Literature on each product documents two compelling, yet complex stories. How does the customer know what is most relevant and decide which is the more sustainable choice? It's no wonder that a passer-by with an opinion can be more persuasive than all the information in the store.

Questions for further exploration:

- a. How might we enable people to find out more and share with others?
- b. What benefit does community offer local suppliers over chains?
- c. How might we connect expert shoppers to novices?

4. Help 'make it mine'

Shoppers are not always 'at' the store: with a specific occasion in mind, they may physically be there, but mentally they are at the occasion itself. Assuming a 'Beyond-the-Store' mode, shoppers frequently add a healthy dose of imagination and envision how their lives might be different with the potential purchase. Fitting rooms are one of the best expressions of this opportunity area. Yes, they help shoppers better evaluate fit, but more importantly, they

provide an opportunity to imagine stepping into the office or having brunch on the weekend in new clothes. Fitting rooms help personalize the product and better understand how it fits into our lives. Many furniture stores bring the fitting room to the showroom floor, illustrating how different products fit in mom and dad's office or in the children's room. Providing 'fitting-room abilities' for sustainability would go a long way in bridging the disconnect with shoppers. It is often difficult to imagine what a more sustainable lifestyle would be like. By making space for shoppers to explore possibilities and seek relevance, retailers can help shoppers aspire to new positive behaviors.

Questions for further exploration:

- a. What if we merchandised sustainability the way a furniture store merchandises furniture?
- b. What does a sustainable lifestyle look like, and how do we express it?
- c. How might we help shoppers imagine living more sustainably?

Conclusion

The article delineated a new perspective on the retail space – one that puts people first and engages them in new ways. Building a relationship with shoppers based on values such as sustainability has impact beyond the storefront. Values go home with them: they are there when they read about climate change, and they're there when they decide where to go shopping. Down the road, when a brand becomes known for the values it has defined for itself, the relationship evolves to fill an important role as a trusted advisor. When dealing with complex issues like sustainability, we need as many trusted advisors as we can find.

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A comparison of retail associates perception with consumer's attitude and opinions

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Keywords

Retailer return policies, product attributes, marketing mixes, qualitative perceptions

Abstract

The purpose of the present research work is to determine the level of disconnect between retail associates and consumers through a comparison of perceptions, attitudes and opinions of evaluative criteria in the apparel retail purchase environment. An attempt has been done to examine the influence of store displays, retail associates product knowledge, retailer return policies and product attributes on consumer purchase decision process in Jaipur (Rajasthan). The study provides marketing implications to retailers allowing them to:

- a. Adapt marketing mixes and tailor competitive strategies to retain their current target market.
- b. To better shape training programs for retail associates to more accurately meet the needs and demands of consumer, thus leading to a higher level of satisfaction and loyalty.

A two phase methodology is used to collect qualitative perceptions from retail associates followed by the collection of quantitative attitudes and opinion of consumers in different retail channels viz. national chains, departmental stores and specialty stores. Data was analyzed by coding and tabulation. Results from the two phases were compared and found the similarities in opinions of the influence of return policies on consumer purchase decision where as differences in opinions were found in the influence of store displays, retail associates, product knowledge and importance of product attributes while making purchase decision.

Introduction

Retailing as an industry in India has still a long way to go. To become a truly flourishing industry, retailing needs to cross the following hurdles:

- Automatic approval is not allowed for foreign investment in retail.
- Regulations restricting real estate purchases, and cumbersome local laws.
- Taxation, which favours small retail businesses.

- Absence of developed supply chain and integrated IT management.
- Lack of trained work force.
- Low skill level for retailing management.
- Intrinsic complexity of retailing – rapid price changes, constant threat of product obsolescence and low margins.

The retailers in India have to learn both the art and science of retailing by closely following how retailers in other parts of the world are organizing, managing, and coping up with new challenges in an ever-changing marketplace. Indian retailers must use innovative retail formats to enhance shopping experience, and try to understand the regional variations in consumer attitudes to retailing. Retail marketing efforts have to improve in the country - advertising, promotions, and campaigns to attract customers; building loyalty by identifying regular shoppers and offering benefits to them; efficiently managing high-value customers; and monitoring customer needs constantly, are some of the aspects which Indian retailers need to focus upon on a more pro-active basis. Despite the presence of the basic ingredients required for growth of the retail industry in India, it still faces substantial hurdles that will retard and inhibit its growth in the future.

Present study aims to provide insights into the relationship between retail associates and consumers in the apparel retail market, thus providing valuable information for apparel retail corporations. The purpose of this study is to determine the level of disconnect between retail associates and consumers through a comparison of perception, attitudes and opinions in the apparel retail purchase environment.

Keeping the above points in mind following objectives was framed:

- (1) To explore and determine the influence of store displays on consumers purchase decisions.
- (2) To explore and determine the influence of retail associates product knowledge in the purchase environment.
- (3) To explore and determine the effect of retail return policies in the purchase environment.
- (4) To explore and determine product attributes that influence consumers purchase decisions.

To carry out the present study a two phase methodology was used to collect qualitative perceptions from retail associates followed by the collection of quantitative attitudes and opinion of consumers in three different retail channels:

Retail channels	Number of retail channels analyzed
Departmental store	4
National chain	3
Specialty store	3

Data has been analyzed using tabulation and coding.

This study includes a two phase approach from the perspectives of:

- ❖ Retail associates (Phase I) - 10
- ❖ Consumers (Phase II) - 100

Since the study was conducted among consumers and retail outlets located in Jaipur. The locale of the study will be restricted to Jaipur only. For determining the level of disconnect between retail associates and consumers through a comparison of perception, attitudes and opinions in the apparel retail purchase environment, a preliminary survey was carried by an interview schedule. The sample size was 100 for consumers of all segments in an age group 20-25 years. The data was collected in frequency mode and analyzed for clear interpretation of results. The sample size for phase I consisted of ten retail associates from JAIPUR. The sample for phase I can be described under retail channel, product category, job title and number of years of experience categories.

Major findings of the Study

Majority of the retailers of departmental store have less product- knowledge. Perhaps, retail associates measured their level of product knowledge based on how they were trained (corporate culture) and what the customer shopping in their store is most concerned with when purchasing. All retailers without exception says that customer's are influenced by store and window display.

From retail associates perspectives, store and window displays greatly influence consumer's decisions to purchase. They are "the first thing that the customer sees if they don't POP, they will go to another store". In addition to bringing customers into the store, they influence customers to buy entire outfits on the mannequins or just a few pieces. Overall, visual displays promote wardrobing and give the customer ideas about how to wear the clothing, from "practical to inspirational". In a practical sense, retailers present the outfit in a "dramatic way, because it is more effective. On the contrary, some retailers display inspirational outfits that describe the newest trends with in the store".

The most important product attributes when purchasing are dependent on channel, store, occasion, as well as customer types which were defined by characteristics or motivators. Characteristics of customer types, as described by retail associates, include: price, time, need, quantity, and companion. For example, men and women shop and purchase differently, customers in a hurry are less likely to be concerned with fit because they may not have the time to try on the item, and some consumers are most concerned with price and go straight to the sale rounder, termed "sale rounder laggard".

Overall, consumers are most concerned with the following product attributes: fit, style/ fashion, features, benefits, price, sales promotions, and quality. In addition, the importance of these attributes increases or decreases based on retail channel. Also, it is a preconceived notion that a consumer knows what to expect before they enter the store, not only in terms of product

attributes within the store, but also retail associate's customer service and product knowledge.

Retail associates had strong opinions on return policies in their store and the effects of policies in their store and on the purchase environment.

Retail associates noted that returns determine merchandise recalls, in which retailers often pull products from the store for quality reasons. In addition, returns help retailers make changes to future lines and sizing.

Retail associates were asked which of the following had more influence on a customer and would cause them to not return to the store: product, policy, and personnel. Overall, store personnel are the most important of these three P's. While most retailers claim to have good quality, they occasionally receive complaints but ultimately satisfy the customer. Therefore, if a customer has good customer service from store personnel, they will return to the store. However, "when a customer experiences bad customer service, they tell to 10 other people."

