

# Customer Equity Drivers and CLV of the Department Stores in Seoul

Customer Equity  
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CLV of the  
Department  
Stores in Seoul

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**Abstract** Study aims to identify customer equity drivers and their relative importance, to represent customer lifetime value (CLV) distribution, and to investigate the effect of customer equity drivers and demographics on CLV when shopping apparels at the four big department stores in Seoul. Recently, Korean department stores marked significant decrease in sales volume and it calls for more focus on customer orientation. Customer equity is a managerial concept which considers customers as a valuable asset for business success. Sustainable competitive advantage is attainable when customer equity drivers and CLV are measured, managed and enhanced. results identified four dimensions of customer equity drivers such as 'retail brand equity', 'relationship equity', 'retail service equity', and 'price value equity'. Among them, 'relationship equity' was proved to be the most influencing factor on the customer's store patronage intention. The CLV distribution represented unique characteristics of each department store. The level of CLV depended on such demographics as age and income. Marital status influenced the relationship between perceived customer equity drivers and CLV. It also analyzed competitive structure of the four big department stores in Seoul and offered managerial suggestions. This study provided conceptual framework for the future study of customer equity related to apparel shopping at the department stores as well as managerial implications.

**Key words** Customer equity, CLV, Department store, Apparel shopping, Relationship equity

## Introduction

The domestic department store industry has been on a continuous growth track despite ever-intensifying competition due to emergence of new players, like large discount stores, online shopping malls and home shopping channels, as well as expansion of existing department stores (Kim, 2010). Department stores began to rapidly grow in the mid-1980 when Korea held the Seoul Olympics, and generated 12.6 trillion won in revenue in 1997 from 124 stores. After the Asian financial crisis, the industry re-gained momentum and reached 18.3 trillion won in revenue in 2002. However, the total revenue was outpaced by large discount stores since 2003. As the industry slowed down, its total revenue also stagnated around 18.4 trillion won in 2006. Since 2009 when Korea officially recovered from the global financial crisis,

however, the department store industry also rebounded, recording its total revenue 21.6 trillion won and 24.3 trillion won in 2009 and 2010 respectively (Statistic Korea, 2011).

Among distributed clothes in the market, 38.1% were sold at department stores (Samsung Design Net, Nov. 1. 2005), and fashion goods revenues accounted for 82.8% of total department store revenues except food and home appliances, particularly revenues of children and sports wears and luxury goods jumped by 13.8% and 12.4% yoy respectively (Press Release by the Ministry of Knowledge Economy, Jan. 18. 2011). As described thus far, fashion corners are critical to boost competitiveness of department stores, and the industry also chose fashion products as their competitive edge over discount stores when emergence of large discount stores began to intensify competition in the 1990s. (Apparel News, Dec. 22. 2006). However, clothes are high-involvement trend-sensitive products that reflect customers' emotions and value, and this attributes distinguish fashion products from others in the course of customers' purchase decision-making process. Considering revenue contribution or consumer behavior, research on customer assets of clothing corners and shops in department stores is worth conducting.

At the same time, appropriately distributing enterprise resources is a crucial strategy for department stores to maintain customers particularly in the era of slow growth; it is necessary to manage customers as assets to generate more profits; and costs required to maintain customers are not expenses, but investments in corporate assets (Rust et al., 2000). Attracting new customers is never easy within the fierce competition of the retail industry, but cheaper than maintaining existing customers; and thus preventing customers from shifting to competitors is critical to the improvement of corporate performance (Reichheld, 1990). Therefore, evaluating competitiveness of department stores based on their customer equity and accommodating their demands and criticism is expected to serve as a foundation for strategic marketing.

Previous studies on department stores have mostly looked into corner selection criteria by segmentation, and market segmentation criteria were mostly customers' shopping tendency (Cha et al., 1999; Park & Im, 1996) or store patronage (Son & Lee, 2003; Shin & Parrk, 2000; Lee & Jang, 1992). This failed to consider customers' financial value or provide answers to a question how to distribute marketing resources to customers in accordance with their value as corporate assets. Despite its importance in long-term business performance, the concept and utilizations of customer equity have yet to be defined, and further studies on the formation and management of customer equities should be followed (Woo et al., 2004).

