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Testing of Disconfirmation of Expectation Paradigm among Apparel Consumers

Eunju Ko*

< Abstract >

The purpose of the research is (1) to identify the usage of Quick Response technologies (QRT) by apparel retailers and the improvement of store attributes by QRT, and (2) to test a conceptual model which examines Consumer Satisfaction(CS) with apparel retail stores. A convenience sample of 32 retailers and 200 apparel consumers participated in the survey research. The most used technology is sales captured at the item level and the store attribute most improved by QRT is fast turnaround of goods. Disconfirmation(DC) (i.e., QRT based, non-QRT based attributes) had significant effects on CS with apparel retail stores. DC of QRT based attributes (e.g. reduced stockout) have more influence on CS than DC of non-QRT based attributes (e.g., location of store).

I. INTRODUCTION

Apparel retailing has become an intensely competitive market. Apparel products can be purchased from sources as varied as superstore discounters to small owner-operated boutiques. The choice of apparel products ranges from low cost 'knock-off' garments to custom designed and individually produced items. When selecting a place to shop, the apparel shopper has a myriad of choices: in price, in store, and in product. This market may provide excitement and variety for the consumer, but it provides competitive pressures in all market segments for the retailer. To achieve notice and to maintain a customer base, retailers are searching for strategies to develop a market

* Assistant Professor, Dept. of Clothing Textiles, Changwon National University

uniqueness. One approach for retailers is to excel in consumer satisfaction.

Retailers are developing strategies to deliver satisfaction through improved store attributes while maintaining an efficient and effective store operation. For providing higher consumer satisfaction and improving the relationship between channel members, use of QR technologies(QRT) are suggested in apparel retailing industry. QR is defined as a new business strategy to optimize the flow of information and merchandise between channel member to maximize consumer satisfaction. This strategy is accomplished by close working partnerships and new technologies(e.g., EDI, bar coding) in manufacturing, distribution, and retailing”(Ko & Kincade, 1998). QRT includes a variety of activities such as EDI, bar coding, and point of sale data capture. The impact of QRT on some store attributes (e.g., decreased stockout rate) has been documented (Fiorito, 1993); however, relationships between QRT and other attributes are not so clearly defined (e.g., electronic data interchange, sharing information). Although consumer satisfaction (CS) is an important issue, little empirical research exists related to CS with apparel retail stores, and even less information is available about the relationships of CS to QRT. Retailers are making large capital investments in technologies to implement QR (Voluntary Interindustry Communication Standards [VICS], 1989). Understanding usage of QRT and its impacts on store attributes of apparel retailers is critical to evaluate results of strategic planning. The purpose of the research is (1) to identify the usage of QRT and the improvement of store attributes by QRT, and (2) to test a conceptual model which examines CS with apparel retail stores.

If a retailer's strategic goal is to achieve consumer satisfaction, a company may adopt QR as a overall retail business strategy. When implementing the new business strategy of QR in apparel retailing companies, functional strategies can be divided into (a) QRT based strategies which are specific to QRT implementation (e.g., EDI), and (b) non QRT based strategies which are more related to physical environment (e.g., display, store hours, parking place). Functional strategies (e.g., QRT) affect specific store attributes, which are related to consumer satisfaction, within a store. By implementing QRT, store attributes may be improved.

II. LITERATURE REVIEW

Apparel Retail Store Attributes and QR Technologies

Today's retailers are using various QR technologies (e.g., bar coding, EDI, scanner) to provide better services to consumers (e.g., AAMA, 1987; Fiorito, 1993). QR technologies (QRT) create value for consumers and change the relationship of consumers and trading partners. Successful retail operations depend upon a store's ability to meet consumers' needs; therefore, changes in store attributes should be emphasized in retailers' strategic planning (e.g., Berman & Evans, 1992).

Table 1 A Comprehensive List of Store Attributes Identified from the Literature

	Berman & Evans, 1992	Haynes et. al., 1994	Huddleston et al., 1990	Ji & Rhee, 1995	Mazursky & Jacoby, 1986	Paulins 1992	Shim & Kotsiopoulos, 1992	Shim & Kotsiopoulos, 1993	Williams 1990
accuracy of advertised product	*			*					
after the sale service	*							*	*
availability of advertised product	*		*	*					
availability of clothing I like to buy	*			*					
checkout time	*		*						*
display	*	*				*		*	
dressing room	*					*		*	*
friendly personnel	*	*	*	*	*	*	*	*	*
garment fit	*		*	*	*		*		
home delivery	*		*			*			*
knowledgeable personnel	*	*	*	*	*	*	*	*	*
layaway	*					*		*	*
location of store	*	*	*	*	*	*	*	*	*
new/fresh merchandise	*			*					
outside appearance	*					*			
parking place	*		*	*	*	*	*	*	
price for the value	*	*	*	*		*	*	*	
quality merchandise	*		*	*	*		*		
rest space	*			*					
restrooms	*					*			*
return policy	*		*	*		*	*		*
sales promotion program	*		*	*				*	
store atmosphere	*	*		*				*	
store hours	*			*		*	*		
store layout	*		*	*		*	*	*	*
type of clothing I like	*	*	*	*		*		*	
variety of merchandise selection	*	*	*	*	*	*	*		

