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IMPACT OF RELATIVE INCOME ON SHOPPING PREFERENCES OF THE CHINESE MIDDLE CLASS: A CASE STUDY, DALIAN, CHINA

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The purpose of this paper is to focus on Chinese middle class retail consumers' shopping preferences and dissimilarities from the perspective of income differentiation. In this respect, the overall goal of this case study is to explore segregated shopping preferences of the middle-income retail consumers' bias to their *relative-income clusters* (defined in Section 3) in urban Dalian, China. SPSS and Excel software was used for data processing and analysis in this study. Standard deviation computed using excel for each variable aim to measure how well the mean represents the data involved in the study. Multiple regression models were used to test the significance of the influence of independent variables to dependent variables. Two regression models were used to test the significance of the explanatory variables to describe the change in dependent variables. The relationship between the explanatory variable and dependent variables are presented as the Classical Linear Regression Model (CLRM). Findings suggest that affordability dissimilarities as a dependent factor to relative income differences have significant and indicative roles and impacts on Chinese middle-class consumers' shopping preferences and subsequent actual purchase decisions, and as a whole on consumption patterns. The findings can provide new insights for elaboration of competitive strategies targeting the different income levels exclusively in a second-tier city, and inclusively in China.

Keywords: Relative income, Consumer preference, Middle-income consumers, Retail segment, Retail Market, Dalian, China

INTRODUCTION

Almost a decade ago, Samiee *et al.* (2004, p. 250) noted, "Chinese consumers spend an average of about \$317 a year on retail (making the size of the retail market \$412 bn). This is a relatively

small amount by regional standards, and only a fraction of the retail market, most retail expenditure by Chinese consumers is in small, independent shops, most retail spending is concentrated in such big cities." Not only have

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the figures for average consumer spending in retail markets and the size of markets shown a dramatic upward trend since 2004, there has also been a big shift from consumer spending in independent shops to supermarkets and shopping malls.

China has become the world's second largest retail market after the United States, with total retail sales of consumer goods in China doubling to 21 trillion yuan (US\$3.44 tn) in 2012 from 10.8 tn yuan (U.S\$1.77) in 2008, according to the Ministry of Commerce (Shan, 2013).

Dynamics of the Chinese retail industry and retail market are also attracting the attention of researchers in academia with somewhat wide-ranging perspectives (e.g., Wong and Yu, 2002; Zhou and Wong, 2003; Mai and Zhao, 2004; Veeck and Burns, 2005; Lu *et al.*, 2007; Chaney and Gamble, 2008; Wong and Dean, 2009; Laforet and Chen, 2012). In general, most of these articles consider Chinese retailers' customer value-satisfaction-loyalty, purchase intention, and shopping patterns. There are also some noticeable articles written by Chinese researchers (e.g., Li *et al.*, 2006; Xiong and Luo, 2008; Ma, 2009; Wang, 2009; Xu *et al.*, 2012, Zhao *et al.*, 2013). However, excluding the articles written by Chinese academics, the others show a general tendency to extend their conclusions to a countrywide platform. These "generalizations" may be plausible for developed countries' retail consumer evaluations, which show more or less similar shopping behavior, preferences, and attitudes, but for emerging countries, and exclusively for China, it is rather problematic.

Firstly, China is not a "single market but a jigsaw puzzle of small, overlapping markets separated by geography, culture, cuisine,

demographics and dialects" (USDA, 2012, p. 3). This issue of generalization is also well-recognized by certain scholars (e.g., Wong and Yu, 2003; Zhang *et al.*, 2008; Zhou *et al.*, 2010). Furthermore, culture, climate dialect, and gastronomy all have an effect on firms in retailing, because they influence consumers' responsiveness to advertising, price and quality sensitivity, product preference and acceptance, and shopping behavior. Secondly, consumer spending characteristics, consumption patterns, and psychology and behavior, in the third and the fourth tier cities (for a description of Chinese city tiers, see Appendix 1) are quite different from those in the first and second tier cities. Finally, and maybe more importantly, parallel to the increase of household purchasing power and the rapid emergence of a middle class, consumer demand has become more diversified and personalized in relation to increases in personal income. In response to this connection, implementing action 'segmentation methodology' to the Chinese middle class, DataMonitor has identified six sub-segments within the middle-income group, each with their own exclusive needs and consumption patterns: "Early Heavy Buyers, the Smarts, the Quality-Oriented, Trend Followers, Driven Business people, and Value Seekers" (Song and Cui, 2009, p. 9).

In the same context, there is little academic research that directly and exclusively considers Chinese middle-class retail consumers' shopping preferences and dissimilarities from the perspective of income differentiation. In this respect, the overall goal of this case study is to explore segregated shopping preferences of middle-income retail consumers in regards to their relative-income clusters (defined in Section 3) in urban Dalian, China. In the same context, the

comprehensive objectives of this study are to take into consideration consumers' relative incomes:

- To test hypotheses concerning their shopping preferences and discern their perceptions and consciousness regarding price-value-quality-and-loyalty concepts,
- To understand shoppers' criteria of preference(s) towards retail market segments, and
- To explore plausible links between shopping attitudes, intentions, behavior, and intention to purchase and actual purchase (Howard and Sheth, 1967), and develop insight into probable relations between actual purchase and affordability (defined in Section 3).

The results will provide new insights for elaboration of competitive strategies, targeting the different income-levels exclusively in a second-tier city and inclusively in China.

This case study unfolds as follows. First of all, it offers brief information about Dalian, China. Next, it defines and differentiates income clusters within the limits of this case study. Further, it sets forth propositions and discusses the statistical differences between income clusters. In conclusion, it addresses the theoretical as well as the managerial implications of this study, as a synthesis of the findings on shopping behaviors and intentions relevant to differentiated trajectories of shopping preferences in each cluster.