Therefore, this study is designed to identify drivers of customer equity of in-department store clothing shops, and measure and analyze customer lifetime value (CLV) based on the identified drivers. This is expected to contribute to securing sustainable competitive edge as well as developing marketing strategies that directly boost revenues and corporate value. This study is also expected to make a contribution to academically verify the relationship between the formation of customer equity and the performance of customer equity management. This significance of this study will be found in that it provides a theoretical and practical framework for future studies on customer equity of in-department store clothing shops.

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## ***Theoretical Background***

### **Customer Lifetime Value (CLV)**

As companies face more fierce competition, they put their strategic focus on maintaining lucrative customers than attracting new ones; and keeping loyal customers as their main revenue source and encouraging re-purchase in the future have become a key issue in corporate marketing activities (Shih & Liu, 2003). Customer lifetime value or CLV is a net profit or loss that companies realize in the course of interactions with customers throughout their lifetime (Venkatesan & Kumar, 2004). In the perspective of corporate profits, CLV is a tool to measure customer value, calculated by net profits from transactions with customers less net present value of expenses of customer attraction, management and services, based on the assumption that different customers have different value (Jain & Singh, 2002). With respect to marketing perspectives, CLV is a critical tool to distribute corporate marketing resources according to individual customer's CLV that is the net present value of potential cash flow generated from a customer throughout their lifetime (Ambler, 2002).

The concept and measuring techniques of CLV have evolved to a point where collection and analysis of customer purchase information are possible thanks to the development of information technology (Shih & Liu, 2003). Previous studies on CLV are mainly about three categories: calculation of CLV, relations between CLV and corporate profits and relations between CLV-improving marketing activities and corporate profitability (Jain & Singh, 2002). Among them, the studies on calculation of CLV, or how to measure CLV, intended to assign more marketing resources to more lucrative customers in accordance with the result of RFM model analysis that has been used over the last 50 years to calculate CLV by evaluating purchase recency, frequency and monetary value of customers based on purchase data of catalogue customers (Shih & Liu, 2003). However, controversy still remains over how to calculate CLV by using RFM data. Most frequently-used methods are 1) dividing customer data into four groups and deriving the ranks of CLV according to RFM scores, and 2) grouping customers by their CLV that is derived by assigning different weights to RFM variables according to characteristics of each industry (Shih & Liu, 2003). Gupta & Lehmann (2003) proposed a method to measure CLV and reflect the results on corporate decision making process. They pointed out that previous calculation methods required too much data but failed to identify relations between CLV and corporate value; and delivered a simple formula based on average corporate margin, discount rates and customer retention rates. They also proved the correlations between CLV and corporate value, so that businesses were able to accommodate the CLV concept in their corporate strategy. Rust *et al.* (2004) also proposed a CLV calculation formula reflecting customer evaluation and purchase behavior regarding customer equity drivers. This study adopted Rust's methods as this view is deemed helpful to secure sustainable competitiveness based on customer satisfaction in that it sees customers as corporate equity and accommodates customer attitude in determining customer equity drivers.

Many studies have examined and measured CLV to establish marketing strategies based on individual customer value. However, CLV should be measure and evaluated in accordance with different characteristics of different companies (Rust *et al.*, 2000). For example, distribution companies, manufacturing companies and services companies have distinctive CLV drivers, and evaluation on CLV should

be differed depending on customer demands and expectations for products and services that a company provides. Therefore, it is required to study how CLV differs from industry to industry, and as part of such attempt, this study focuses on in-department store clothing shops.

### **Customer Equity**

As products become standardized and markets become saturated, it has become only necessary for companies to set customer-oriented business strategies that retain existing customers rather than attract new ones, in order to pursue profits out of limited customer pools (Reichheld, 1990). In addition, advancement of information technology allows businesses to directly obtain customer transaction data and analyze loyal customers; and as customers demand ever greater products and services, it has become a critical corporate strategy to regard customers as a source of core competence and to maintain long-term relationship with customers who potentially have enormous value to the companies (Hogan & Rust, 2002; Kim, *et al.*, 2000).

