# The Study of Consumer Sensibility on Apparel Texture Image regarding Marketing Channels[+]

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## Abstract

Quick Response based Mass-Customization can be produced and distributed customized goods and services on mass basis in apparel e-business. Because consumers cannot touch and feel the apparel products in e-business, they tend to have the negative buying behavior.

The purposes of this study were to analyze factors of texture image, and to investigate the differences of consumer sensibility on texture image of apparel products based on different marketing channels (on-line/off-line). Two types of questionnaires for on-line and off-line were used to assess consumer sensibility on apparel fabric. The 8 swatches were selected based on the previous literatures. 202 returned questionnaires for each type (on-line/off-line) were analyzed by t-test, mean and standard deviation with SPSS 10.0.

The result of this study was showed that there were partially significant differences on consumer sensibility on texture image of apparel products between on-line and off-line. In case of corduroy, consumers perceived more high-class image under on-line than off-line. In case of taffeta, consumers perceived more thin and dense image under off-line (traditional marketing channel) than on-line (e-commerce). In case of denim, consumers perceived more thin and natural image under off-line than on-line. In case of organza, consumers perceived more natural image under on-line than off-line. In case of satin, consumers perceived more natural image under on-line than off-line. In case of chiffon, consumers perceived denser image under on-line than off-line. In case of velvet, consumers perceived thinner image, higher-class image, and more natural image of texture sensibility under on-line than off-line. In case of single jersey, consumers perceived higher-class image, and denser image of texture under on-line than off-line.

**Key words**: marketing channels, apparel texture image, consumer sensibility

## I. Introduction

Retail innovation has been spread rapidly all over the world. E-tailer (Electronic + Retailer) has been emerged in Internet cyber market. E-business has been regarded as new type of marketing channels and has been growing rapidly. E-business based on Internet provide quite different marketing environment with two-way communication and individualized inter-

communication from traditional marketing channel (Shin & Lee, 2002).

Especially, textile/apparel e-business has been increased sales volume steadily. There has been 48.1% increased sales volume through apparel e-business. But apparel Internet shopping mall has some problems due to some characteristics of apparel as high involvement product characterized high-touch, and high-culture (Shin & Cho, 2002). As high technology develops fast, consumers want more emotional sensibility as a human being from the products what they want. So, nowadays high tech and human touch were melted together in modern culture. Consumers are having difficulty on recognizing product quality such as fabric, color, and size through Internet buying (Lee, 1998).

Also, a new type of shopping behavior is emerging such as Quick Response based mass customization in e-business (Shin, 1999; 2001). Consumer would make better decisions if they had the right information on the attributes of apparel products. If they cannot get the required information readily, they will make wrong choices because of misjudgment. The improper provision of product information may therefore lead to consumer claims on apparel products, not only incurring monetary loss in the short run but also creating a negative brand image in the long term (Shin, 2000).

Previous researches have been focused on handle of fabrics (Kim & Na, 1999; Hong, 1994; Kim, 1999), and physical property of fabric (Davis, 1987), and development of new textile materials (Kang, 1999). Very little verifying research has been done on marketing channels affecting with consumer sensibility on apparel texture image for mass-customization in e-commerce. Therefore, the purposes of this study

were to analyze factors of texture images, and to investigate marketing channels affecting with consumer sensibility on apparel texture image under on-line/off-line market environment.

## II. Methodology

### 1. Selection of fabric

For this research, 8 textile swatches were selected by the studies of Kim (2000), and Chu (2000) with 8 axes on textiles: RUSTIC-FLAT, HARD-SOFT, DRY-WET, THIN-THICK.

One representative swatches per 1 axis were selected from the previous researches (I-biznet.com, 2000; samsungdesign.net, 2000): corduroy for rustic, satin for flat, taffeta for hard, chiffon for soft, organza for thin, single jergey for thick, denim for dry, and velvet for wet axis (Table 1).