CASE CITY: DALIAN

Dalian is the second largest city in the Liaoning Province, with a total area of 13.8 thousand square kilometers and a population of six million people. Considered third and fourth tier cities (see Appendix 1, it includes 10 municipalities and counties.

The per capita net income of Dalian's urban residents in 2011 was 28,436 yuan, with per capita disposable income of 24,276 yuan. Actual per capita disposable income of urban residents grew by 8.2% if price factors are excluded. In 2011, the GDP per capita was 73,134 yuan (\$10,708) (Dalian Statistics Yearbook, 2011). Dalian's retail market is mainly clustered in the Zhongshan district, the Olympic Square area, and along the Xi'an Road.

This study classifies the market segments in Dalian as:

- Hypermarkets
- Shopping malls, and
- Local markets.

Hypermarkets: These include: Carrefour SA., China, Wal-Mart Stores Inc., China, Mykal Co. (recently due to the M&A acquisition, the name was changed to Myka), TESCO PLC-China, New Mart, and Metro Group (Metro AG, China). Mykal and Metro are one of the fundamental building blocks of this study.

Shopping malls: These have department stores, high-end retailers, including Dunhill, Armani, Prada, Louis Vuitton, etc., specialty stores that sell up to 90% imported goods, and boutique shops.

Local markets: Local markets contain wet markets, specializing mainly in meat, poultry, seafood (mostly sold live), eggs, tofu, and to a lesser extent fresh vegetables and staples. In particular, the meat and poultry sanitary standards are very low.

Apparel stands sell cheap cloth and accessories and, more frequently, counterfeits of well-known brands (e.g., Nike, Adidas, etc.),

and even perfumes. There are numerous fresh fruit-vegetable stands. Small variety stores (*xiao mai bu*) are family-owned; they stock a heterogeneous mix of products, are smaller in size than convenience stores, and are mostly located in the residential areas. Consumers who prefer to buy mostly apparel, cosmetics, meats, and staples from these markets are those who are seeking cheaper products.

INCOME CLUSTERS

There are no official figures for income classes, neither nation-wide or for Dalian.

Considering this pre-test outcome, questionnaires were designed in order to able to determine “relative” income levels. In the questionnaire, under “*personal information*,” respondents “*owning a car*,” “*employee*,” and “*own business*,” and retrieved data were accepted as pivotal determinants for the relative division of the middle-class income segments, which are termed *clusters*.

In this case study, a “cluster” means a *relative* income segment of a certain group of consumers with prevailing shopping preferences and characteristics and an exclusive purchasing power in the middle-income class. These are labeled:

Higher-middle-income cluster (cluster 1). Own car and own business.

Median-middle-income cluster (cluster 2). Own car and employee.

Lower- middle and low –income cluster (cluster 3). No car, employee.

The McKinsey (2013) report’s “income segment” data can be used for visualization. In the report, “Annual Disposable Income,” per urban

household, in 2010, real terms are defined in terms of Chinese Yuan as: “affluent more than 229,000; upper middle class, 106,000 to 229, 000 (equivalent to \$16,000 to \$34,000; mass middle class, 60,000 to 106,000 (equivalent to \$ 9,000 to \$16,000); poor, less than 60,000 (p. 3).”¹ This study’s clusters correlates: *affluent* and *upper-middle class* to cluster 1, *mass middle class*, and *poor*, clusters 2 and 3, respectively.

In this study, a consumer’s level of purchasing power of a product, called *affordability*, is dependent on a consumer’s household income and plays a mediating role in shopping preferences and subsequent actual purchases of a particular commodity and service of a certain quality and capability. It determines the ability to be able to the pay the designated price for the corresponding quality.

HYPOTHESIS

Although purchasing a product and consumption shows universality, the perception of price, value, and quality are subjective and multidimensional constructs, as a whole shopping behavior-and-style and purchasing behavior may differ according to affordability. For instance, consumer A may be able to buy an original Kelvin Klein jean or Louis Vuitton bag in a shopping mall, however, consumer B may only be able to afford and buy the non-deceptive pirated fake ones from a stand in a local market. In the former case, the consumer can afford to or is willing to pay the price for certain perceived “value” and “quality”, which costs 10 to 20 times more than the latter case. Likewise, the latter is willing to pay a price for certain perceived “value” and “quality”. Since the retail sector is a demand-driven sector, demands for fakes, which are bought by lower-income consumers for a lesser price, create the

“value”. For these consumers it is “good value for the money”, because they can only afford fakes. Likewise, upper income consumers can afford to buy high-end and/ or luxury brands, so for them it is also good value for money. Therefore, “value” of a good is created in both cases. Affordability creates the value for particular goods and services; just as in finance the market-maker creates the value of a security or currency exchange. This view is also consistent with that of other scholars, as price is what is given up or sacrificed to acquire a good and service (Ahtola, 1984; Zeithaml, 1988).

At the same time, perceived price is a subjective construct, because some consumers may notice the exact price, others may encode and remember the price only as ‘expensive’ or ‘cheap’, and still others may not encode the price at all (Zeithaml, 1988, p. 9). Simply put, it is not wrong to advocate that perceived price and “pricing” may directly depend on a consumer’s affordability to buy a product. The above illustrative examples can also be extended to concepts of value, quality, and loyalty.