Despite emphasis on customer-oriented management, companies still focus on boosting their brand assets in their marketing activities. This practice should be changed for the sake of long-term profitability (Rust *et al.*, 2004). In order to create profits based on customer-oriented management and through good relationship with customers, it is required to view and manage customers as valuable corporate assets, to invest more corporate resources in improving customer equity and to evaluate business performance based on customer equity (Gupta & Lehmann, 2003). In the past, most companies put their priority on products, regarded products as their most valuable assets, and focus on generating more profits by selling more products. However, comparative advantages in products and prices are easily overtaken. On the other hands, customer-oriented approaches see customers as valuable corporate assets and put the top priority on securing and maintaining customers who, in turn, become important corporate assets to obtain competitive advantages (Jain & Singh, 2002).

The notion of customer equity is similar to that of CLV, but different in that CLV measures financial value of individual customers, while customer equity represent comprehensive value of customers at the enterprise level (Blattberg & Deighton, 1996). Customer equity refer to potential monetary value of current and future customers combined who generate corporate profits (Bayon *et al.*, 2002), and can be calculated by multiplying the mean CLV of present and potential customers and the number of total customers in the industry (Hansotia, 2004). With respect to the relations between customer equity and CLV, Berger *et al.* (2002) defined a process of managing customers as corporate assets: building a database of customer behavior, segmenting customers into homogeneous groups, predicting CLVs of each group, allocating resources to maximize CLVs and carrying out marketing activities. When building a customer database, it is required to encompass not only customers' purchase history, but also qualitative aspects, like touch history and word-of-mouth effects.

Rust *et al.* (2000) proposed a strategic model that improves each customer's switching matrixes, CLVs and customer equity by improving drivers of customer equity, and presented three dimensions of customer equity drivers: brand equity, value equity and relationship equity. Among them, value equity is made up of customer evaluation on quality, prices and convenience; and the quality factor includes service products, service environment and delivery, not to mention physical product quality. Brand equity

consists of marketing activities related to customers' brand awareness, attitude, perception of brand ethics, and their sub-dimensions. Relationship equity is comprised of marketing programs that are devised to maintain long-term relationship with customers, pursue more profits and promote customer relationship. Many studies have examined how customer equity drivers affect consumer behavior. Han(2009)'s study that compared department stores and family restaurants verified that different store types had different customer equity drivers, finding that customer equity drivers of department stores were influenced by travel distance, brand awareness, preference and reliability, while those of family restaurants were product line-ups, prices, loyalty programs and promotions/events. Customer equity is also affected by product types. Ko and Oh (2009) study that covered customer equity of luxury fashion brands identified that personal relationship was the most critical factor, followed by differentiated brand images and store environment value.

With regard to corporate attitude toward customer relationship management (CRM) or CLV, Shaw (2002)'s study on customer equity management pointed out that true CRM or CLV management should go beyond simply managing loyal customer cards or lists, and recognize the genuine value of customers. Cho & Chung (2006) confirmed that abilities of customer equity value management should intervene in CRM in order for CRM success factors to actually influence CRM performance, such as customer retention rates and customer shares. In other words, only when companies view and manage customers as their valuable assets, CRM can contribute to the corporate profitability.

In the meantime, Gurau & Ranchhod (2001) suggested that customer satisfaction levels should be measured to evaluate customer value and profitability. They cited that CLV predicted the customer retention periods only based on past data, while customer satisfaction embraced dynamic competition of market environment, perception and needs of both existing and potential customers, and hints of future profitability. This study evaluates customer equity based on the formula of Rust *et al.* (2004), which measures CLV based on customer satisfaction with customer equity drivers and assess customer equity based on the measured CLV. This method is expected to be utilized in establishing sustainable marketing strategies in that it is a CLV evaluation that addresses both past data and customer satisfaction.

As discussed thus far, the concept of customer equity embraces customer-oriented business philosophy, analyzes corporate competitiveness by considering customers valuable assets, and ultimately provides directions of marketing activities to enhance future profitability. This approach is critical to studying department store management since customer equity measurement and management should be customer-oriented. Considering that customer equity studies are in their infancy, it is necessary to examine the validity of customer equity theory and possibilities of generalization with regard to certain products, services or distribution businesses.

## ***Methodology and Procedures***

### **Study Objective and Data Collection**

The objectives of this study are as follows. First, it intends to identify dimensions of customer equity drives of in-department store clothing shops, and compare customer evaluation on each dimension by department store. Second, it intends to verify relative significances of customer equity drives and their at-

tributes according to their influence on customers' purchase intention in the future. Third, it intends to identify CLVs of each department store, and prove customer equity drives and demographic attributes that affect CLV.