According to retail associates most of the customers are influenced by discounts, sale and promotions. Retail associates offer facilities to consumer for their convenience and to increase self popularity and selling.

In Jaipur all stores that were accounted as sample offers lighting, music, water. Further, some big stores provide some extra facilities eg. sitting, parking, trial room and lift etc.

Consumer's Survey

55% consumers were male and 45% consumers were female. A random selection approach was applied in sampling. In total 42% were students, 15% people were working in private sector, 23% people were working in govt. sector, 11% female were house wife and 10% people were in business. This variation reflects that every profession required different type of clothing. Thus, professional background will affect the apparel purchase environment.

Further, in total population 46% were bachelor, 17% were newly married, 36% people were married and have children, and 2% were means divorcee or widow.

This notion was applied as different stage of marital life required different type of clothing. So according to their stage the clothing needs and purchase will change. This will affect apparel purchase environment.

According to income group their clothing and apparel purchase also a. This affects clothing purchase.

S.No.	Income Rs./month	Purchasing Frequency	Percentage
1.	Below 10000	23	20
2.	10000-20000	23	20
3.	20000-30000	55	50
4.	More than 30000	11	10

Table 1: Preference according to income

In this sample 20 % people's income was below Rs. 10,000, 20 % people's income was Rs. 10,000-20,000, 50 % people's income Rs. 20,000-30,000, and 10 % people's income was more than Rs. 30,000.

27% consumers considered quality while 37% consumers focus on fit and comfort while purchasing apparel.

S.No.	Factors	Frequency
1.	Feel good factor	40
2.	Contentment	19
3.	Color/Print	26
4.	Price	40
5.	Fabric	31
6.	Fit/Comfort	37
7.	Quality	27

Table 2: Factor kept in mind while purchasing apparel

From Table 2, it is clear that 27% consumer's focuses on quality and 37% on fit and comfort.

S.No.	Elements of design	Frequency
1.	The most attractive	60
2.	Shape/silhouette	32
3.	Texture	15
4.	Color	22

Table 3: Elements of design that would be considered by consumer while purchasing

The above table indicated that 22% considered color while 15% preferred texture while purchasing the apparel.

S.No.	Time	Frequency	Percentage
1.	Morning	8	7
2.	Afternoon	23	21
3.	Evening	75	68
4.	Night	4	4

Table 4: Preferred time for shopping

Table 4 revealed that 68% people preferred evening time for shopping, while 7% preferred morning time.

S.No.	Shopping Place	Frequency	Percentage
1.	Shopping Malls	54	50
2.	Local Markets	27	25
3.	Shopping Complexes	27	25

Table 5: Preferred place by consumers for shopping

The above table showed that Shopping Malls were the perfect place for shopping.

S.No.	Preference	Frequency	Percentage
1.	A great deal	26	24
2.	Much	25	23
3.	Some What	20	18
4.	Little	20	18
5.	Not at all	18	17

Table 6: Consumer's preferences to discounts and promotions

24% consumer's preferred shopping at the time of a great deal of discounts.

S.No.	Preferences	Frequency	Percentage
1.	Very Important	33	30
2.	Important	41	38
3.	Moderately Important	18	17
4.	Little Important	6	5
5.	Unimportant	10	9

Table 7: Brand image for consumers

30% consumers feel brand as an important dimension while shopping.

Satisfaction of consumer with stores	Frequency
Consumers are satisfied with these stores	89
Consumers are not satisfied with these stores	12

Table 8: Experience of consumer from retail stores

89% consumers were satisfied with the delivery of services of the stores sampled.

Influences on consumer of visual advertisement	Frequency
Consumers are influenced by visual advertisements	50
Consumers are not influenced by visual advertisements	60

Table 9: Visual advertisements and window shopping influences consumers

Conclusion

The results of this study are significant to retailers' marketing because the research assesses the accuracy of retail associates' perceptions of consumers compared to the attitudes and opinions of consumers. Secondly, it provides valuable information

to human resource departments to shape training programs better in order to meet the demands of each individual consumer. Thirdly, better trained and more knowledgeable retail associates may prove to be more valuable by becoming more influential in the mind of the consumer.

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Sustainable Entrepreneurship in Fashion Business- a Case Study of an Indian Apparel Company

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Keywords

Sustainable Entrepreneurship, Eco awareness, Ethics, Social Responsibility, Environmental Responsibility

Introduction – Sustainable Entrepreneurship

With the growing awareness towards the contribution to combine the environmental concepts with Capitalism, the concept 'Sustainable entrepreneurship' is used for enhancing the commitment towards the business integrated with Ethical issues, Social Responsibility, Community Commitment and most importantly towards the Economic development. Sustainable Entrepreneurs are those who attempt to combine the above components in a holistic manner and are said to have a different organizational logic as compared to more conventional entrepreneurs (Tilley and Parrish, 2006). The organization in its operation is expected to have high vision with a solid base by contributing to the Values & Ethics that have been created together with the sustainable culture. In general, entrepreneurial organizations are viewed as the profit oriented organization with the high amount of aspirations on the personal as well as the financial levels. World Commission on Environment and Development (1987) defines the 'sustainable entrepreneurship' as the continuous commitment by businesses to behave ethically and contribute to economic development while improving the quality of life of the workforce, their families, the local, and global community as well as the future generations. An environmentally responsible firm can be defined as the one which seeks to limit or prevent any damage caused by it to the environment. It can be seen as working in a long-term win-win situation while ensuring the economic growth and environmental protection (Schaper, 2002).

Many of the Indian companies have given least importance to the sustainable issues which have taken their place now in the front line due to the various initiatives at the global level. They were in the continuous phase of thinking that profit and sustaining in the business goes hand in hand with the vertical/horizontal growth, which seems to be the only vision for them. However, to incorporate the sustainability issues as integrated elements to increase their brand value, many of them need support and clarity on the issues.

The thinking can be redefined as "leading the firm in making balanced choices between profit, people and planet". (Masurel, 2006). The paper will discuss about the 'sustainable entrepreneurship' characters/strategies practiced in an Indian apparel SME (Small Medium

Enterprise) with the specific focus towards environmental concerns in the business practices seeking revenue and business optimization with respect to giving benefits to the society.

Sustainable Entrepreneurship with SMEs

Scott and Willits (1994) found that acceptance of the balance of nature/limits to growth ideas is widespread and associated with the business behaviour focused on the environment. But it's a wide debate that SMEs are lagging behind in the development of eco-friendly behaviour. But there is a paradox on this issue. Social scientists advocated that SMEs are still reluctant to include environmental considerations in their practice.

The reasons identified are:

- Lack of awareness on the correlation of environmental impact and their business promotion,
- Lack of consumer demand for environmental improvements, and
- Lack of network that supports environmental activities.

There are SMEs that identifies the framework that niches to categorize services and specific activities, such as developing the new products and services, improvement of the life style of the workers, new methods of providing the marketing and re-engineering of their business model. It involves the flexibility of the business process, leadership behaviour, innovativeness in providing value to the stakeholders, resources to the employees, initiating social benefit activities and others. It involves the responsibility of each to safeguard the natural environment protection as individuals and is part of corporate social responsibility in the business venture.

The application of the sustainable entrepreneurship concepts are at the very nascent stage in the apparel business, where as it is fairly evident in other fields. After perusal of the published research in these areas, it is determined to be the first study on the concepts of entrepreneurial intentions of the promoters in apparel business, which can be modelled for further research and follow up studies. During the present study, we found that these entrepreneurs are unique with unconventional backgrounds, who strategically manage financing from the non-professional sources and employ un-orthodox strategies, yet manage to have good HR principles in place to employ in their position.

We observed, very few companies have the core value as an innovative means to balance their financial goals against their objectives of making a difference to their environment and society. The present case study on sustainable entrepreneurship is based on a company from Pudhucherry, (formerly Pondicherry) in India - called CAOS (Creative Art of Souls) - which has the sustainability principles in its core strategy and having the association with the various co-players, to identify and promote sustainability.