### 2. Research development

The purposes of this study were to analyze on texture image, and to investigate marketing channels with consumer sensibility on apparel

<Table 1>  Textile swatches

| Name of fabric | Fiber contents | Method of fabrication |
|---|---|---|
| satin | polyester 100% | twill weave |
| denim | cotton 100% | plain weave |
| chiffon | polyester 100% | plain weave |
| velvet | polyester 100% | pile weave |
| corduroy | cotton 100% | pile weave |
| organza | polyester 100% | plain weave |
| taffeta | nylon 100% | plain weave |
| single jersey | wool 100% | knitting |

texture image under e-commerce and traditional marketing channel. Based upon I-biznet research, Internet using rate of age twenties and thirties were 95.2%. Therefore random sampling was done by age from twenties to thirties, female and male consumers for this research. To measure texture sensibility on textile image generated by CAD with programming HTML of scanning textile products, we developed questionnaire based on the studies of Samsung Fashion Institute (2000), and Kim (1996). Computer setting environment was 1280 (1024 resolution with 96 DPI (dots per inch) for this experiment.

Developed questionnaires attached swatches for off-line were sent by mail, and developed questionnaires for on-line were distributed through internet.

Measurement items for texture sensibility with 7 point Semantic Differential Method are as follows: glossy, soft, transparent, thin, sandy, strong, nice, dense, comfortable, high-class, modern, practical, sexy, elegance, refreshing, plain, flat, natural, smooth, and warm.

The analyses of 202 questionnaires were conducted by frequency, mean, and standard deviation, and t-test using SPSS 10.0.

## III. Results and Discussion

### 1. Factor analysis on the consumer sensibility on apparel texture image

There were five factors of texture sensibility such as thin image, high-class image, soft image, natural image, and dense image from factor analysis.

### 2. Texture image of corduroy on RUSTIC axis

In case of corduroy, there were significant

<Table 2> Factor analysis for texture image

| Texture sensibility | Factor loading |
|---|---|
| Factor1. thin image | |
| thin | 0.85 |
| refreshing | 0.83 |
| cool | 0.77 |
| transparent | 0.75 |
| flat | 0.60 |
| Eigen value : 5.05 | |
| % of variance :25.23  Chronbach's $\alpha$ : 0.70 | |
| Factor2. high class image | |
| high class | 0.85 |
| nice | 0.79 |
| elegant | 0.75 |
| modern | 0.57 |
| sexy | 0.45 |
| Eigenvalue : 3.47 | |
| % of variance:17.33  Chronbach's $\alpha$ : 0.75 | |
| Factor 3. soft image | |
| soft | 0.84 |
| satin like | 0.83 |
| smooth | 0.60 |
| Eigenvalue : 2.10 | |
| % of variance: 10.50  Chronbach's $\alpha$ : 0.63 | |
| Factor 4. natural image | |
| natural | 0.78 |
| plain | 0.72 |
| comfortable | 0.58 |
| practical | 0.53 |
| Eigenvalue : 1.44 | |
| % of variance: 7.19  Chronbach's $\alpha$ : 0.65 | |
| Factor 5. dense image | |
| dense | 0.77 |
| strong | 0.56 |
| Eigenvalue : 1.10 | |
| % of variance:5.48  Chronbach's $\alpha$ : 0.53 | |

differences on high-class image and natural image of texture sensibility regarding marketing channels. Consumers perceived more natural image under off-line (traditional marketing channels) than on-line (e-commerce). Whereas, consumers perceived more high-class image under on-line than off-line. As a whole, consumers recognized corduroy as dense image and natural image.

## 3. Texture image of taffeta on HARD axis

In case of taffeta, there were significant differences on thin image and dense image of texture sensibility regarding marketing channels. Consumers perceived more thin and dense image under off-line than on-line. As a whole,

<Table 3> Texture image of corduroy regarding marketing channels

M(SD)

| Factors | Marketing channels | | T-value |
|---|---|---|---|
| | on-line | off-line | |
| Thin image | 2.99(1.10) | 2.93(0.67) | -0.71 |
| High class image | 4.34(0.99) | 3.92(0.80) | -4.68*** |
| Soft image | 3.54(1.14) | 3.48(0.84) | -0.58 |
| Natural image | 4.08(1.15) | 4.62(1.12) | 4.76*** |
| Dense image | 5.30(1.43) | 5.27(1.21) | -0.24 |

***P<0.001, 1 : very not do so, 7 : very do so

<Table 4> Texture image of taffeta regarding marketing channels

M(SD)

| Factors | Marketing channels | | T-value |
|---|---|---|---|
| | on-line | off-line | |
| Thin image | 3.69(0.87) | 3.87(0.65) | 2.37* |
| High class image | 4.62(1.22) | 4.46(0.81) | -1.55 |
| Soft image | 4.58(0.72) | 4.49(0.73) | -1.25 |
| Natural image | 3.91(1.07) | 3.83(0.90) | -0.74 |
| Dense image | 4.93(0.93) | 5.34(1.89) | 2.82** |

**P<0.01, *P<0.05, 1: very not do so, 7: very do so

consumers recognized taffeta as dense image, soft image, and high-class image.