To collect data, researchers visited four largest domestic department stores in terms of their revenues, and conducted intercept surveys of female shoppers in their 20s or older. The Korean department store industry was dominated by three major players whose combine revenue accounted for about 55% of the total industry as of 2002 (Seoul Credit Rating and Information Inc.). On top of the three major players, one more subject included was the number 4 player, which was minor in terms of its revenue, but recognized as a fashion specialist mall. From November 18, 2005 to 23, 65 survey questionnaires in each subject department store were distributed. From 10 different branches of the subject stores, 260 questionnaires were collected, and among them 250 were analyzed. Among the respondents, 20s accounted for the majority of 50.4%, followed by 30s 22.2%, 40s 18.5% and 50s or over 8.9%; and 52.5% were married while 47.4% were single.

#### **Variable Measurement and Data Analysis**

In the survey questionnaire, 19 questions assessing customer equity drivers were developed based on a 5-point Likert scale, and each respondent was asked to answer the questions regarding four department stores. Also included were questions about most recent clothes purchase, future purchase intention at each department store, average expenses of one shopping at a department store and shopping frequency, and demographic factors.

The conceptual structure of customer equity drivers was developed based on the brand equity, relationship equity and value equity of Rust *et al.* (2000) model, by adding a service quality factor to the sub-dimension of value equity to consider the characteristics of the retail industry, and composing value equity of product quality, service quality and price value. To control the influence of inertia on customer equity drivers, an analysis technique suggested in the Rust *et al.* (2000) model was introduced: 1 was assigned to a department store where a respondent answered that she bought clothes last time and 0 was assigned otherwise. Utilizing SPSS 12.0, factor analysis, regression analysis, variance analysis and t-test were conducted, and multiple logic regression was done by SAS 9.1.

#### **Result Analysis**

##### **Dimensions and Evaluation of Customer Equity Drivers of In-Department Store Apparel Shops**

Factor analyses were conducted on 20 questions: 19 questions about customer equity drivers and 1 about inertia. Except one question bearing a factor weight smaller than 0.5, the other 19 questions were identified to explain 64.7% of the total variance. In the <Table 1>, factor 1 consisted of 4 questions about brand equity, and 5 questions about value equity-3 product quality value and 2 service quality-. This group was named as "Retail Brand Equity" (Characteristic Value 4.5, Variance 23.6%). The fact that this study presented multiple questions about retail brand equity may demonstrate that brand equity is inherently significant to department stores. This also reflects the inherent characteristics of apparel shops,

and is consistent with the results of Ko and Oh (2009)'s study that differentiated brand images were critical to luxury fashion brands. Factor 2 was composed of 2 questions about value equity, and named "Relationship Equity" (Characteristic Value 2.4, Variance 12.8%). Factor 3 was comprised of 4 questions about service quality related to value equity aspects, and named "Retail Service Equity" (Characteristic Value 2.4, Variance 12.6%). Factor 4 was made up of 2 questions about price value related to value equity aspects and named "Price-Value Equity" (Characteristic Value 1.9, Variance 9.9%). The one question of Factor 5 was designed to measure "Inertia" influence. Separating the inertia factor from other equity drivers is congruent with the results of Rust *et al.* (2000)'s study.

In the <Table 2>, means of each attributes of customer equity drivers were compared. L and H department stores scored high overall: L was higher in price value, and H was higher in retail brand equity. S and G department stores relatively low overall. Comparing S and G department stores, S marked slightly higher overall, while G score particularly low in relationship equity, retail brand equity and price-value equity.