Academic literature related to value offers multiple concepts, models, and definitions (Fernández and Bonillo, 2007; Voima *et al.*, 2010). Recently, Heinonen *et al.* (2010) proposed a concept of “Customer-Dominated Logic (CDL)” for value creation. This concept is elaborated on in their subsequent research (Voima *et al.*, 2010; Heinonen *et al.*, 2013). According to CDL, “value is not objective or purely subjective; it is through its relative and cumulated nature always personal” (Heinonen *et al.*, 2010, p. 9). Simply put, the concept of value is personal, and the customer determines what the value is. Our case study, to a certain extent, also adopts this new way of

understanding this “value” concept. It is a well-known fact that the retail sector is a demand-driven sector; demand pulls the supply. That is, an individual creates the demand for particular goods or services. This also means that an individual’s “value” creates both intrinsic and cognitive value and also monetary value for the particular goods and services. For instance, as a response to demand, non-deceptive pirated goods “value” is created. As indicated in the earlier example, the purchase of pirated goods by lower income consumers is consistent with this view, not only the demand-side of the counterfeiting market (Maman, 2009), as it fulfills the consumer’s desire to be part of a group, represented by the logo, which they can further justify with a rational explanation, such as they are getting “good value for the money” (Teah and Phau, 2007). Another study also supports this study’s concept of affordability as an antecedent of creation of value and its outcome as demand-creation (purchase). Prendergast *et al.* (2002) found out that relative to average per-capita income, lower-income (low spenders, mainly students or blue-collar workers between the ages of 19 and 24, with a secondary education) and low-middle-income (high spenders, mainly white-collar workers between the ages of 25 and 34, with tertiary education) buy non-deceptive pirated brands in Hong Kong.

A surfeit of literature also considers the notion of quality of goods and services in depth, under quality of products, brand quality-equity, quality of shopping place-space, quality of servicing, etc. (Garvin, 1984; Aaker, 1991; Dodds *et al.*, 1991; Chaudhuri, 2002; Chebat *et al.*, 2009). In the context of quality-loyalty, this study considers that quality is a summation of product quality, service quality, and store quality that includes

atmospherics and image dimensions of the shopping space. Secondly, it places the issue of quality and loyalty under the very basic theories of economics, the scarcity concept. In line with the study, the concept is linked to the richness of options/alternatives of choices between inter-or-intra-retail segments (simply channel options), including goods and services related to affordability. On the other hand, the normative concept of “quality” is subjective, because no matter what a consumer’s income-level is, he/she every time will seek better quality within the limits of his/her affordability; in other words, “right-price for “right-quality”. In this context, this study understands loyalty from the customer standpoint; firstly, as a dynamic concept, which shows not only differences of loyalty perception but also timely—even minute—changes in brand and/or store loyalty and, secondly, as repeated purchases from certain channels of retail segments. Nevertheless, except accessibility and shopping-time, generic relations between these attributes and perceived value are not the main foci of this study. This study considers the concept of value in a broader perspective as a dynamic phenomenon, more personalized, which shows temporal and spatial changes and acknowledges the consumers’ main determinant role in value creation.

Some of the axiomatic dimensions of consumer behavior may be limited by the factor of time. In this respect, major behavior-decision making tenets consider time and/or financial resources as inhibitors, which confine the consumption choice (Loudan and Della Bitta, 1992; Schiffman and Konuk, 2009). Time is also proclaimed as one of the fundamental restraints that exclusively impact service value or a dynamic factor that influences consumers’ attitudes,

shopping behaviors, or purchase intentions in retail shopping (e.g., Bäckström and Johansson, 2006). There are also some scholars who either consider time as a common denominator in the economic behavior of households (e.g., Stone, 1954; Garretson and Ferdinand, 1963; Jacoby *et al.*, 1976; Arndt and Gronmo, 1977; Heinonen, 2004).

This study considers the factor of time in a broader perspective and in relation to two interlinked major dimensions; ‘Shopping Duration’ (SD) and ‘accessibility’. SD means time spent from commencement to completion (i.e., generally from/to home or office) of shopping action. SD is further subdivided into two parts; in terms of distance (close/far) and shopping time, which is time spent on purchasing goods and includes queuing. Accessibility means choice or ease of access to the shopping destination, either by foot, by public transport, or by private vehicle. It is undeniable that consumers’ sensitivity to SD and accessibility varies by nature. Therefore, this study considers closeness/distance, shopping time, and accessibility as independent variables.

Much of the research reports a positive and strong relation among customers’ value-quality-loyalty triad (e.g., Sweeney and Soutar, 2001; Wong and Dean, 2009). To summarize this research, value-quality-loyalty-satisfaction either supplements or complements each other. In the context of the loyalty card, there are contradictory opinions about the motivating value of the card; notwithstanding what the name infers, a loyalty card does not purchase a customer’s loyalty. For instance, research company IpsosMori and loyalty scheme provider, The Logic Group, asked a group of 2,153 people if their membership in a loyalty program influenced their buying decisions. Only

23% of them said that it influenced their buying decisions in the UK (Shaw, 2013). Nevertheless, this study considers consumer's valuing and prioritization of the loyalty card from hypermarkets as independent variables.

As previously noted, Mykal and then Metro are one of the fundamental building blocks of this case study's clusters. Mykal is easily accessible and customized as a "high-end hypermarket". In certain ways, Mykal has a competitive advantage among the hypermarkets. For instance, it excels at atmospheric and image settings; shoppers can enjoy background music while shopping. As do the other hypermarkets, it has 'green' vegetable and fruit products, but additionally it offers an 'organic' fresh stand and organic dry commodity varieties (e.g., rice, flour, and eggs). It has the largest variety of imported baby-food, milk, juices, confectionery, biscuits-cookies, patisseries, sanitary goods, detergents, and personal care products among the other hypermarkets.