## 4. Texture image of denim on DRY axis

In case of denim, there were significant differences on thin image and natural image of texture sensibility regarding marketing channels. Consumers perceived more thin and natural image under off-line than on-line. Consumers recognized denim as dense image for on-line, but as natural image for off-line representatively.

## 5. Texture image of organza on THIN axis

In case of organza, there were significant differences on thin image, soft image, and natural image of texture sensibility regarding distribution channels. Consumers perceived more thin and soft image under off-line than on-line. Whereas, consumers perceived more natural image under on-line than off-line. As a whole, consumers recognized organza as thin image, high-class image, and soft image.

## 6. Texture image of satin on FLAT axis

In case of satin, there were significant

<Table 5> Texture image of denim regarding marketing channels

M(SD)

| Factors | Marketing channels | | T-value |
|---|---|---|---|
| | on-line | off-line | |
| Thin image | 3.69(0.83) | 4.05(0.66) | 4.80*** |
| High class image | 3.80(1.01) | 3.65(0.93) | -1.52 |
| Soft image | 3.40(0.78) | 3.52(0.78) | 1.59 |
| Natural image | 4.47(0.76) | 4.84(0.97) | 4.30*** |
| Dense image | 4.78(1.39) | 4.76(1.14) | -0.16 |

***P<0.001, 1: very not do so, 7: very do so

differences on thin image, soft image, and natural image of texture sensibility regarding distribution channels. Consumers perceived more thin and soft image under off-line than on-line. Whereas, consumers perceived more natural image under on-line than off-line. Representatively, consumers recognized satin as high-class image for on-line, but as soft image for off-line.

### 7. Texture image of chiffon on SOFT axis

In case of chiffon, there were significant differences on thin image, and dense image of texture sensibility regarding marketing channels. Consumers perceived thinner image under off-line than on-line. Whereas, consumers perceived

<Table 6> Texture image of organza regarding marketing channels

M(SD)

| Factors | Marketing channels | | T-value |
|---|---|---|---|
| | on-line | off-line | |
| Thin image | 4.81(1.03) | 5.05(0.75) | 2.78** |
| High class image | 4.32(1.17) | 4.50(0.98) | 1.73 |
| Soft image | 4.26(0.96) | 4.89(0.99) | 6.49*** |
| Natural image | 4.25(1.03) | 3.72(1.18) | -4.91*** |
| Dense image | 3.61(1.65) | 3.47(1.56) | -0.88 |

***P<0.001, **P<0.01, 1: very not do so, 7: very do so

<Table 7> Texture image of satin regarding marketing channels

M(SD)

| Factors | Marketing channels | | T-value |
|---|---|---|---|
| | on-line | off-line | |
| Thin image | 3.86(0.87) | 4.13(0.57) | 3.64*** |
| High class image | 4.80(1.31) | 4.56(1.25) | -1.86 |
| Soft image | 4.49(1.05) | 5.01(0.73) | 5.80*** |
| Natural image | 3.54(1.12) | 3.33(0.75) | -2.11* |
| Dense image | 4.74(1.06) | 4.57(1.29) | -1.39 |

***P<0.001, **P<0.01, *P<0.05, 1: very not do so, 7: very do so

denser image under on-line than off-line. Representatively, consumers recognized chiffon as soft image for on-line, but as thin image for off-line.

### 8. Texture image of velvet on WET axis

In case of velvet, there were significant differences on thin image, high-class image, soft image, natural image, and dense image regarding marketing channels. Consumers perceived thinner image, higher-class image, and more natural image of texture sensibility under on-line than off-line. Whereas, consumers perceived softer image, and denser image under off-line than on-line. Representatively, consumers recognized velvet as high-class image for on-line, but as soft image for off-line.