**Table 1.**  
Customer Equity Drivers and Inertia Factor Analysis

Factors (Reliance $\alpha$ )	Questions	Factor Weight	Characteristic Value (Accumulated Value)
Factor 1 Retail Brand Equity (.89)	The display looks good.	.77	4.5 23.6% (23.6%)
	I like the design and quality of its products.	.74	
	It has lots of new and unique items.	.74	
	It provides convenient and sufficient parking space.	.64	
	Its space organization is efficient for shopping.	.64	
	It makes me feel satisfactory.	.60	
	It is reliable.	.57	
	It provides various cultural events.	.55	
It pleases me.	.52		
Factor 2 Relationship Equity (.73)	Sales staff provides special cares to me.	.78	2.4 12.8% (36.4%)
	The benefits that this department store credit card provides to me are important.	.75	
	Continuous contacts (via e-mail, mail and telephone) give me useful shopping information.	.73	
Factor 3 Retail Service Equity (.79)	Sales staff provides good services.	.73	2.4 12.6% (49.0%)
	It has wide-ranging fashion products.	.69	
	I like the store atmosphere.	.62	
	I can easily find products that I want.	.51	
Factor 4 Price-Value Equity (.63)	It provides good opportunities to buy good products at cheap prices.	.78	1.9 9.9% (58.8%)
	The prices are reasonable.	.75	
Factor 5 Inertia	This department store is the one that I recently purchased clothes.	.91	1.1 5.8% (64.7%)

**Table 2.**  
ANOVA result of Customer Equity Drivers by Department Store (Mean)

	S Dep. Store	H Dep. Store	G Dep. Store	L Dep. Store	F Value	p
Retail Brand Equity	B (3.39)	A (3.60)	B (3.36)	B (3.40)	5.8	.001
Relationship Equity	B (2.83)	A (3.07)	C (2.63)	A (3.20)	16.3	.000
Retail Service Equity	A (3.58)	A (3.70)	B (3.38)	A (3.63)	7.6	.000
Price-Value Equity	B (3.10)	B (3.15)	C (2.65)	A (3.45)	39.2	.000

**Customer Equity Drivers of Department Stores and Significance of Each Driver**

In order to identify relative significances of customer equity drivers of in-department store apparel shops, multiple logic regression analysis was performed with its independent variable of customer equity drivers and dependent variable of future purchase intention of clothing items at each department store. Then, relative significances of customer equity drivers on future purchase intention were calculated as presented in the <Table 3>, by following the Formula 1 to Formula 3 of Rust *et al.* (2004) and using the regression coefficient derived from the multiple logic regression analysis the factor weights presented in the <Table 1>.

$$\text{weights of customer equity drivers } \beta_x = \sum_{c=1}^C (A_{cx} \gamma_c) \text{ (Equation 1)}$$

$$\text{standard deviation of } \beta_x = \left( \sum_c A_{cx}^2 \sigma_c^2 \right)^{\frac{1}{2}} \text{ (Equation 2)}$$

$$\text{z-score} = \beta_x / \left( \sum_c A_{cx}^2 \sigma_c^2 \right)^{\frac{1}{2}} \text{ (Equation 3)}$$

$C$ : the number of factors from main factor analysis

$A_{cs}$ : the number of  $C$  factors that includes customer equity driver  $x$

$\gamma_c$ : Regression coefficient of factor  $C$

$\sigma_c$ : Standard Deviation of factor  $C$

In the <Table 3>, the most significant factor that affected future purchase intention was continuous contacts, followed by benefits of department store credit card, special care, product display and line-ups, price value, sales staff's service, shop atmosphere, satisfaction, pleasure, reliability, space organization, produce design and quality, cultural events, parking, shop display and unique products.



**Table 3.**  
Relative Significance of Customer Equity Drivers of In-Department Store Apparel Shops

Customer Equity Drivers	Coefficient of Significance ( $\beta$ )	Standard Deviation of $\beta$	Coefficient of Significance / Standard Deviation of $\beta$	Rank
The display looks good.	.08	.03	2.50	17
I like the design and quality of its products.	.09	.03	2.95	14
It has lots of new and unique items.	.07	.03	2.31	18
It provides convenient and sufficient parking space.	.08	.03	2.89	16
Its space organization is efficient for shopping.	.09	.03	3.41	13
It makes me feel satisfactory.	.11	.03	3.91	10
It is reliable.	.16	.04	3.75	12
It provides various cultural events.	.07	.03	2.92	15
It pleases me.	.11	.03	3.90	11
Sales staff provides special cares to me.	.21	.03	6.74	3
The benefits that this department store credit card provides to me are important.	.23	.03	7.58	2
Continuous contacts (via e-mail, mail and telephone) give me useful shopping information.	.25	.03	8.43	1
Sales staff provides good services.	.14	.03	4.39	7
It has wide-ranging fashion products.	.14	.03	4.73	5
I like the store atmosphere.	.12	.03	4.13	9
I can easily find products that I want.	.16	.03	5.64	4
It provides good opportunities to buy good products at cheap prices.	.14	.03	4.65	6
The prices are reasonable.	.13	.03	4.36	8