However, prices are substantially higher (20-50%) than other hypermarkets, not only for imported items but also for local products. For instance, according to the authors' shopping experiences and observations, the quality of green vegetables and fruits are more or less comparable to other hypermarkets, however, their prices are higher. In a way, shoppers pay an opportunity cost; those who shop in Mykal are expected to be more selective and quality conscious consumers.

Metro targets niche-markets, such as medium and small sized restaurants and hotels and has membership systems. Besides the standard store sections, it has the widest selection of imported products of any of the hypermarkets and a large section of frozen processed foods,

including meat, any kinds of sea foods, frozen vegetable mixes, frozen potatoes, and desserts. However, Metro is not easily accessible by foot or by public transport.

Under the above deliberations, consumers who:

- More/most intensely/frequently shop at either Mykal and/or Metro as first and/or second choice among hypermarkets and/or from shopping malls can be arbitrarily called "quality conscious shoppers";
- Less intensely/frequently choose to shop at Mykal/Metro, either as first or second preference, shop more in other hypermarkets and are less likely than the above shoppers to shop at malls can be arbitrarily called "quality-price conscious shoppers";
- Least intensely/frequently shop at Mykal or Metro or shopping malls, but more intensely/frequently shop either at other hypermarkets and/or local markets can be arbitrarily called "price-conscious" consumers.

Therefore, this case study proposes the following:

P1a: Quality consciousness increases in clusters 3 to 1.

P1b: Price consciousness increases in clusters 1 to 3.

P2: Value/Importance of loyalty cards increase in clusters 1 to 3.

P3a: Sensitivity to shopping time increases in clusters 3 to 1.

P3b: Sensitivity to accessibility increases in clusters 1 to 3.

Much of the literature discusses the major

drivers/determinants of consumer behavior and their impact on purchase intentions. Money attitude factors (price sensitivity-compatible and affordable price-power prestige) are considered one of the major drivers. Simply put, individual's shopping preferences are the outcome of 'self-evaluation' (consumer-self). In this respect, consumer-self (shopper) can be defined as the summation of an individual's experience, including emotion, cognition, and motivation, and it carries the purchase intention forward to the act of buying.

The price-quality scheme plays an important role in consumer decision making. It is the judgment of perceived quality, impinges on perceived value and intention to purchase, and some consumers have a higher susceptibility than others to use price as a general indicator of quality, regardless of the product type (e.g., Lichtenstein and Burton, 1989; Rao and Monroe, 1989; Tellis and Gaeth, 1990; Lichtenstein *et al.*, 1993). The above elaborations suggest a positive relation between affordability and quality. Actual purchase that succeeds intention to purchase (Howard and Sheth, 1969; Týrtýroglu and Elbeck, 2008), which reflects the buyer's willingness to buy, or investment/disinvestment decisions can be modified by inhibitors like time and money, which curtail the consumption choice (Loudon and Della Bitta, 1993). In this respect, affordability as a mediator has a facilitating role in the buying practice.

One of the fundamental concerns for a consumer's consumption choice is income or wage levels and thus their budgetary constraints in economics. Based on the plenitude of literature and the focus of this study, the view that income effect (the affordability factor) predicates

consumer behavior and consumer choice is incontestably predicated (e.g., Palley, 2008):

- Consumer's diversity of choice increases as income rises,
- Income and budgetary constraints have a paramount impact on consumer behavior,
- A higher income will result in a changeover increase in quantity for various consumable goods and services,
- The substitution effect is closely correlated to the income effect, where the price of commodities and a consumer's income will play a role in the decision making process,

Accordingly, we propose:

P4a: Diversity of intermarket and intra-market channeling increases in clusters 1 to 3.

P4b: Diversity and quality of choice of goods increase in clusters 3 to 1.

RESEARCH METHODOLOGY

Data Collection and Monitoring

Primary data was used in this study. For collecting data, we personally administered 300 questionnaires consisting of a number of questions which represented the consumers' shopping preferences depending on their relative income. For the purpose of this study, 229 questionnaires were found usable for the analysis and evaluation of the data. Convenience sampling was used in order to determine consumers' choice preferences among intra and inter-market segments, together with product preferences in value-quality-price perception differences related to relative income and personal (demographic) profile of customers.

DATA ANALYSIS

SPSS and Excel software were used for data processing and analysis in this study. Standard deviation was computed using Excel for each variable aimed to measure how well the mean represented the data involved in the study. Multiple regression models were used to test the significance of the influence of independent variables to dependent variables. Two regression models were used to test the significance of the explanatory variables to describe the changes in dependent variables. First, the dependent variable of market segments and the independent variable, as presented by Price, Quality of Products, Accessibility, Queuing Time, and Loyalty Card was analyzed in each cluster.

Second, the consumer products (Groceries, Bazaars, Appliances, Textiles, Cosmetics, and Fresh) were the dependent variable. Independent variables were shopping directly related to shopping preferences in each cluster. In analysis, the dependent variable in every market segment was taken separately, while the independent variable involved all variables in every step.