This case sheet is developed to analyze:

- What are the strategic reasons behind the promoters to have the sustainability (eco-

preneurial) principles with in their operations?

- How does the organization promote entrepreneurial characters for its workers/society through the various initiatives by associating its partners in their operations?

CAOS - an Organization with Sustainability as Core Value

Introduction

Creative Art of Souls (CAOS) apparels private limited, is an ethical and environment conscious export oriented company, which designs and produces organic apparels based in Pondicherry, India. It was founded by Anjali Schiavina, who was born in Calcutta, India, and grew up in Pondicherry and Italy. It started in the year 2002, with 2 stitching machines, 3 employees and a big dream. Today, 7 years later, CAOS has grown into a mature company with over 100 machines and staff strength of 130, poised to doubling its manufacturing capacity by the third and last quarter of year 2009.



Milestones

2002 - Creative Art Of Souls was founded in Pondicherry, South India by Anjali Schiavina.

2004 - Introduction of 100% natural cotton and the development of organic textiles.

2006 – Started & Development of a responsible and eco-friendly supply chain.

2007 - Expansion of production capacity to 100 machines

2008 - Obtained ISO 9001:2008 and GOTS certifications.

2009 - Incorporation of **Creative Art Of Souls** proprietor ship firm into a Private Limited Company. Applied for FLO and ECO CERT certifications. Further production expansion in an additional facility to accommodate another 200 machines.

It manufactures apparels in woven and knits for women, men, children and infants, accessories in leather and fabric .They are also developing new products such as soft toys, spa wear, lingerie and home furnishing, by using mostly natural fibres such as 100% organic cotton, ahimsa silks, certified wools, recycled fabrics and other conventional fabrics.

CAOS is pioneer in striking out a balance between being a successful eco-conscious company and a commercially viable company without compromising the motto of the company “total customer satisfaction”. It has a strong vision to incorporate and take fundamental organic principles at every stage in their manufacturing and strong-

ly believes in ‘collaborating for a better future’ with various organizations and shares the passion and vision in changing waste into a resource. The company has put value objective and resource allocation and utilization in its mission, but in a unique manner by associating with the people having the same line of thoughts and objectives, thus proving to be a successful member who had implemented sustainable practice in their business model. The strength of CAOS lies not only in creating the profitable enter-

prise, but also to achieve certain social and/or environmental objectives.

Why CAOS as the sustainable company?

Going back to Ms. Anjali's words

"I set off to offer innovative concepts to combine lifestyle and values. Wanted to preserve traditions, protect precious techniques and maintain a high quality while supporting communities as well as environmental causes. I strived to maintain that balance together with man and nature where all resources are used in the best manner possible".

CAOS is determined - not to be a finance oriented company; rather CAOS has been modelled to be a visionary champion with sustainable values among the market players. As the city is one of the fishing harbours in South of India. Majority of the people with CAOS are majorly the Below Poverty Line (BPL) and trained by CAOS to gain confidence. It comes with unique products from the waste materials, marketed through the various NGOs to contribute for the society. CAOS accepts that it was not easy to start the green company in that city which is not a traditional hub for apparel manufacturing. Further it is a tough task to take advantage of eco-principles in the business before establishing itself into the market. Following points advocated in favour of CAOS to select them as case study:

- Profitable company on the sustainability principles implementation
- Founded and operated by the entrepreneur who had sustainable values from the beginning and also adopted thus through various partners in their business
- Association with various partners and initiatives taken together with them for contribution towards society, at the same time positioning CAOS as a high value garment exporter.

CAOS has expanded the business in the last two years while keeping themselves focussed on the above points. Following features were analysed with CAOS business model,

1. **Market:** Satisfying the needs and expectations of the current clients through the eco principles. CAOS sees that sustainability is contributing to a positive image of the firm, in order to attract new clients. Market also helped in making clear the values, vision and strategy of the organization over the period of the time.
2. **Employment:** CAOS wants to be the provider of better working conditions (in terms of hygiene) at the same time; it should honestly attempt to satisfy the needs of employees. Continuous improvement on the motivation of the management and employees to give the better opportunities to the society.
3. **CAOS** is obeying the ethics and it adopts the principle of ESR - Environmental Social Responsibility. This is conventionally called as Corporate Social Responsibility (CSR), but it has deliberately replaced "corporate" with environment" to further enlarge the scope of their involvement with natural and social environments. ESR is implemented both directly in-house and through collaboration with other orga-

nizations such as social and environmental NGOs which are valued and stimulated by society.

CAOS strongly believes that getting the international certifications during the initial years of operations, which is not a normal practice in the industry, had helped them to motivate further for contribution towards societal needs.

A strategic review on Sustainable Organization Development Process (Sustainable Entrepreneurial Process) at CAOS

- CAOS had the clear mandate in place for identifying the clear aims & targets to contribute for the Society.
- The organization's aim is to reduce the environmental damage, respect human rights, and treat its employees with great care.
- It was a self-initiated process and not a knee-jerk reaction.
- It had started to have continuous integration of environmental concerns to business practices seeking the revenue and business optimization with respect to giving maximum benefits to the society, as a continuous process.

1. Recognition of an opportunity: CAOS identified an unique opportunity to handle the organic products alone, which was less popular at the time of entry and it wanted to uplift the fisherman's community by inducting them into her team of operators and executives. The promoter was keen for ethical business, which was carried out by incorporating fair trade practices. The primary motivation for starting the company was to make a living - not necessarily to generate great wealth or change the world.

2. Accumulation of resources: CAOS had a clear vision in establishing the venture at the place outside the textile/apparel manufacturing hub. After the disaster of tsunami in 2004, it had intensified its operation to train and develop the entrepreneurship skills for the displaced people. It created lots of opportunities for the workers to get trained and help them to gain confidence to face the world with a smile on their face so that they can phase out all their losses. According to Ms. Anjali, clearly states, this act had given CAOS a unique place as the major fashion players in South India. Because of her connection with European Union, funding was never a problem for her - as she was able to mobilize her funds and used the investments from the family and friends. She also made attempts to receive the funds on an equity basis from other pro-

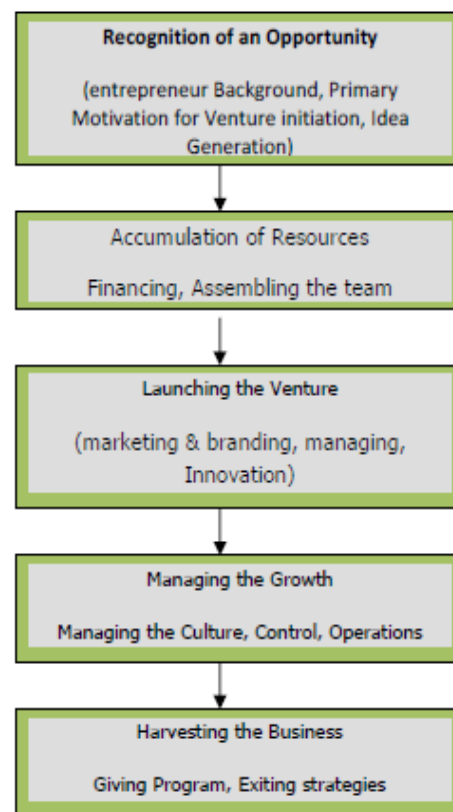


Figure 1: CAOS-A strategic Review

fessional investors.