Customer Equity Drivers and CLV of the Department Stores in Seoul

### CLV Analysis on Apparel Corners in Department Store

According to Rust *et al.* (2004)'s method, individual CLVs were calculated through Formula 4 to Formula 5. In the Formula 4, a switching matrix was derived from possibilities of future purchase at each department store, and a Markov Chain Matrix for one year later was drawn. Markov Chain Matrixes for two and three years later were also developed respectively by multiplying the matrix two and three times. Then, Markov Chain Matrixes for each period were multiplied by the portion of utility from a certain department store out of the total utility from all department stores, which was derived by multiple logic regression coefficients; and the CLV (Formula 5) was calculated. In the Formula 5, a purchase rate of a customer per year was multiplied by the won amount of clothing purchase at department stores, which was multiplied again by perceived utility of each department store and switching pos-

sibilities. Then, this was discounted by a discount rate of a company to finally derive CLV. The same procedures were performed for the three-year period, and then the sum of three-year CLVs was drawn as a final CLV. The company discount rate was a required rate of return. A required rate of return was replaced by 7.84% which was the sum of 1) multiplying market bond-issuance rates (4.6%) and average leverage ratio of banks (61.2%) and 2) multiplying average ROE of the four subject department stores (12.1%) and average equity ratio (38.8%).

$$B = A_i M_i^t \text{ (Equation 4)}$$

$A_i$ : the portion of utility from a certain department store out of the total utility from all department stores

$M_i^t$ : Markov Chain Matrix

$$CLV_{ij} = \sum_{t=0}^{\gamma} (1 + d_j)^{-t/f_i} V_{ijt} \pi B_{ijt} \text{ (Eq. 5)}$$

$d_i$ : discount rate of the company(7.84%)

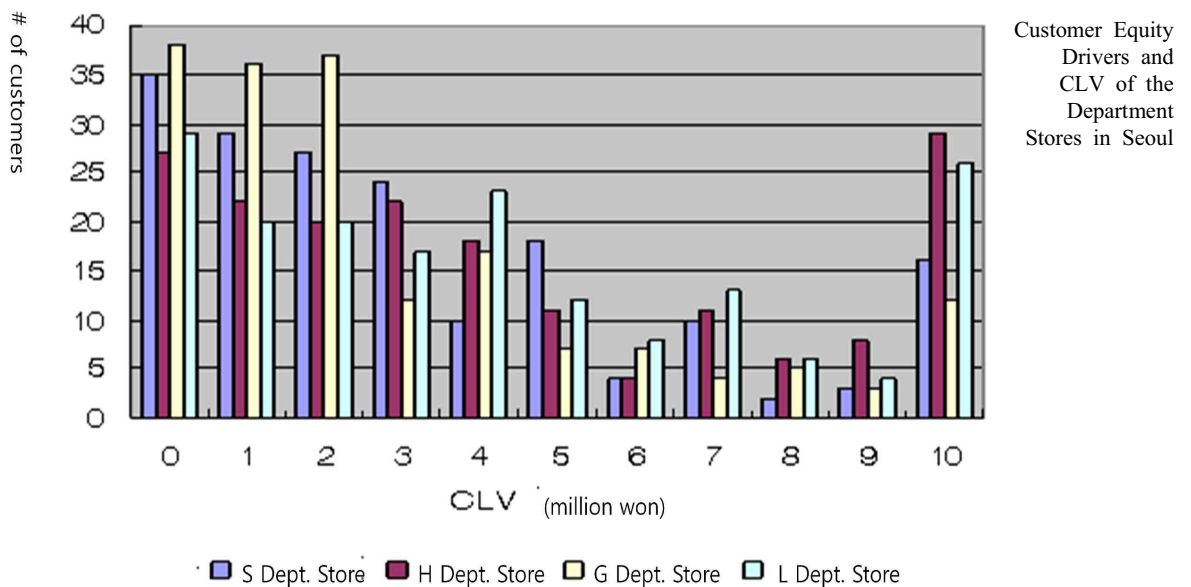
$f_i$ : purchase rate of a customer (i) during the period