The multiple regression models, for the first case are expressed as follows:

The relationship between the explanatory variable and dependent variables are presented as the classical linear regression model (CLRM):

$$\begin{aligned}
 Y(\text{market segments}) &= \alpha_1 + \beta_1(\text{quality}) \\
 &+ \beta_2(\text{price}) \\
 &+ \beta_3(\text{accessibility}) \\
 &+ \beta_4(\text{queuing}) \\
 &+ \beta_5(\text{loyalty_card}) + \varepsilon_1
 \end{aligned}$$

and

$$\begin{aligned}
 Z(\text{Consumed products}) \\
 &= \alpha_2 + \lambda_1(\text{Most_shopped}) \\
 &+ \lambda_2(\text{Normal}) \\
 &+ \lambda_3(\text{Least_shopped}) + \varepsilon_2
 \end{aligned}$$

where

Y and Z indicate the dependent variable in market segments and consumed products, α_1, α_2 is the constant term, $\beta_1, \beta_2, \dots, \beta_5$ and $\lambda_1, \lambda_2, \lambda_3$ are the regression coefficients of explanatory variable and $\varepsilon_1, \varepsilon_2$ are error term.

Applying SPSS, the regression model was tested to show how well it fitted the data. The significance of each explanatory variable in every cluster was also tested. The regression coefficient of each independent variable and standard error is presented in Appendix 2. The t-test statistics were used to test the significance of each explanatory variable and hypothesis. The p-value of each t-test was used to make conclusions of whether to reject the null hypothesis or not. The point of rejection of the null hypothesis was a level of significance of 5%.

RESULTS

Table 1 presents the demographic description of the respondents. Appendix 1 presents a summary of statistics (percentage of distribution, mean, and STV) of each cluster. Appendix 2 shows the regression coefficients (β, λ), standard error (SE), and t-test of independent variables for each cluster. Moreover, in the same appendix χ^2 values are presented.

DEMOGRAPHIC

Demographic data shows that 58.08% respondents were female and 41.92% were male;

Table 1: Demographic Characteristics (% , Mean and Std)

Variables	0	Percent	Mean	Standard deviation
Gender	Male	41.92	48.00	67.88
	Female	58.08	66.50	94.50
Marital status	Single	7.42	66.50	94.05
	Married	92.58	106.00	29.70
Age	21-30	16.16	18.50	3.54
	31-40	35.37	64.50	23.33
	41-50	37.12	42.50	6.36
	51 above	11.35	13.00	5.66
Having car	have car	42.79	49.00	8.49
	No car	57.21	65.50	50.20
Education	High school	5.24	6.00	8.49
	University	84.72	97.00	29.70
	Post university	10.04	11.50	3.54
Work	Own business	25.76	17.50	12.02
	Employee	74.24	70.00	22.63

the average age of female was 58.52%, while for males it was about 41.48%; 7.42% were single and 92.58% were married; 42.79% owned a car and 25.76% had their own business (Table 1).

Testing the Proposals

P1a states quality consciousness increases from cluster three to one. Neither Metro nor Mykal are the first or second choices in clusters 2 and 3; their first and second choices are Wall-Mart-Carrefour and Carrefour-Tesco, respectively, and cluster 3 data for Mykal and Metro is almost null. According to regression analysis results, Mykal is first and Metro is the second choice in cluster 1 (Appendix 2). The t-test values for quality variable also validates that it is statistically significant in Mykal and statistically insignificant

in Metro, and the chi-square values also agree with P1a (Appendix 2). Therefore, P1a is supported.

P1b states price consciousness increases from cluster one to three, which is contrary to P1a. Cluster 1 consumers shop the least from local markets (Table 2). The regression coefficients results show that consumers shop: only Fresh in cluster 1, Fresh and Grocery in cluster 2, while cluster 3 includes all items. However, 'normal' increases from one to three, while, in contrast, 'least shopped', increases from three to one. Moreover, regression results confirm that consumers shop Grocery, and 'normal' increases from clusters 2 to 3, while 'least shopped', increases from clusters 3 to 2 (Table 2 and Appendix 2).

However, in Fresh, least frequently shopped is more recognizable between clusters 2 and 3 (Appendix 2). Cluster 3 shows comparatively most decipherable shopping behavior in local markets than the other two clusters. Consumers shop for every kind of items enlisted in Appendix 3, under local markets with an almost equal weighted average with hypermarkets. For cluster 3 consumers, the overall cheapness variable of goods is one of the most important factors of their shopping choice in local markets. Thus, P1b is supported.

P2 states value/importance of Loyalty Card increases from clusters 1 to 3.

Table 3 data shows that the importance of Loyalty Card increases from clusters 1 to 3. Regression coefficient values for Loyalty Card, variable in hypermarket segment in Appendix 2, increase in clusters 1 to 3. Likewise, all chi-square values in hypermarket segment also increase in clusters 1 to 3. Hence, P2 is supported.

P3a states sensitivity to shopping time by means of queuing increases in clusters 3 to 1.

Considering the first and second choices of each cluster in the hypermarket segment, regression coefficient values for queuing increases in clusters 3 to 1 (Appendix 2). Chi-square values except Mykal and Metro, which is the first and second choice in cluster 1; for other sub-segments in hypermarket, it is statistically insignificant. That may also show shopping-time sensitivity is important for cluster 1, while less important for clusters 2 and 3. Therefore, P3a is partially rejected.

P3b states sensitivity to accessibility increases in clusters 1 to 3.

Results in Table 2, Appendix 3 and 4 shows

that cluster 3 consumers are very sensitive to closeness/distance variables, which seemingly play an important role in shopping behavior and purchase intention, while it is statistically insignificant in/and between clusters 1 and 2. Thus, it explicitly supports Own car/No car variables as a pivotal determinant for the division of the middle-class income segments, and so implicitly P3b is partially rejected.

P4a states diversity of inter-market and intra-market channeling increases in clusters 3 to 1. Results of the summaries of the statistics and regression data concur with the proposal (Table 2 and Appendix 2 and 3). Cluster 3 shops only two intermarket channels, which are hypermarkets and local markets. Clusters 2 and 3 do not shop in Mykal and Metro as intra-market channels. Therefore, proposal P4a is supported.