### 9. Texture image of single jersey on THICK axis

In case of single jersey, there were significant differences on high-class image, soft image, natural image, and dense image regarding marketing channels. Consumers perceived higher-class image, and denser image of texture sensibility under on-line than off-line. Whereas,

<Table 8> Texture image of chiffon regarding marketing channels

M(SD)

| Factors | Marketing channels | | T-value |
|---|---|---|---|
| | on-line | off-line | |
| Thin image | 4.61(0.80) | 5.15(0.80) | 6.77*** |
| High class image | 4.53(1.11) | 4.45(0.89) | -0.89 |
| Soft image | 4.66(0.80) | 4.64(0.90) | -0.26 |
| Natural image | 3.47(0.75) | 3.57(1.11) | 1.07 |
| Dense image | 3.70(1.01) | 3.25(1.03) | -4.45*** |

***P<0.001, 1: very not do so, 7: very do so

<Table 9> Texture image of velvet regarding marketing channels

M(SD)

| Factors | Marketing channels | | T-value |
| --- | --- | --- | --- |
| | on-line | off-line | |
| Thin image | 3.91(0.82) | 3.55(0.77) | -4.56*** |
| High class image | 4.60(1.01) | 4.26(0.92) | -3.58*** |
| Soft image | 4.09(0.88) | 4.63(0.63) | 7.01*** |
| Natural image | 4.31(0.79) | 4.09(0.94) | -2.55** |
| Dense image | 4.29(1.35) | 4.93(1.09) | 5.25*** |

***P<0.001, **P<0.01, 1: very not do so, 7: very do so

<Table 10> Texture image of single jersey regarding marketing channels

M(SD)

| Factors | Marketing channels | | T-value |
| --- | --- | --- | --- |
| | on-line | off-line | |
| Thin image | 3.21(0.74) | 3.34(0.71) | 1.88 |
| High class image | 4.35(1.10) | 4.09(0.74) | -2.79** |
| Soft image | 3.44(0.63) | 3.60(0.78) | 2.27* |
| Natural image | 4.85(1.19) | 5.18(1.11) | 2.91*** |
| Dense image | 4.28(1.16) | 4.03(1.23) | -2.12* |

***P<0.001, **P<0.01, *P<0.05, 1: very not do so, 7: very do so)

consumer perceived softer image, and more natural image of single jersey under off-line than on-line. As a whole, consumers recognized single jersey as natural image, and high-class image.

## IV. Conclusion

Consumer's buying behavior depends on look-and-see, and touch-and-feel of fabric in Internet apparel shopping mall with Mass-Customization based on QR system, Therefore, the purpose of this study were to analyze factors of textile image, and to investigate the consumer's texture image under on-line/off-line environment regarding marketing channels.

There were significant differences partially on

consumer sensibility on texture image from 8 representative swatches based upon 8 axes.

In case of corduroy, consumers perceived more natural image under off-line (traditional marketing channels) than on-line (e-commerce). Whereas, consumers perceived more high-class image under on-line than off-line.

In case of taffeta, consumers perceived more thin and dense image under off-line than on-line.

In case of denim, consumers perceived more thin and natural image under off-line than on-line.

In case of organza, consumers perceived more thin and soft image under off-line than on-line. Whereas, consumers perceived more natural image under on-line than off-line.

In case of satin, consumers perceived more thin and soft image under off-line than on-line. Whereas, consumers perceived more natural image under on-line than off-line.

In case of chiffon, consumers perceived thinner image under off-line than on-line. Whereas, consumers perceived denser image under on-line than off-line.

In case of velvet, consumers perceived thinner image, higher-class image, and more natural image of texture sensibility under on-line than off-line. Whereas, consumers perceived more soft image, and dense image under off-line than on-line.

In case of single jersey, consumers perceived higher-class image, and denser image of texture sensibility under on-line than off-line. Whereas, consumers perceived softer image, and more natural image under off-line than on-line.

Therefore, apparel firms cooperating QR based Mass-Customization in e-business have to pay attention to the differences on consumer sensibility on texture image of on-line apparel products from those of off-line. Especially, there were differences of consumer sensibility on "thin",

"high class", and "natural" texture image between traditional shop and e-commerce. Velvet, satin, and organza were perceived more natural under on-line than off-line. Single jergey, velvet, and corduroy were perceived higher class under on-line than off-line. Denim and taffeta were perceived thinner under off-line than on-line.

There were some limitation of this study on not much difference of consumer perceptions between on and off-line test results depending on some textile swatches. Further study will be done for more various apparel textiles, and for regarding consumer buying behavior related with these different texture sensibility due to different marketing channels.

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