Store attributes are differently provided and presented by retailers according to their specific functional strategies for satisfying target consumers. Store attributes are the characteristics which appeal to consumers and draw them into the store. It is important that store attributes are those desired by the consumer being targeted. To thrive in the competitive environment of fashion retailing, retailers must implement and maintain appropriate product and service attributes for their target consumers. Twenty-seven store attributes influencing on CS have been identified from literature (Berman & Evans, 1992; Haynes, Pipkin, Black, & Cloud, 1994; Huddleston, Ford, & Mahoney, 1990; Ji & Rhee, 1995; Mazursky & Jacoby, 1986; Paulins, 1992; Shim & Kotsiopoulos, 1992, 1993; Williams, 1990) (see Table 1).

Among these twenty-seven attributes, fourteen store attributes have been identified from numbers of industry sources as improved by QRT (AAMA, 1987; Braithwaite, 1990; Bravman, 1992; Ernst & Young, 1994; Fiorito, 1993; Hunter, 1990; KSA, 1992; VICS, 1989) and a few academic researchers (Ko & Kincade, 1997, 1998). QRT are recently adopted by retailers to reduce waiting time of inventory in the apparel pipeline by using new technologies and to develop improved partnership between apparel manufacturers and retailers, and to prepare products in response to consumer demand (AAMA, 1987; Fiorito, 1993; Hunter, 1990; Kincade et al., 1993; Ko & Kincade, 1997). The twelve most commonly mentioned retail QRT are: (a) automatic replenishment, (b) bar codes on each merchandise, (c) consumer information system (e.g., demographics), (d) electronic data interchange, (e) electronic purchase reorder, (f) inventory management systems, (g) product planning with customer, (h) reduction in inventory size, (i) sales captured at the item level, (j) scanning merchandise at point of sale (POS), (k) sharing product information with trading partners, and (l) small lot orders (AAMA, 1987; Coopers & Lybrand, 1991; Ernst & Young, 1994; Fiorito, 1993; Hunter, 1990; KSA, 1992; Robins, 1990).

Fourteen store attributes improved by QRT are: (a) better price for the value, (b) fast turnaround of goods, (c) reduced stockout, (d) variety of assortment, (e) merchandise type for target customers, (f) better garment fit, (g) quality merchandise, (h) return policy, (i) home delivery, (j) friendly personnel, (k) availability of advertised product, (l) accuracy of product advertisement, (m) faster checkout time, and (n) store layout. The 14 store attributes are identified from the literature as related to QRT based on retailers' perception, on theory, cases studies, and empirically tested (Ko & Kincade, 1997).

Consumer Satisfaction Theory

The most dominant model of CS, the disconfirmation of expectation paradigm, is that consumers reach satisfaction decisions by comparing a product/service with prior expectation about how the product/service would perform (Spreng & Olshavsky, 1992) (see Figure 2). Oliver (1980) played a leading role in developing the CS research with the view of disconfirmation of expectation paradigm. Oliver's (1980) model has been extensively used for CS research and has been applied to a variety of contexts including product and/or service (Engel et al., 1986). The assumption of the model is that consumer expectations create a standard or reference against which consumers compare product and service performance.