3. **Launching the venture:** CAOS developed a sound marketing strategy, taking the advantage of the high quality of the product reflecting the organic principles in it. Every week, it had an aggressive marketing event called, “meet the customer”, at its store and tried to advertise its organic products. Initially, their exclusiveness on organic business was not well received with the domestic as well as foreign buyers, which was the unique feature of CAOS.
4. **Managing the growth** – CAOS had an unconventionally strong, genuine concern for the well-being of their employees. It offers employee benefits and satisfaction exceeding the industry levels. With its clear objectives, it kept its “Environmental Social Responsibility” concern as the first priority in devising its next strategy. Innovation of the new products with the materials and employees’ freedom to express and implement their ideas and to involve them in the decision making help CAOS to grow further. While that being the new life line of the company, it had been taken care by a separate design team as well as by the active involvement of every member in CAOS.
5. **Harvesting and giving programs:** CAOS arranges series of programs in association with partners to highlight their principles and this was acting as an opportunity for mobilising the crowd for the business. They decided to apportion 20% of earnings to the projects that served to protect and restore the environment as an annual contribution for sustainability.

CAOS had shown the clear ability to re-engineer the operations to use lesser energy, and used the vendors who innovates the organic products. It had clear understanding that how other partners can enhance the value of offerings for sustainability.

Associations with NGOs with a focus on sustainability

CAOS had formally tied up with NGOs to contribute for the sustainable environment with the focus to promote the entrepreneurial characters of the participating members and also to sustain the environment with great care. In 2008-09, CAOS had tied up with three NGOs, namely “Pondy CAN”, “*Suddham*” and also on a major initiative with “*Goonj*”.

Association with Pondy Can

Pondy CAN (Pondy Citizens Action Network) is an NGO which does the projects in saving the environment in Pudhucherry. One of the major projects launched by Pondy CAN was coastal management. With one of the directors of CAOS, Mr Aurofilio Schiavina, as an environment expert, it was the effort from his side to guide and show interest of CAOS on the sustainability projects. He pioneered on creating awareness about the man-made coastal erosion at the Pudhucherry coastal region, along with the workforce of CAOS. Having studied environmental and coastal management, he coordinates with the local NGOs, “Pondy CAN”, and promotes the finding of his reasons to save the coastal erosion with the local public, which directly and indirectly affects several thousands of fishermen who are already in the underprivi-

leged section of society. With CAOS's first sustainability project, it gave a big room to identify the needs of the fisherman community to train and incorporate them as successful employees.

Association with *Goonj*

Goonj is a non-profit organization with a unique resource mobilization initiative that provides clothes and other basic amenities to millions in the far-flung villages by turning one's wastage into the resource for another. Since 2008, CAOS is partnered with *Goonj* by sending all the organic cotton waste material from the factory for re-use. *Goonj* had recently received the "NGO award" and had started a project called "*Vastra Samman*" (Dignified Clothing). The project was to collect clothes from across the country and put them into a supply chain with following objectives:

- More clothes to more people, across the country, without any charge.
- The cloth penetrates deep inside the country, even to the remotest parts, fulfilling one of the basic needs of the man kind.
- The beneficiaries can reallocate his meagre resources for other basic needs like food, health and shelter.
- Thousands of people were saved from a vicious cycle of debts, they get into around festival time for buying clothes. A lot of beneficiaries in the poverty ridden Bihar state exemplify this, who on *Chath Puja*, their main festival, don't have to buy clothes on loan because they got it from GOONJ, supplied to them by various network players including CAOS.

Cloth for Work at *Goonj*

CAOS started another concept called "cloth for work", with *Goonj* to use the wastages in the best way.

Idea: Re-position discarded clothing, Fabrics & other household material from the cities, beyond charity, adding dignity and turning it into a big resource for development in the villages of India. *Goonj* had, without any financial burden, innovatively used the wastage of urban India towards developmental work in rural India to spread awareness about the concept among urban household thinking towards disposing off material through a channel to reach the needy.

Concept: CAOS had successfully transformed clothes channelled from a charitable act into a development activity with this initiative. It worked together with its partner groups to motivate people in their villages to identify their own community issues like road repair, plantation & cleanliness drives etc. People work collectively on the issue and get clothes and other material as motivational gift for their hard work.

Strategy: Involve multiple stakeholders with the objective to find out & address gaps in rural/slum life and use abundance of resources in urban India. On one hand CAOS/ *Goonj* sensitise urban communities towards state of rural India and give them a tangible and

transparent platform to put their wastage/discarded and put them to use and on the other hand villages find a new kind of resources for its cash starved development works.

Re-usage of Cloth for Poor & Rural People as Sanitary Napkins

Objective Providing an affordable, easy to use, clean sanitary napkin made out of waste cloth for women in villages & slums by involving urban masses primarily women and building awareness on this taboo, but critical health issue.

Rationale: Given the poor economic status of vast masses, a sanitary napkin for the essential biological process of menses is the last thing on the mind of the most. They end up using all kinds of rags leading to widespread unhealthy practices during menses. This forms a strong connect with the prevalence of Reproductive Tract Infection (RTI) and other pelvic diseases in India. The shame & silence associated with the issue makes it the biggest taboo subject even among women, as a vast majority face great hardships & indignity, besides health risks due to this problem.

Innovation/Effectiveness: CAOS and *Goonj* both had proposed to use old cloth lying useless in the cities as a resource to address this important basic need of slum women and to focus on women's health. The clean cloth napkins were an entry point to generate more awareness on the related health and hygiene issues. In the cities, for the first time, they initiated a discussion on this issue by directly involving the urban women, drawing on their instinctive empathy.

Joy of Giving Week - Supply Week from CAOS

Sno	Categories	Nos/Pkts
1	UT = Utensils	7
2	INF = Infant below 5 yrs	8
3	GD = Gudri	25
4	CAOS = Mixed Garments	41
5	OTS = Other Material	158
7	L = Ladies Garments	122
8	GT = Gents Garments	151
9	TS = Toys & Stationery	198
TOTAL NUMBER OF PACKETS		710 PKTS
TOTAL WEIGHT		10760 KGS

Table 2 : Micro Details of the materials transferred to *GOONJ*

The Joy of Giving week (September end - October first week) was a national movement, which aimed at bringing together people from all the walks of life and engaging them in giving back to society in a chosen way by the participants viz. money, time, skills, resources and simple acts of kindness. As part of the movement, CAOS with the NGO *Suddham*, organized and ran the event in Pudhucherry with the collaboration and guidance of *Goonj* that initiated its pan India campaign - *Vas-tra Samman*. The mission was to collect

waste, clothes (washed and reusable), woollens, bed covers, bed sheets, utensils and school items. In 2009, CAOS took the initiative for the collection, sorting and packing processes, established the separate temporary centre which was managed by CAOS. 10.67 tonnes goods of waste material was sent to the final distribution network. The Delivery made to *Goonj* with the Collection of the materials from various sources (including CAOS- contribution) as per Table 1. Additionally CAOS alone, donated 41 car-

Delivery details	Pockets sent	Kgs
Delivery #1/29/09/2009	316	4080
Delivery #2 /3/10/2009	374	3580
Delivery # 3/13/10/2009	20	3100

Table 1 : Delivery details of CAOS to GOONJ

tons full of various materials from its production unit for this event which consisted of 200 kgs of small waste bits, 200 mts of fabric material and 13 cartons of mixed 2000 garments. Micro Details of the material transferred to *Goonj* through “joy of giving week” 2009 are given in Table 2.

Through the “joy of giving week”, CAOS took efforts to achieve its objective of establishing “collaborations for a better future” by contributing to the *Vastra Samman* initiative and other *Goonj’s* initiative such as cloth for work, just a piece of cloth.



Figure 2: Advertisement



Figure 3: Unloading of the Cargo



Figure 4: CAOS Employees handling the collections



Figure 5: Goods Are On Truck

Association with Shuddham

Shuddham is a non-profit, NGO based in Puducherry with the objectives to create a model neighborhood where the government, citizens, students, and other stakeholders collaborate to keep the area clean. CAOS’s step, towards being environmentally responsible, was taken by tying up with NGO *Shuddham* and inviting them to come and conduct workshops within the factory for CAOS members. The aim was to educate every worker about the urgency and value of implementing “resource management” at work and life. 5 workshops were held and a total of 112 workers from CAOS attended them. The details are given in the Table 3.