$V_{ijt}$ : the won amount of clothing purchase at department stores

$\pi$ : expected contribution margin(8.9%)

$\gamma$ : considered time period

<Figure 1> demonstrates expected CLV distribution of each department store for the next three years. The majority of 53.5% presented 3 million won or less CLV (1 million won or less: 18.1%, 1-2 million won 15.0% and 2-3 million won: 14.6%) , and those whose CLVs are 10 million won or over totaled at 8.6%. Looking into each department, the majority (69.0%) of G department store CLV was distributed 4 million won or less, and that of S (70.3%) was 5 million won or less. Meanwhile, the majorities of H and L customers' CLV were distributed 7 million won or less, with 69.7% and 72.4% respectively. This can be interpreted that customers of H and L department stores have higher CLVs than those of S's and G's. H and L respectively secured 16.3% of 14.6% of super-purchase customer groups with CLV of 10 million or over, while S and G had 9.0% and 6.7% each. In other words, H and L department stores have more super-purchase customers than S's and G's.



**Figure 1.**  
CLV Distribution by Department Store

ANOVA results of CLV means by department store were present in the <Table 4>. It was found that the CLV means of H and L department stores were statistically significantly higher than those of S's and G's. Although the CLV mean of H's was higher than that of L's, it was statistically insignificant. No statistically significant difference was found between S's and G's, either.

**Table 4.**  
ANOVA results of CLV means by Department Store (Mean)

	S Dep. Store	H Dep. Store	G Dep. Store	L Dep. Store
CLV Mean	B (4,408,046)	A (6,071,448)	B (3,911,024)	A (5,861,022)
F Value	5.366 (p=.001)			

The <Table 5> presents results of regression analysis on factor scores in order to verify customer equity drivers that affect CLV of in-department store apparel shops. To control inertia influence, the independent variable includes a question about inertia. The analysis found that relationship equity is statistically significant to the all the subject department stores, telling that super-purchasing customer groups are more aware of relationship equity. In addition, the CLV S department store turned out to be also influenced by price-value equity, demonstrating that its customers are more aware of price value. On the oth-

er hands, the CLV of G department store was not affected by any driver, but inertia.

**Table 5.**  
Regression Analysis of Customer Assent Driver Effects on CLV(Standardized Regression Coefficient)

Dependent (CLV) Independent	S Dep. Store	H Dep. Store	G Dep. Store	L Dep. Store
Retail Brand Equity	.07	-.12	-.06	.01
Relationship Equity	.19*	.24**	.03	.32***
Retail Service Equity	-.17	.13	-.01	-.17
Value Equity	.17*	.13	.11	.13
Inertia	-.05	.00	.46**	-.12
$\overline{R^2}$	.08	.10	.24	.12
$F$	3.00*	3.84**	11.01***	4.51***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

The regression analysis on the effect of demographic factors on CLV by department store found static correlations between CLV and both age and income in all four subject stores, as presented in the <Table 6>. In other words, older customers with higher income showed higher CLVs, and their marital status had no impact. Education level was only found to be meaningful in G department store.

**Table 6.**  
Regression Analysis of Demographic Factors on CLV(Standardized Regression Coefficient)

Dependent (CLV) Independent	S Dep. Store	H Dep. Store	G Dep. Store	L Dep. Store
Age	.25**	.24**	.22*	.25**
Marital Status	.07	.07	.09	.05
Education	.14	.13	.18*	.11
Income Level	.27***	.28***	.24**	.28***
$\overline{R^2}$	.16	.16	.14	.16
$F$	7.55***	7.54	6.52***	7.64***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

<Table 7> presents whether the impacts of customer equity drivers on CLV relate with their marital status. Both the CLVs of married and single women were found to be affected by relation equity, and CLVs of single women were particularly influenced by price-value equity. To further identify whether the significance of price-value equity in single women is related to their budget constraints, comparative analysis was conducted on the average -hopping expenses of clothing consumption. This analysis identified that single women spend a less amount of money (mean: 267,800 won) per shopping than married women (mean: 384,600 won) (t value: 10.35, significance level:  $p = .000$ ); and their average household income was lower (t value: 4.08, significance level:  $p = .000$ ).