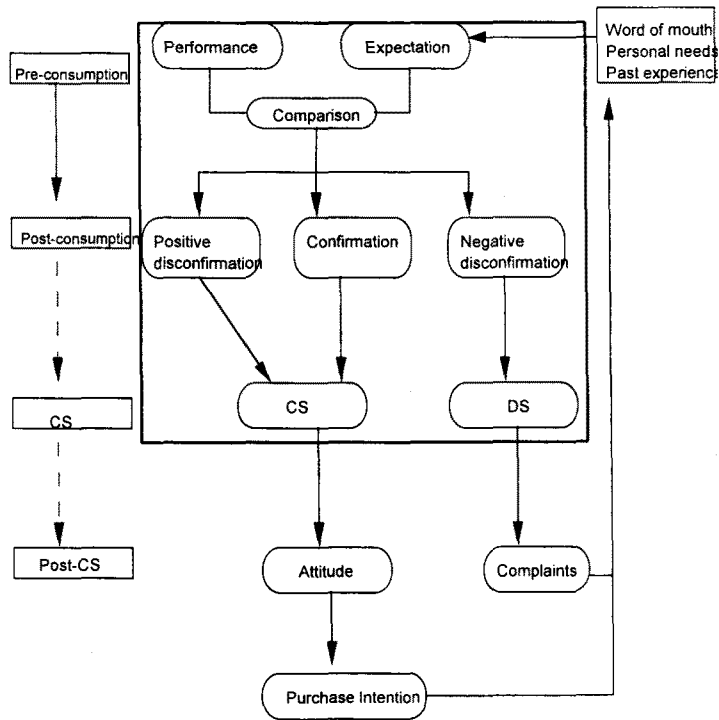


Figure 1. The cognitive model of the CS process.

Sources: Churchill & Surprenant (1982), Oliver (1980), Oliver & Linda (1983), Spreng & Olshavsky (1992), Tse & Wilton (1988).

Note. The focus about disconfirmation of expectation paradigm.

In this disconfirmation of expectation paradigm, CS is described as the result of a comparison between the pre-use expectation that a consumer has about the product and the post-use perception of product performance (Oliver, 1980; Spreng & Olshavsky, 1992). This cognitive comparison is called disconfirmation (DC). If expectation was negatively disconfirmed, dissatisfaction resulted and if expectation was positively disconfirmed, satisfaction resulted. The disconfirmation of expectation model helps to explain CS judgments (Oliver, 1980). The disconfirmation of expectation paradigm includes four constructs: expectation, performance, disconfirmation, and satisfaction (Churchill & Surprenant, 1982).

In the model, there are mixed findings in two construct, performance and expectation with CS. CS is found to be directly affected by expectations and performance in some studies (Oliver, 1980; Oliver & Linda, 1981; Westbrook & Reilly, 1983) and not in other studies (e.g., Oliver & Bearden, 1983). But, most studies found that disconfirmation is a significant predictor of CS. Therefore, in this study from the DC of expectation model, disconfirmation is considered as a predictor to CS with apparel retail stores. Also criteria for measuring the level of DC and CS are selected from the literature as 27 store attributes. These store attributes are divided into two groups: QRT and non QRT based attributes.

III. RESEARCH HYPOTHESES

- H1. CS with an apparel retail store is positively influenced by DC of store attributes (i.e., QRT based, non-QRT based).

Based on the disconfirmation of expectation model, DC is positively influence CS. Consumers reach CS by DC, which is a comparison process of prior expectation and performance about the product/service (Spreng & Olshavsky, 1992). The more/less DC score represents for the positive/negative disconfirmation and the more/less CS score represents satisfaction/dissatisfaction. Positive/negative disconfirmation will result in satisfaction/dissatisfaction according to the disconfirmation of expectation model (Oliver, 1980). DC includes two categories: DC about QRT based and DC about non QRT based attributes. Each category of DC will influence CS. DC about QRT based attributes will influence CS more than DC about non QRT based attributes, because non QRT based attributes are provided by almost all types of retailers and

differentiation of retailers is considered to provide the QRT based attributes.

IV. RESEARCH METHOD

This study includes two phases: Phase I for identification of QRT usage and store attributes improved by QRT. The interview survey method was used to identify the usage of QRT and to identify store attributes which are improved by QRT. The structured questionnaire survey was used to test a conceptual model which examines CS with apparel retail stores.

Sampling & Data Collection

A convenience sample of 32 apparel retailers for phase I and 200 female apparel consumers for phase II participated in this survey. For phase I, twenty-six retailers selected from a professional meeting, QR Conference in Atlanta, GA. This meeting is the biggest retail trade conference for developing a better QR strategy and providing prime networking and information sources. For phase II, a convenience sample of female students enrolled in one of three courses offered by the departments of Clothing and Textiles, Marketing, and Statistics in one major university in southeast U.S. and adult females who are affiliated with specific social meetings (i.e., civic organization A, B) and church activities (i.e., choir, bible study group). The classes and social events for data collection were selected for their accessibility and assumed homogeneity.

Instrument

An survey instrument was developed for the study. Questions included usage of QRT, improvement of store attributes by QRT implementation, and the level of disconfirmation and consumer satisfaction. The questionnaire was pilot tested to identify errors and misleading or difficult instructions and to assess overall clarity. Through this pilot test, face reliability and content validity in the questionnaire were evaluated. Participants in the pilot test confirmed the major constructs as defined by the researcher.