P4b states diversity and quality of choice of goods increase in clusters 3 to 1. Results of regression analysis validate the proposal (Appendix 3). For instance, regression values in Cosmetics indicate that diversity of choice and also quality of choice of the shoppers in clusters 3 and 2 are limited (i.e., neither buy in Mykal or Metro) in hypermarkets, cluster 3 also purchases in local markets, while clusters 2 and 1 do not. Cluster 2 and 1 buy from shopping malls, however, the latter purchase more frequently than the former, and cluster 1 shoppers only shop in Mykal and Metro among the hypermarket channels (Appendix 3). This example in the same context is also valid for Groceries, Bazaars, and Textiles shopping in shopping malls (Appendix 3). Thus, P4b is supported. Since, quality of choice is enhanced with increasing diversity of choice of market channels, it further revalidates quality consciousness, P1a.

Table 2: Overall Percent, Mean and Standard Deviation by Market Segment

Market segment	Cluster1			Cluster2			Cluster3		
	%	mean	std	%	mean	std	%	mean	std
Hypermarket	67.27	24.67	8.04	45.44	64.83	29.41	60.32	56.25	32.42
Shopping mall	16.36	12.00	8.66	41.47	71.00	58.55	19.84	24.67	5.03
Local Market	16.36	9.00	4.55	13.08	22.4	15.24	19.84	24.67	6.81

DISCUSSION AND CONCLUSION

As mentioned earlier, attempts to determine respondents' incomes were not wholly successful. Also, not having supporting information on retrieved income data is a problematic variable. Additionally, figures on income in China are either unavailable or unreliable, so using alternative variables are more meaningful in order to predict what consumers can afford and what they are willing to pay for certain goods and services (Hong, 2014). Without any contention, the entirety of the results showed that selecting 'own car/no car' and having one's own business vs. employee' variables in this case study as alternative discriminative indicators, together with other interrelated variables, to ascertain the divisions among the flourishing Chinese middle class, appears to be feasible and reliable.

The findings of this case study show that: firstly, the whole price and quality variables reveal that, notwithstanding the rising purchasing power of the middle class, who are progressively demanding and willing to pay more for higher quality and better service, they are still price sensitive. However, while price sensitivity increases contrariwise, equality consciousness—product and service—decreases in clusters 1 to 3, though relevancy of this increase/decrease is more noticeable

between clusters 3 and 2, rather than clusters 2 and 1.

Apart from price distress, and despite numerous recent hygiene food scandals in local markets, lower income consumers continue to buy from these markets, not because they are less conscious about sanitary and quality constraints than clusters 1 and 2, but because prices are cheaper and stores or stands are close to their homes. Therefore, quality as a concept/construct increases from 1 to 2 to 3. Demand ensures that these markets continue to exist and lower income consumers retain the collective values not in terms of keeping alive the old traditions, but due to affordability.

Secondly, as far as shopping preferences, intentions, and behavior are concerned, there are distinct biased differences between the clusters and this is particularly decipherable between cluster 3 and the remaining two clusters. Cluster 1 consumers are a priori both perceived to be and are value quality-oriented and are not price-sensitive. The quality consciousness ostensibly has a strong influence on shopping preferences and intention to purchase. Cluster 2 consumers also demand better qualities of merchandise, but at the same time are more price-sensitive. Cluster 3 consumers are most price-sensitive consumers, habitually shopping at hypermarkets and local markets. Therefore, it is most probable that they seek a cheaper price of a commodity

with similar quality. The above treatise, based on regression findings in a contextual stance, is also consistent with other empirical works (Hayes, 2000; Leibtag and Kaufman, 2003; USDA, 2012; CBRE, 2012; McKinsey, 2013; PWC, 2013; Hong, 2014).

Thirdly, shopping behavior, purchase intention, intention to purchase, and, as a whole, shopping preferences and subsequent actual purchases, differ between clusters. Taking into account the previous research (e.g., McKinsey, 2013; Hong, 2014) and our regression findings, this study concisely elucidates the differences in shopping preferences among the clusters under the hypothetical framework of the behaviorist view (Nicholson, 2002). Under the contextual framework of Nicholson's work (2002, p. 58): Cluster 1 consumers demonstrate *conspicuous consumption*, purchase high-end products/brands, and enjoy their economic power. They are at the highest level in the operant behavior and shopping maximizes both hedonic and informational reinforcement forms. Cluster 2 consumer characteristics may be in between or a combination of *accumulation shopping and pleasure shopping*. They are in high-and-low hedonic reinforcement, but low in informational reinforcement and can purchase quality products/gadgets. Cluster 1 consumers may belong to the lowest level class of operant and shopping behavior involves *maintenance shopping*; the consumer acquiring basic needs only. They are characterized by little hedonic reinforcement.

Finally, within the limits of the summary of statistics and regression data of this study and further supported by the above arguments, relative income levels are undoubtedly a dependent factor of affordability. Furthermore,

affordability plays a mediating and also indicative role on overall judgment of quality and price, coupled with shopping preferences and subsequent actual purchase that is exclusive to each cluster's consumers. This assertion is consistent with the literature (e.g., Leibtag and Kaufman, 2003; Ferrer-i, 2005; McKinsey, 2013; Hong, 2014). Additionally, according to behavioral pricing, research consumers have lower and upper price thresholds (Ofir, 2004). Therefore, margins of threshold can vary according to consumer's affordability to purchase commodities and service; in turn, it is self-evident that margins of thresholds also differ from one cluster to other.