**Table 7.**  
Effects of Customer Equity Drivers on CLV(Standardized Regression Coefficient)

Independent \ Dependent(CLV)	Married	Single
Retail Brand Equity	-.14	.07
Relationship Equity	.22**	.26***
Retail Service Equity	.02	-.07
Price-Value Equity	.11	.14*
Inertia	.07	-.02
$\bar{R}^2$	.08	.12
$F$	5.31***	10.42***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### Conclusion and Discussions

The conclusions of data analyses in accordance with study topics were as follows.

First, customer equity drivers of in-department store apparel shops were identified to be retail brand equity, relationship equity, retail service equity and price-value equity. Comparing with the drivers suggested by the customer equity model of Rust *et al.* (2004), retail brand equity is equivalent to brand equity; and retail service equity and price-value equity is equivalent to value equity. Accordingly, the conceptual model of Rust *et al.* (2004) was confirmed to be applied to in-department store apparel shops. However, in constituting sub-dimensions, the unique characteristics of in-department store apparel shops stood out, which was consistent with the findings of Ko and Oh (2009)'s study that emphasized the importance of differentiated brand images. On the other hands, Yun and Ko (2006) identified customer equity drivers of clothing as personal relationship, differentiated brand image, individual benefit value, consistent brand image, and reliable relationship. Such different result may be attributable to the study subject matter in that it deals with brands, while this study deals with stores.

Second, the effects of customer equity drivers on future purchase intention by department store turned out to be largest in sub-dimensions of relationship equity, followed by those of retail brand equity, price-value equity and store atmosphere equity. This result is congruent with the results of Rust *et al.* (2004)'s study that verified relationship equity and value equity was more important than brand equity to airlines. The reason behind the lowest importance on brand equity can be understood that subjects were all leading companies in the industry and thus the value of their brand equity was already over customers' expectation levels. On the other hand, the importance of relationship equity was consistent with findings of numerous studies in the past: Hogan *et al.* (2002) said that the ultimate goal of managing customer equity value was maintaining long-term relationship with customers; Kim and Lee (2001) pointed out that marketing activities of in-department store apparel shops, like reliable services, customer contacts and communication, improved the quality of customer relations through customer satisfaction and reliability, and affected orientation of long-term relationship, re-purchase intention and word-of-mouth effects; and Lee (2003) insisted that the more customers' perceived benefits of relationship, homogeneity of value, reliability and usability affected and the stronger the relationship became, the more customers in-

ternalized lasting relationship. In conclusion, as this study proved that relationship equity is the most critical driver of customer equity, department stores should invest in improving relationship equity involving loyal customers in order to boost their future competitiveness.

Third, this study examined customer equity drivers of four major department stores and found that H and L department stores scored high in all four dimensions. H department store marked particularly high scores on retail brand equity and L department store faired at price-value equity. In the comparison of CLV means, H and L department stores were higher than S and G department stores, demonstrating that H and L department stores have higher market shares and are more differentiated as high-end stores. In particular, H presented highest retail brand equity, and its CLV was higher than L's even though it was not statistically significant. This can be interpreted that H is firmly positioning itself as the most high-end department store. Furthermore, L delivered highest price-value equity, telling that L can target customers who put significance on price value.

Fourth, CLVs of the four subjects were high in older ladies with higher incomes, and CLVs of both married and single women were also high when relationship equity was high. For single women, CLVs were higher when higher price-value equity was perceived. This may partially be attributable to the fact that single women tend to have lower incomes and spend less on purchasing clothes than their married counterparts. In other words, it may be said that super-purchasing single women are more sensitive to price values due to economic constraints. Therefore, department stores should invest in relationship equity involving customers with high CLVs, and provide higher price value particularly to single women.

The limitation of this study is that it measured the amount of consumption on clothing by using categorical scales for the sake of ease and objectivity of measurement, then converted the data into won amounts, and thus it failed to measure actual consumptions of individual customers, which may either overestimate or underestimate the consumptions. Therefore, it is recommended that following studies should provide open questions about the amount of consumption on clothing. Considering that this study is limited to in-department store apparel shops, it is also advised to conduct comparative studies on different store types that are in competition with department stores, and evaluate the competition dynamics of apparel brands.

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