Usage of QRT was measured by the reported usage of twelve QRT. Twelve QRT were selected as those most commonly cited in the literature. For each item, the respondent was asked to select the usage of technologies on a scale from 0% to 100%

or more. Usage of QRT was measured by an average score of reported QRT usage by respondent retailers.

Improvement of store attributes by QRT was measured by the reported improvement level of fourteen store attributes by implementing QRT. Fourteen store attributes were included as most commonly mentioned store attributes which are improved by QRT in the literature. For each store attribute, the respondent was asked to select the improvement level of store attributes by implementing QRT on a scale from 0% improvement to 100% or more improvement. Improvement of store attributes by QRT was measured by an average score of improvement level as reported by respondents.

Disconfirmation (DC) of store attributes was measured by store attributes expectations. Twenty-seven store attributes were identified (Table 1). DC of store attributes was redivided for measuring the major construct of DC into two categories: QRT based attributes and non-QRT based attributes. Thirteen non-QRT based attributes which were identified from the literature were not related to QRT but were related to CS/D with apparel retail stores. DC of each store attribute was measured from Likert-type statement on a 7-point scale from much worse than expected (1) to much better than expected (7). This measurement format was adapted from previous research (Bearden & Teel, 1983; Churchill & Surprenant, 1982; Oliver, 1980; Tse & Wilton, 1988). For DC of QRT based attributes, an average score of 14 QRT based attributes was formed. For DC of non-QRT based attributes, an average score of 13 QRT based attributes was also formed.

CS with a store was measured with six items on a 7-point Likert scale that was adapted from previous research (Oliver, 1980). Each item had a 7-point response scale ranging from strongly agree to strongly disagree. An average score of all six items was formed for each person's CS. A cronbach Alpha test revealed that the six-item measure is indeed reliable($\lambda = .97$).

Data Analysis

Descriptive statistics include frequencies of all variables and means for DC about QRT based store attributes, DC about non QRT based store attributes, and CS. For testing Hypothesis 1, multiple regression was employed to examine the relationship between DC about store attributes (i.e., QRT based, non QRT based) and CS with a retail store. Statistical significance level was set at 0.05.

V. RESULTS AND DISCUSSIONS

Demographics

For Phase I, the store type as represented in the study were department stores (41%), discount stores (28%), small individual stores (19%), and specialty chain stores (13%). For Phase II, a total of 232 self-administered questionnaires were distributed to apparel female consumers in a two week period on April, 1995. Two hundred questionnaires were usable for this study. Overall, this study had a total response rate of 86.2%.

The major age group of the respondents was 18-34 (69%), followed by the 35-49 group (12.5%). Only 10 % of the respondents belonged to the 65 or older group. Respondents indicated the highest level of education that they had achieved. The largest percentage of subjects, 61.5%, had some college or trade school education. The graduate degree was the highest level of education completed by 19% of participants. Only 4% of respondents had only a high school diploma.

Usage of QR Technologies and the Improvement of Store Attributes by QRT

The usage of QRT varied by apparel retailers. The most frequently used technologies among all surveyed retailers were sales captured at the item level (76.5%), scanning merchandise at point of sale (POS) (71.5%), and bar codes on each merchandise (66.2%). The least used QR technologies among all surveyed retailers were small lot orders (11.9%) and consumer information system (17.8%).

(Table 2) Usage of QRT reported in percentage of responses by apparel retailers

QRT	Total
Automatic replenishment	44.50
Barcodes on each merchandise	66.20
Consumer information system (e.g. demographics)	17.84
Electronic data interchange	49.72
Electronic purchase reorder	50.80
Inventory management systems	54.95
Product planning with customer	34.03
Reduction in inventory size	31.09
Sales captured at the item level	76.50
Scanning merchandise at point of sale	71.46
Sharing product information with trading partners	47.41
Small lot orders	11.91

(Table 3) Improvement level of store attributes report in percentage of responses by apparel retailers

Store attributes	Total
Fast turnaround of goods	70.31
Return policy	21.09
Friendly personnel	8.59
Availability of advertised product	64.06
Variety of assortment	39.06
Accuracy of product advertisement	46.88
Better price for the value	35.94
Reduce stockouts	65.63
Garment fit	21.09
Store layout	12.50
Faster checkout time	47.66
Home delivery	7.81
Merchandise type for target customers	43.75
Quality merchandise	22.66

The improvement of each store attribute by QRT varied by apparel retailers. Of the fourteen store attributes identified from the literature, store attributes, that were perceived as the most improved by QRT, were fast turnaround of goods (70.3%), reduced stockouts (65.6%), and availability of advertised product (64.1%). Store attributes perceived as the least improved by QRT were home delivery (7.8%), friendly personnel (8.6%), and store layout (12.5%).