Results

- Awareness created among workers on how to handle wastages.
- Conscious and Careful usage of materials and their re-usage in all the areas, Operators/staff had come up with the idea of launching the product category - soft toys using the wastages, which has been given the due attention in the product management and marketing.

Date	Attended by	No of People Present
28/3/09	CAOS Admin Staff	17
11/4/09	Department Heads	10
8/5/09	Workers – Sampling & Cutting	23
9/5/09	Operators	55
11/5/09	Operators – Stores & Packing	7

Table 3 : List of Sessions by Suddham to CAOS

- Created the awareness about the re-usage of the fabrics and other materials to create various products such as the sanitary napkins, soft toys etc.,

Response

For the follow up, a small questionnaire was distributed to 15 of the CAOS staff members on September 2009, for them to analyze and evaluate their efforts.

Here are the questions that were asked

- In the month of September, what did you do to contribute to being more eco- friendly?
- How did you contribute to reduce waste in the factory? At home!!
- What were your observations? Your remarks? Difficulties you faced?

Most were happy, to be the part of such a project and were enthusiastic to participate in saving the environment. One of the members wrote:

“I really feel proud that I am one among the others to contribute to bring eco - friendly initiatives of CAOS” and another said, “if everyone starts doing this we can have a clean and eco-friendly city”.

Personal interviews were taken to get their feedback and were explained the value of participating in the endeavour of zero waste in factory. Workers commented that it had enriched their entrepreneurial skills by identifying new areas for innovation to promote sustainability.

In the future, CAOS is planning to intensify its association with several other NGOs and to introduce the new product categories on the sustainable products and take the promotions on eco-awareness through its Eco - friendly store called “Cre’ Art” at Pudhucherry, India, which is an another maiden venture of CAOS to promote the ecological concepts.

Concluding remarks

CAOS is the strong exemplar for the organizations which have taken the sustainability as their focus strategy showing the improvement in the business. It became clear that positive attitude towards improving the working conditions within the firm is a strong enough reason given by CAOS for investing in environmental issues. The other reasons identified were serving the needs and expectations of both the employees and of the clients, improving the image of the firm and the motivation of the employees, clearing the values, vision and strategic direction of the firm. CAOS has a strong vision to develop the entrepreneurial characters of the employees, by making them multi-skilled people and also to take the firm decision not to deviate from the concept of sustainability as the fulcrum of the business. This case study has shown that Indian company has taken the sustainability as the imperative area in its strategy and its core value, that also started delivering and adding the values to the society.

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Why sustainability makes firms great?

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Keywords

Sustainable development, innovative, sustainable product, value chain, Taiwan's textile industry

Abstract

The deterioration of the natural environment is a major global concern. Great opportunities await companies and marketers who can create new solutions that promise to reconcile prosperity with sustainability.

According to the literature review, most of the firms have undertaken the sustainable development would go through 4 stages. This research would focus on three firms from USA and Taiwan with qualitative analysis. To understand that how could they undertake sustainability in a practical way. Two firms from Taiwan, providing high value fabric in the global supply chain, while the American carpet manufacturer holds a different core strategy regarding sustainability development.

Through this, let us examine how firms can change in four stages with the macro-environment and micro-environment. Building a goal of sustainability is also a competitive strategy to firms, as well as a commercial innovation. Moreover, sustainable development is not merely a global vision, but also a local vision.

The result of this study is an attempt to infer that besides the profit and growth, companies and marketers should be more aware of firm's sustainable development in today's capitalist society.

Introduction

Firms have an enormous influence to human and economic development around the world. As we can see the change: the current economic system has placed an enormous pressure on the planet while catering to the needs of only about a quarter of the people on it, but over the next decade twice that number will become consumers and producers (Nidumolu, Prahalad, and Rangaswami, 2009). Also, ethical issues might arise broadly that more people are concerned about if the products can reduce the effect on Earth or not. The change represents the behavior which will totally reverse itself from where it is now. Businesses might create an unpredictable value if they overcome this gap. That means all firms need to prepare for "change" and take this opportunity.

Thus, sustainability might be the right way to increase the market opportunities (Funk, 2003; Faber *et al.*, 2005). Even though, many firms might doubt that the more effort on taking response for sustainability, the more competitiveness will be eroded. They believe it will add costs and can't deliver immediate financial benefits in the short-term.

However, the quest for sustainability is already starting to transform the competitive landscape, which forcing companies to change the way they think about products, technologies, processes, and business models. The key to progress, particularly in times of economic crisis is innovation. (Nidumolu, Prahalad, and Rangaswami, 2009). All the business executives aspire to create and build a new value for customer, and seeking the right way for innovation. The truth is, sustainable development may take firms to the precise way. If firms put in long-term objectives, they might discover that becoming environment friendly will lower costs, because companies end up reducing the inputs they use. In addition, the process generates additional revenues from better products or enables companies to create new businesses. That's what our research is concerned about. To explore cases from Taiwan and USA, we will find the localization act and globalization thought in these firms.

Literature Review

What does sustainability mean to firms?

This section contains two aspects of literature: the concept and definition of sustainability, and the sustainable development changed in firms.

The concepts and definitions of sustainability

The World Commission on Environment and Development (WCED) had defined sustainability on United Nations General Assembly in 1987, which said "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Report of the Brundtland Commission, "Our Common Future," 1987). It explained that the firms which want to make earnings for a long time should build a long-term object with sustainability to content the demand of future.

Also, sustainability is not only limited for long and short term. Deeply thinking, how the sustainability should be after dissecting? Sustainability is often considered in terms of three pillars: environmental, social and economic (ESE). But how can this related to firms? There is a first global index to track the financial performance of leading sustainability-driven companies worldwide: The Dow Jones Sustainability Group Indexes (DJSGI) launched in 1999. "Sustainability", by their definition, is a business approach that creates long-term shareholder value by embracing opportunities and managing risk from economic, environmental and social dimensions.

However, the Triple Bottom Line (TBL) defined the composing of sustainability should be the goal of whole firm, not regarding it just as the territory of managing risk. The goal of sustainability is "people, planet and profit" (Elkington, 1994). Its accounting means expanding the traditional reporting framework to take into account ecological and social performance in addition to financial performance. The term "People" pertains to fair and beneficial business

practices toward stakeholder like labor and the community. "Planet" refers to sustainable environmental practices. "Profit" is the economic value created by the organization after have been redefined. A TBL approach cannot be interpreted as simple traditional corporate accounting profit plus social and environmental impacts unless the "profits" of other entities are included as social benefits.

The sustainable development changed in firms

Nidumolu, Prahalad, and Rangaswami (2009) contend that undertaking sustainable development might go through four distinct stages of change. Each stage faced different challenges and must develop new capabilities to tackle them. The four stages can be a framework for firms.

Stage 1: Viewing compliance as opportunity

Companies can turn serious regulators into allies by leading the way, and to do so before they are enforced. This yields substantial first-mover advantages in terms of fostering innovation. Enterprises that focus on meeting emerging norms gain more time to experiment with materials, technologies, and processes. Contrary to popular perceptions, conforming to the gold standard globally saves companies' money.

Central Challenge	>> To ensure that compliance with norms becomes an opportunity for innovation.
Competencies needed	>> The ability to anticipate and shape regulations. >> The skill to work with other companies, including rivals, to implement creative solutions.
Innovation Opportunity	>> Using compliance to induce the company and its partners to experiment with sustainable technology, materials, and processes.

Table 1: The key of stage1

Stage 2: Making value chains sustainable

The drive to be more efficient extends from manufacturing facilities and offices to the value chain. At this stage, firms work with suppliers and retailers to develop eco-friendly raw materials and components and reduce waste. The initial aim is usually to create a better image, but most corporations end up reducing costs or creating new businesses as well.