Taken in sum, this study's findings suggest that affordability dissimilarities as a dependent factor relative to income differences have a significant and indicative role and impact on Chinese middle-class consumers' shopping preferences and subsequent actual purchase decisions and, as a whole, on consumption patterns.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

The findings of this case study are limited to urban Dalian. For this reason, interpretations and conclusions relevant to differences in shopping preference bias relative to income may not be enough to generalize to other second tier urban cities in China. Others limitations may be in reference to sampling and data collection and qualitative variables. However, future studies could bypass these limitations by using data associated with specific geographically diversified numerous second tier urban cities with more representative samples and additional variables.

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APPENDIX 1

Tier Division of Chinese Cities

1st tier cities – Beijing, Shanghai, Shenzhen, Guangzhou,

2nd tier cities – part of municipality, provincial cities, sub-provincial cities, economically developed cities

3rd tier cities – include provincial cities in less developed areas and majority of prefecture level cities

4th tier cities – mainly county-level cities and county towns

APPENDIX 2

Percentage Distribution, Mean and Standard Deviation of Market Segments for Clusters

Market Segment	Item		Cluster1			Cluster2			Cluster3		
			%	Mean	Std	%	Mean	Std	%	Mean	Std
Hypermarkets	Carrefour	16.32	8.00	2.646	23.79	31	7.94	35.87	26.67	2.52	
	Metro	17.01	8.33	2.08	6.65	8.67	4.16				
	Mykal	27.21	13.33	2.08	7.42	9.67	4.51				
	Tesco	12.24	6.00	2.646	22.25	29.00	4.00	23.32	17.33	5.77	
	New Mart	13.61	6.67	1.15	20.46	26.67	5.51	5.38	4	3.46	
	Wal-Mart	13.61	6.67	2.252	19.44	25.33	6.66	35.43	26.33	5.03	
Shopping mall	Groceries	Most shopped	17.14	3.00	1.41	0.18	10.00	1.41			
		Normal	40.00	7.00	9.90	0.37	20.50	3.54			
		Least shopped	42.86	7.50	0.71	0.45	25.00	7.07			
	Bazaars	Most shopped	12.50	3.50	4.95	28.10	17.00	14.14	27.03	10.00	2.83
		Normal	42.86	12.00	4.24	47.11	28.50	10.61	40.54	15.00	7.07
		Least shopped	44.64	12.50	12.02	24.79	15.00	5.66	32.43	12.00	5.66
	Appliances	Most shopped	86.00	15.50	10.61	78.05	48.00	1.41	21.62	8.00	0.00
		Normal	14.00	2.00	1.41	21.95	13.50	6.36	33.78	12.50	4.95
		Least shopped							44.59	16.50	10.61
	Textiles	Most shopped	91.00	16.00	9.90	63.71	39.50	13.44	31.08	11.50	4.95
		Normal	9.00	1.50	2.12	36.29	22.50	6.36	36.49	13.50	2.12
		Least shopped							32.43	12.00	8.49
	Cosmetics	Most shopped	60.00	10.50	4.95	43.31	27.50	13.44	31.08	11.50	10.61
		Normal	40.00	7.00	7.07	37.01	23.50	3.54	45.95	17.00	0.00
		Least shopped				19.69	12.50	4.95	22.97	8.50	4.95

APPENDIX 2 (CONT.)

Market Segment	Item		Cluster1			Cluster2			Cluster3		
			%	Mean	Std	%	Mean	Std	%	Mean	Std
Bazaars	Groceries	Most shopped				9.09	5.50	2.12	36.49	13.50	4.95
	Normal					30.58	18.50	2.12	40.54	15.00	7.07
	Least shopped					60.33	36.50	4.95	22.97	8.50	3.54
	Most shopped								27.03	10.00	5.66
	Normal								44.59	16.50	6.36
	Least shopped								28.38	10.50	3.54
Appliances	Most shopped								17.57	6.50	0.71
	Normal								82.43	30.50	14.85
Textiles	Most shopped								28.38	10.50	4.95
	Normal								45.95	17.00	4.24
	Least shopped								25.68	9.50	6.36
Cosmetics	Most shopped								21.62	8.00	5.66
Fresh	Normal								33.78	12.50	2.12
	Least shopped								44.59	16.50	7.78
	Most shopped		0.09	1.50	2.12	42.15	25.50	6.36	50.00	18.50	9.19
	Normal		0.43	7.50	6.36	28.10	17.00	4.24	29.73	11.00	4.24
	Least shopped		0.49	8.50	3.54	29.75	18.00	1.41	20.27	7.50	2.12

APPENDIX 3

Results of Regression Analysis, Chi-square and T-test in Hypermarket for Clusters												
Market Segment	Variables	Cluster 1				Cluster 2				Cluster 3		
		β	SE	t-Test	χ^2	β	SE	t-Test	χ^2	β	SE	t-Test
Carrefour	Price	0.381	0.247	1.543	6.00	-0.833	2.205	-0.378	6.00	0.01	0.079	30.00
	Quality	0.189	0.146	1.295	18.00	-0.318	2.023	-0.157	18.00	0.073	0.207	30.00
	Distance	0.172	0.094	1.830	18.00	0.284	0.365	0.778	24.00	-0.01	-0.064	24.00
	Queuing	0.12	0.115	1.043	18.00	-1.112	0.685	-1.623	24.00	-0.01	-0.053	30.00
	Parking	0.218	0.143	1.524	14.00	0.238	0.538	0.442	24.00			
	Loyalty card	-0.019	0.238	-0.080	12.00	-2.086	0.799	-2.611	18.00	-0.05	-0.223	30.00

APPENDIX 3 (CONT.)