Tests of Hypotheses

Overall Test

Multiple regression analysis was used to test the model that explained CS with apparel retailers among female apparel consumers. The dependent variable was CS with apparel retailers. The independent variables were DC of both QRT based and non QRT based attributes. The regression model was significant overall in predicting CS ($F [2, 196] = 51.74, p = .001$). Therefore, null hypothesis was rejected, and the F value was sufficient to support the hypothesis that, both DC about QRT based and DC about non QRT based attributes significantly contributed to the prediction of CS. R square, coefficient of multiple determination for CS, equals 0.35 and indicates 35% of the variance in CS is explained by DC about QRT based and DC about non QRT based

attributes.

(Table 4) Results from Regression Analysis for Hypothesis 1

<u>Analysis of Variance</u>					
Source	DF	SSquare	Mean Square	F Ratio	
Model	2	36.65	18.35	51.74	
Error	196	69.56	0.35		Prob)F
C Total	198	106.22			0.0001
RSquare	RSquare Adj	Root Mean Square Error		Mean of Response	
0.35	0.34	0.60		5.14	
<u>Parameter Estimates</u>					
Term	Standardized Estimate	Estimate	Std Error	t Ratio	Prob) t
Intercept	0.000000	2.63	0.32	8.17	0.0000
QRT	0.88	1.03918	0.12	8.54	0.0000
NonQRT	-0.40	-0.49	0.12	-3.95	0.0001

Individual Test

A test of relative contribution of each independent variable to CS yielded significant t values ($\alpha = .05$) for DC about QRT based and DC about non QRT based attributes (see Table 4). The standardized regression coefficients (β) of the regression results indicated the relative importance of predictor variables. β is interpreted as indicating the expected change in the dependent variable, expressed in standard scores, associated with a one standard deviation change in an independent variable, while controlling the remaining variables constant (Pedhazur, 1982). Unlike regression coefficient (b), β are scale-free and therefore can be compared across different variables. DC about QRT based attributes ($\beta = 0.88$) was considered two times more important than DC about non QRT based attributes ($\beta = 0.41$) in explaining CS. This finding support that QRT based attributes are considered as a key focus to differentiate the store service and strategy (Cory, 1988; Porter, 1980). This is an interesting result with managerial implications. Adoption of QRT based attributes has more potential for increasing CS than non QRT based attributes.

The regression coefficients of DC about QRT based attributes (+1.04) and DC about non QRT based attributes were positive, indicating that a higher non QRT/QRT based DC led to higher consumer satisfaction with apparel stores. This is consistent with hypothesized relationship. These results of the study were consistent with previous studies (Oliver, 1980; Spreng & Olshavsky, 1992) which showed that DC is a

significant predictor on CS. The disconfirmation of expectation model is supported among apparel female consumers when they experience and evaluate the apparel retail stores based on CS.

VI. CONCLUSIONS

To be competitive in the retail business environment, apparel retailers have been offered a new business strategy, QR. This research identified the usage of QRT, identified improvements of store attributes by QRT, and tested the disconfirmation of expectation paradigm. QRT usage and its ability to improve store attributes varied by apparel retail store type. The most frequently used technologies among all apparel retailers were sales captured at the item level, bar codes on each merchandise, and scanning merchandise at POS. The most frequently cited store attributes which were improved by QRT were fast turnaround of goods, reduced stockouts, and availability of advertised product.

CS has been identified as a key objective in modern retailing, and is also considered as an indicator of whether consumers will return to a store. The model developed and tested for examining potential difference among consumer DC about store attributes on CS with apparel retail stores was supported. The results indicated that DC about QRT based attributes had a significant effect on CS.

Also, results from the study indicated that consumer satisfaction is increased by QRT based attributes offered by apparel retail stores. QRT based attributes are improved by implementing QRT. The data indicated that QRT based attributes (e.g. reduced stockout, fast turnaround of goods) have more influence on CS than non QRT based attributes (e.g., location of store, store hours).

For any future study, which specific QRT based attributes are most related to the specific target market should be known. This study developed and a comprehensive list of store attributes were examined for their influence on CS. QRT and non-QRT based attributes were examined for their influence on CS. In depth studies of specific store attributes could be conducted to identify consumer preference and CS relating to different product categories.

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