Central Challenge	>>To increase efficiencies throughout the value chain.
Competencies needed	>> Expertise in techniques such as carbon management and life-cycle assessment. >> The ability to redesign operations to use less energy and water, produce fewer emissions, and generate less waste. >> The capacity to ensure that suppliers and retailers make their operations eco-friendly.
Innovation opportunity	>> Developing sustainable sources of raw materials and components. >> Increasing the use of clean energy sources such as wind and solar power. >> Finding innovative uses for returned products.

Table 2: The key of stage 2

Stage 3: Designing sustainable products and services -The “Ecofamily”

At this stage executives start waking up to the fact that a sizable number of consumers prefer eco-friendly offerings and that their businesses can score over rivals by being the first to redesign existing products or develop new ones. To design sustainable products, companies have to understand consumer concerns and carefully examine product life cycles. They must learn to combine marketing skills with their expertise in scaling up raw-materials supplies and distribution.

Central Challenge	>>To develop sustainable offerings or redesign existing ones to become eco-friendly.
Competencies needed	>> The skills to know which products or services are most unfriendly to the environment. >>The ability to generate real public support for sustainable offerings and not be considered as “green washing.” >> The management knowhow to scale both supplies of green materials and the manufacture of products.
Innovation opportunity	>> Applying techniques in product development. >> Developing compact and eco-friendly packaging.

Table 3: The key of stage 3

Stage 4: Developing business model

Most executives assume that creating a sustainable business model entails simply rethinking the customer value proposition and figuring out how to deliver a new one. However, successful models include novel ways of capturing revenues and delivering services in tandem with other companies. Developing a new business model requires exploring alternatives to current ways of doing business as well as understanding how companies can meet customers' needs differently. Executives must learn to question existing models and to act entrepreneurially to develop new delivery mechanisms.

As companies become more adept at this, the experience will lead them to the sustainable innovation, where the impact of a new product or process extends beyond a single market.

Central Challenge	>> To find novel ways of delivering and capturing value, which will change the basis of competition.
Competencies needed	>> The capacity to understand what consumers want and to figure out different ways to meet those demands. >> The ability to understand how partners can enhance the value of offerings.
Innovation opportunity	>> Developing new delivery technologies that change value-chain relationships in significant ways. >> Creating monetization models that relate to services rather than products. >> Devising business models that combine digital and physical infrastructures.

Table 4: The key of stage 4

The 4th stage could be applied to any firm. This research would take the 4th stage as a basic framework so that the contrast of sustainable change with firms become more clear. However, to use this framework, we need to consider localization that the situation is different situation in Taiwan.

- * The era of sustainability concept embarked in firms.
- * The sustainability consideration was not originated from Taiwan. Firms in Taiwan started sustainability much later than the USA.
- * Most of Taiwan's textile industry is a follower in global textile marketing, because we didn't have many famous brands.
- * The business to business management.

Taiwan textile firms supplied high value materials, yarns, fabrics and garments to famous brands in U.S.A, Europe and Japan.

Research Method

Our case has three parts. First is background of the firms. Second is to use four stages of sustainable development model Nidumolu, Prahalad, and Rangaswami (2009) to analyze cases. The third part is to see how was the performance of the firms.

Findings and Discussion

1. LIBOLON

Introduction

Established in 1975 in Taiwan, LIBOLON is the world's second largest supplier (The first is BASF in Germany) of nylon chips. They produce 800 tons per day. In addition to nylon chip, their products and services includes of nylon, polyester, varieties of filament fabrics, dyed and finished services. Equipped with 30 years of skills and experience, together with fully automatic production lines, they have their own vertical industry from chip to fabric. The developmental experience of LIBOLON had gone through the pioneering working, rooting and sustainable management for now. The business value is worth US\$750 million in 2009.

Stage 1: Viewing compliance as opportunity -The green certification (1995~2006)

In the beginning of green consciousness in LIBOLON, the only regulator that they needed to conform to was the client's demand. They viewed the consumer driving as antagonistic regulators. Therefore, they need to get the green certifications like Oeko-Tex 100 Standard and OHSAS18001 to follow client's need.

A lot of firms in Taiwan moved to China or South Asia in 1990. The consideration was low labor costs. Nevertheless, the President of LIBOLON thinks instead of moving factory overseas, there have more important things like quality, technical and function. Under the above consideration, they moved their main mass marketing from China and South Asia to Japan market. The Japan market is very famous for their serious demand of high quality. If LIBOLON could export to Japan successfully, they could have the ability to satisfy more customers in the international market. LIBOLON offered the products with high quality to meet the Japanese customer's criteria. They follow Japan market as a beginning with sustainable development.

During this stage, LIBOLON contrary to popular perceptions of moving their factory to China or South Asia, they focused on meeting emerging norms to gain more time to experiment with materials, technologies, and processes. Conforming to the gold standard globally actually saves companies money. They have the ability to anticipate and shape regulations and have the skill to work with Japan companies as a great preparation of the next stage.

Stage 2: Making value chains sustainable -The eco policy (2000~2008)

LIBOLON's president thought that the Taiwan's textile industry had a very serious problem about over supply, which could cause over pricing of materials and the fall down of consumer product price. Also, industries could bring pollution to the environment. Under this situation, President Li sets the eco policy for saving energy and cuts down the costs.

They lay focuses upon the two concepts, "producing more from less" and "upgrade resource productivity," to reduce the material and energy intensity of commodities as new eco policy. The drive to be more efficient extends from manufacturing facilities to offices. And they dedicated to get rid of the consumption of unnecessary raw materials, processes, and energy, also producing the lowest quantity of waste stuff.

Because LIBOLON is a vertical factory from filament to fabric, there is no serious problem about the quality control in production. The following table explains the case of reduce waste and energy saving in weaving and dyeing and finishing section.

	□	□	☆	#	◎	△		□	□	☆	#	◎	△		□	□	☆	#	◎	△
From Chip to Yarn	a	a	a	a	a	a	Drying	a	a			a		Desiccating	a				a	
Warping	a	a	a	a			Inspection		a	a	a			Drying	a	a			a	a
Warp sizing	a	a	a	a		a	Package		a	a	a			Heat Setting	a	a	a	a	a	
Beaming	a	a				a	Handling				a			Inspection			a	a		
Drawing-in		a					Deposit greige				a			Calendar	a	a				
Deposit weaver's beam					a		Unrolling		a		a			Coating	a	a	a	a		a
Weaving	a	a		a			Desizing	a	a	a		a	a	Inspection			a	a		
Cloth collection part		a	a				Dyeing	a	a	a		a	a	package			a	a		

Figure 1: The reduce waste and energy saving process

■ Value-added process □ Non-value-added Process

● Improvement Methods :

- Process condition reasonable - △Recycle the heat source
- Minimum the raw material/half-finished product/end product consumes energy
- ☆ Minimum the relying for vice-material, the chemical, agent and package material
- # Recycle the vice-material, the chemical, agent and package materia
- ◎ The unit output consumes the energy rate minimum

They found that the weaving-dyeing and finishing process system by above graph

- ◆ Value added's part just accounts minimum, approximately composes the process 35%.
- ◆ The traditional cost saving aim to the fabric value added part only
- ◆ The new Ideological model is minimum the non-value added part

Making their value chains sustainable actually let them cut costs, while building a positive image to consumers. Also, the reform of their value chain in this stage result in finding innovative uses.

Stage 3: Designing sustainable products and service -The "Ecofamily"

Based on the reform of their value chain, LIBOLON has developed two series of eco-friendly products, named of "Ecoya®" and "RePET®". RePET® is a new recycling polyester yarn made from the used PET bottles. LIBOLON has developed the latest recycling technology to reuse the wastes, avoiding throwing them into landfills, which causes the environmental burden. It will save a huge amount of energy and reduce CO₂ emissions due to curtail of many processes of manufacturing the petrochemical material.

LIBOLON has developed a new process by which various specific pigments could be injected into the polymer during the spinning process to make various colored yarn namely Ecoya®.

(ton/104 yards)	De-sizing process	Dyeing process	Sum total
Regular fabrics	0.903	4.866	5.769
Ecoya®	0.903	1.24	2.143
Improvement level	0	3.626	2.626(62.85%)

Figure 2: Comparison of the CO₂ emissions between regular fabrics and Ecoya®

With the emphasis to the life cycle concept actually reflected in their green products. With the advantage of vertically integrated manufacturing system they own, they have the ability to scale up both supplies of green materials and the products manufacturing.

Stage 4: Developing business model -The ecoflying plane (2008~)

Starting in 2008, in order to pursue the product design for environment and achieve the concept of product life cycle. LIBOLON launched "EcoFlying Plan". The goal was to realize the Concept of "Cradle to Cradle". The first stage was from 2008 to 2010. To classify the wasted yarn and grey, they abandoned yarn in warping and weaving process, the grey and colored goods cloth ends from dyeing process and so on, rather using the recycling technology which developed successfully by LIBOLON, to re-polymerize and drawing yarn, or utilize the compound technology, mix the abandoned wood to make WPC(Wooden Plastic Products), and reduce the impact on trees.

The second stage estimated to be launched after 2010. The final product will integrate at the appointed time for the recycling regeneration system, enabling complete recycling thus making great strides forward.

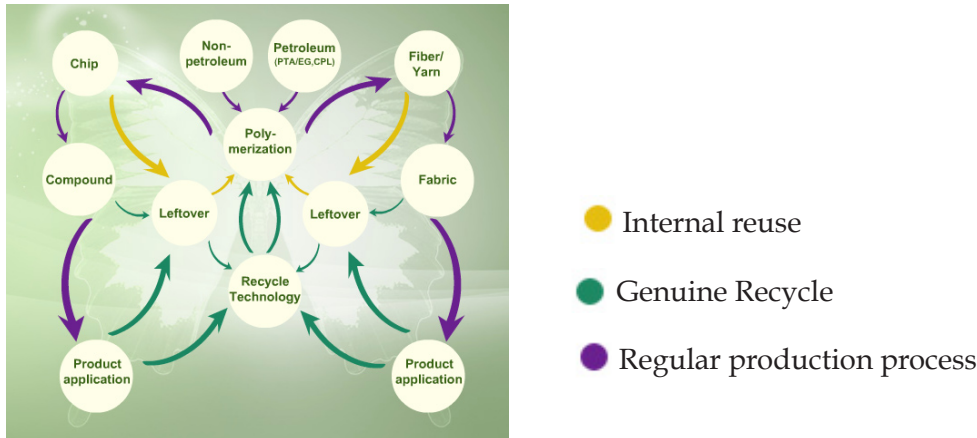


Figure 3: Business model in LIBOLON

The new business model here is actually a novel way to the textile industry. They rebuild a whole new manufacturing process for the new product. And the design of WPC would content with to the furniture industry. It was a new method to meet the demand of green material to another industry. Also, they enlarged the range of marketing and created a new advantage in competition. They totally changed the basis of competition and ways of capturing revenues.

2007	Avoid using disposable tableware – reduced 52.6 tons of trash Saved 2105 tons of packaging cartons in the whole factory Reused 56324 pallets in the whole year
2007 to the First Half of 2008	Saved energy of 12,000,000 watts in the entire factory area, equivalent to reducing 7,656 tons (*1) of CO2 emission Average weight of waste sent to the landfill has reduced by 63.5%. In the effort to reduce the raw material density, reduction on industrial discard's output which from attrition rate 0.4%~1.5% in each step.

Table 5: The performance of LIBOLON

2. Everest Textile

Established in 1988, Everest Textile is a vertically-integrated textile company in Taiwan, specializing in yarn spinning, twisting, weaving, dyeing, finishing, printing, and coating/laminating after treatment and process.

They manufacture filament and staple textiles combining high technology with fashion concept and have long specialized in the development of innovative products with high values-added that help create value for customers and devote to sustainability model. Currently Everest has three production plants. It is in Taiwan, Shanghai, and Bangkok, as well as sales & marketing all around the world.

Stage 1: Viewing Compliance as Opportunity - Green certification (1997~2007)

In the first stage, Everest had been working on 'oeko-tex' certificate since 1997. The oeko-tex standards 100 environmental certification had been passed in that time. To ensure that processes and outputs meet the high-level health and environmental standards, they applied the core technology of bluesign® to input, output and process in order to enhance the resource productivity and saving energy. They became the first company in Asia to receive bluesign® certification for coating lamination.

To follow the most serious norms, Everest actually turn them into a great opportunity. They did so because of the client's demand in the beginning. Later they found this yields substantial first-mover advantages in terms of fostering innovation-green products. Although the sustainable development was not the main target in this stage, the green certifications would build advantage to them. Because of that they can be one of a leader with sustainable development in the Taiwan textile industry.

Stage 2: Making value chains sustainable&

Stage 4: Developing business model- Everest Sustainability Model (2007~)

In this stage, the environment issue became the whole company's responsibility. The origin of this idea came from when the President of Everest -Qing Lai Ye visited an energy-saving factory in China. He was deeply impressed by that company which could use technical approach to overcome the energy saving. Low cost investment could get the most efficient product. Later, President Ye immediately designed and started the Everest Sustainability

Model (ESM) within one month. They had embarked on a series of strategic actions on "saving energy, environmental protection and love for earth" and without any delay to promote it.

However, In Everest Textile, they're developing acceptance of new economic concepts to reflect all costs, re-design of products, value chain, and a business model in ESM. That's why we couldn't discern stage '2' separately.



Figure 4: Everest Sustainability Model

And then, they supported the 168 Environmental Declaration initiated by the Taiwan Business Council for Sustainable Development(BCSD-Taiwan) and realized their commitment to sustainable development by combining the declaration to the ESM. In Environmental Declaration 168, Everest promised to enforce five physical actions within one year. The five actions considered to be making value chain into sustainable.

(1) 7Rs for green life

Everest started the 7Rs from the daily life and work environment in order to reduce waste. These 7Rs are: rethink; redesign of products or processes; reduce; reuse of resources in the daily life; promoting cherished resources and extending the life of objects by reusing them;

recycle; recover; and repair. In addition to saving water, energy, fuel, raw materials and dyestuffs, chemicals, and auxiliaries, they also promoted saving manpower, saving time, and saving administrative resources. They created an accumulative annual benefit to over US\$5 million.

(2) Design for Environment (DfE)



In addition to function, cost, quality and marketing, their design for environment considers the environmental impacts of products at different stages of their lifecycles in order to integrate environmental factors to product design and development based on product lifecycle and the present environmental management system. The evaluation includes R&D and availability of raw materials, pre-preprocessing and manufacture, packaging, distribution and transportation, use and reuse, and recycle and disposal.

Table 4: Life-cycle Assessment of DfE

(3) Green production

Performance indicators were established to finish data quantification in order to compare and pursue cleaner production efficiency. At present, assessment of wastewater treatment, boiler system, lighting and occupational safety and health has been completed; and the feasibility survey of improvement recommendations is in progress by all departments in order to establish an improvement plan as a reference for the future performance analysis.

Moreover, they also paid attention to the overall cleanliness of the plant site. They established the 5S Promotion and Management Procedures, i.e. Structuralize, Systematize, Sanitize, Standardize and Self-discipline in order to offer comfortable working place.

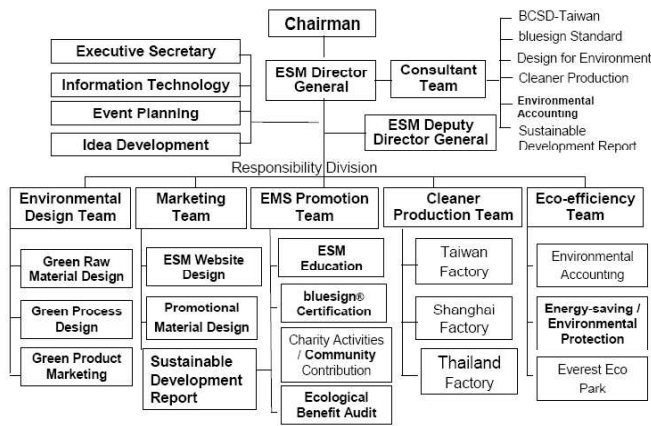
(4) Environmental Accounting

They implemented the environmental accounting system and established the Everest eco-efficiency indicators. At present, environmental activities are divided into some categories (organizational operating and environmental costs, upstream and downstream association cost, environmental management cost, R&D cost, social activity cost, environmental loss cost). New IDs were added to investment expenditure and current expenditure to ensure that the costs of pollution prevention, global environmental protection and resource recycling are disclosed in the operating cost.

After making reference to the WBCSD and OECD definitions on eco-efficiency, we have established four eco-efficiency indicators corresponding to the correlations between sales turnover and water resource, heavy-oil, electricity consumption and waste, and the most indicative dyeing and finishing plant water to fabric ratio (water consumption for producing every ton of fabric) according to the input and output general formula: eco-efficiency indicator = product and service values/environmental impacts in order to quantify eco-efficiency.

(5) Turning wastes into gold

By combining with environmental construction materials, recycled plant effluents and solar energy streetlamps, they built an environmental and ecological park for employees to spend their leisure time in order to let them feel the organization’s determination in environmental protection and to motivate customers and suppliers on the supply chain to understand and have a concern for ecology. This way, from employees to community, we can make a step forward in protecting the resources on earth.



On other hand, Everest Textile have consist a project team with ESM. The teams have include of the Design for Environment, Cleaner Production, Marketing and Promotion, Eco-efficiency, and ESM Promotion teams. President Yeh also hired consultants and introduced related technologies from home and abroad to promote together all projects plans.

Figure 5: ESM Global Organizational Structure

The execution of ESM not only could bring great image to their customer, but also have a positive feedback for them. They actually saved the energy and captured revenues in a new way. In other words, executives must learn to question existing models and to act entrepreneurially to develop new delivery mechanisms. President Ye has considered the sustainable development as new basis of competition.

Stage 3: Designing sustainable products and service

Unlike LIBOLON, Everest has 6 product lines, including recycled, organic and sustainable materials and green, environmental post-processing products. Conforming to the client’s demand let Everest has more choice of green products than others and actually gain more orders.

Winning the Performance of Excellence in Continual Improvement 2007 in Environmental
Participate in the Footprint Chronicles™ by Patagonia, a world-leading outdoor brand.
In terms of the purchasing cost of dyestuff and auxiliaries, saved over US\$3.3 million a month from process adjustment and fees control.
The average water-to-fabric ratio has reduced by 40% of the same period last year, and the effect is more significant in plants in China.

Table 4: The performance of Everest

3. Interface Inc.

Introduction

Interface manufactures carpets, textiles, chemicals, architectural products and access flooring systems. The company supplies more than 40 percent of all new carpet tiles fitted in commercial buildings world-wide. A truly global company, it has 27 manufacturing sites and 37 offices located across the UK, United States, Canada, Northern Ireland, Netherlands, Australia and Thailand, and with retail outlets in more than 110 countries.

Stage 1: Viewing Compliance as Opportunity

Interface aims to be the first company that, by its deeds, shows the entire industrial world what sustainability is in all its dimensions - people, process, product, place and profits, and in doing so they will become restorative through the power of influence. In case of that, they could gain more time to experiment with any innovation in manufacture and products. The first-mover advantages in terms of innovation actually a leader of global marketing.

Stage 2: Making value chains sustainable-

In Interface, they made their value chain into a sustainable cycle(Figure 6). Including: the eliminate waste and emissions generated during manufacturing processes. Eliminate product waste sent to landfills or incinerators at end of useful-life. Prevent toxic emissions upstream - what comes in will go out. Eliminate harmful emissions from transportation (employee commutes, business travel, supplier shipments, product shipments - all transportation in the business cycle). Supply energy from renewable sources (solar, wind, biomass, etc.)

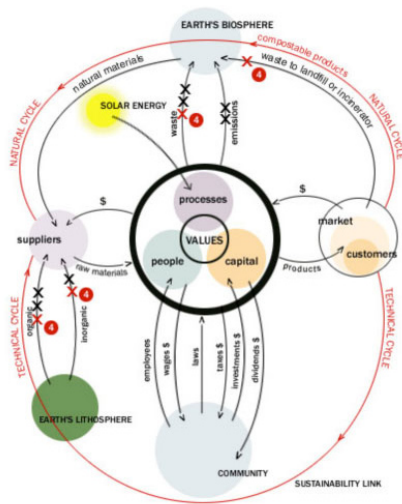


Figure 6: The value chain cycle in Interface

Stage 3: Designing sustainable products and service

Stage 4: Developing business model

The innovation of this stage, Interface has designed Evergreen Services Agreement (ESA)--a lease agreement that provides would-be carpet purchasers with comprehensive floor-covering services (color, texture, warmth, beauty, acoustics, and safety). Under ESA, Interface retains ownership of all carpet material, thereby ensuring proper recycling and shifts emphasis from selling products to providing service, ensure that price reflects full costs, increase market share at the expense of inefficient competitors. This lease service is not only a simple service but also changed the business model of Interface. Because the material supplier was also from their customer, we conclude of two stages together. The sustainable design has provided an unexpected wellspring of innovation. In doing so, it's convenient to the consumer that didn't need to settle the carpet once they don't want it. And Interface could control the recycle material for carpet. Most of the consumers didn't think about the priority of their products. Interface really produced a new way to meet customer's need and totally changed the basis of competition.

Conclusion

Through the comparison of Interface-the leader of sustainability in US, with two cases in Taiwan, we could find the firm's strategic planning of sustainable in the following four stages.

• Stage 1: Viewing Compliance as Opportunity

Besides earning profits, Interface made the sustainability into the dominant responsibility. And they set a target full of meaning to the world: Do not use any petroleum from earth. Taiwan is a follower in the global issue. In the beginning of sustainable development, except turning the regulators in to a chance, firms should catch the trends not only in their own industry, but also look at their marketing on a global scale. So that firm's couldn't be a follower in sustainable development. It's totally not a conflict between business and sustainability, because all the global concern would concentrate on the eco-friendly issue.

• Stage 2: Making value chains sustainable

Firms in this stage should reconcile their stakeholder. When firm's talk about sustainable target to their stakeholder, they can't just emphasize the energy saving. On the contrary, they should focus on the value change. The value here is about the real concern for our future. In doing so, all the members in the value chain would take sustainability as their own responsibility and think about how to produce the value at the same time.

• Stage 3: Designing sustainable products and service

All three cases designed their products with the reuse of other products. In doing so, firms should be concerned about two concepts: Marketing and after use. Marketing is about the culture, social, and consumer behavior to the target market, which firms need to make value

for consumers. Also, it depends on how much consumers are conscious about the eco-friendly concept for the products to their body and the environment. Second, after use means firms should have an idea for the products with after use when they shape their design. Like the Interface case, the lease service. Their products design actually can't be a trash in the future.

• Stage 4: Developing business model

Developing to this stage, it represents that firms found an innovative way to gain more revenues. It has totally different performance in this stage. LIBOLON in this stage has changed their target to another industry. Interface has tried to change the consumer behavior. By attaining and identifying products and service, and settle the environment problem, consider the sustainable development seriously, firms need to build their own business in a more efficient and sustainable way. Developing business model should be design a "new one", not correct "old one". Firms should avoid thinking in the framework as usual so that can help control the marketing change.

Making success in sustainable development is really a long way to every firm, which should deeply care about every detail. It is as difficult as building a brand. Taiwan's textile firms have been the main global supplier in international textile market, all textile firms really need to address sustainability in serious manner. This research has found that sustainability offers in a way of strategic opportunity to build value by costing reductions and spurs firms to innovational change. And knowing there is a dominant influence to the commercial value with sustainable development. Understanding this, it is not faraway dream that Taiwan's firms could have a foresight as "Interface" and fully using local advantage of sustainable development so that they could be seen in global market.

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