Market Segment	Variables	Cluster 1				Cluster 2				Cluster 3		
		β	SE	t-Test	χ^2	β	SE	t-Test	χ^2	β	SE	t-Test
Metro	Price	-0.111	0		2.00	3.00	1.275	2.353	4.00			
	Quality	0.148	0.28	0.529	15.00	-1	2.372	-0.422	4.00			
	Distance	0.061	0.208	0.293	10.00	-0.494	0.179	-2.760	12.00			
	Queuing	0.136	0.218	0.624	15.00	1.846	0.425	4.344	12.00			
	Parking	0.229	0.27	0.848	11.25	-0.843	0.353	-2.388	8.00			
	Loyalty card	0.054	0.078	0.692	3.00	1.471	0.6	2.452	8.00			
Mykal	Price	0.31	0.124	2.500	6.00	-1.5	0.833	-1.801	2.92			
	Quality	0.255	0.103	2.476	18.00	0.333	0.962	0.346	7.50			
	Distance	0.149	0.094	1.585	14.00	0.104	0.196	0.531	15.00			
	Queuing	0.214	0.058	3.690	18.00	0.111	0.617	0.180	11.25			
	Parking	0.268	0.103	2.602	18.00	0.344	0.31	1.110	11.25			
	Loyalty card	0.136	0.186	0.731	8.00	-0.093	0.633	-0.147	6.25			
Tesco	Price	0.143	0.165	0.867	6.00	0.833	1.491	0.559	6.00	0.00	0.00	30.00
	Quality	0.255	0.086	2.965	24.00	-0.682	1.358	-0.502	13.50	-0.13	-0.260	30.00
	Distance	0.203	0.049	4.143	18.00	-0.206	0.25	-0.824	18.00	-0.04	-0.226	24.00
	Queuing	0.167	0.078	2.141	24.00	-0.502	0.554	-0.906	19.50	0.033	0.122	30.00
	Parking	0.262	0.09	2.911	19.50	-0.332	0.342	-0.971	18.00			
	Loyalty card	0.11	0.108	1.019	8.00	0.143	0.904	0.158	15.00	-0.18	-0.562	30.00
New Mart	Price	0.017	0.206	0.083	6.00	1.333	1.9	0.702	6.00	-0.1	-1.600	12.00
	Quality	-0.094	0.075	-1.253	12.00	-0.909	1.764	-0.515	18.00	-0.33	-1.958	12.00
	Distance	-0.093	0.045	-2.067	12.00	-0.22	0.334	-0.659	24.00	-0.1	-1.609	12.00
	Queuing	-0.042	0.063	-0.667	12.00	-1.116	0.562	-1.986	24.00	-0.06	-0.529	12.00
	Parking	-0.107	0.074	-1.446	9.50	-0.51	0.424	-1.203	24.00			
	Loyalty card	-0.026	0.112	-0.232	8.00	-0.114	1.178	-0.097	18.00	-0.18	-1.586	12.00
Wal-Mart	Price	0.143	0.165	0.867	6.00	1	2.173	0.460	6.00	0.14	0.952	24.00
	Quality	0.189	0.092	2.054	18.00	1.864	1.789	1.042	18.00	0.491	1.275	24.00
	Distance	0.156	0.057	2.737	18.00	-0.359	0.345	-1.041	18.00	0.125	0.845	19.50
	Queuing	0.12	0.077	1.558	18.00	1.27	0.604	2.103	24.00	0.274	1.356	24.00
	Parking	0.215	0.083	2.590	15.00	-0.295	0.528	-0.559	24.00			
	Loyalty card	0.013	0.114	0.114	8.00	1.257	1.144	1.099	18.00	0.242	0.917	24.00

APPENDIX 4

Percentage Distribution, Mean and Standard Deviation of Market Segments for Clusters											
Market Segment	Item		Cluster1			Cluster2			Cluster3		
			%	Mean	Std	%	Mean	Std	%	Mean	Std
Hypermarkets	Carrefour	16.32	8.00	2.646	23.79	31	7.94	35.87	26.67	2.52	
	Metro	17.01	8.33	2.08	6.65	8.67	4.16				
	Mykal	27.21	13.33	2.08	7.42	9.67	4.51				
	Tesco	12.24	6.00	2.646	22.25	29.00	4.00	23.32	17.33	5.77	
	New Mart	13.61	6.67	1.15	20.46	26.67	5.51	5.38	4	3.46	
	Wal-Mart	13.61	6.67	2.252	19.44	25.33	6.66	35.43	26.33	5.03	
Shopping mall	Groceries	Most shopped	17.14	3.00	1.41	0.18	10.00	1.41			
		Normal	40.00	7.00	9.90	0.37	20.50	3.54			
		Least shopped	42.86	7.50	0.71	0.45	25.00	7.07			
	Bazaars	Most shopped	12.50	3.50	4.95	28.10	17.00	14.14	27.03	10.00	2.83
		Normal	42.86	12.00	4.24	47.11	28.50	10.61	40.54	15.00	7.07
		Least shopped	44.64	12.50	12.02	24.79	15.00	5.66	32.43	12.00	5.66
	Appliances	Most shopped	86.00	15.50	10.61	78.05	48.00	1.41	21.62	8.00	0.00
		Normal	14.00	2.00	1.41	21.95	13.50	6.36	33.78	12.50	4.95
		Least shopped							44.59	16.50	10.61
	Textiles	Most shopped	91.00	16.00	9.90	63.71	39.50	13.44	31.08	11.50	4.95
		Normal	9.00	1.50	2.12	36.29	22.50	6.36	36.49	13.50	2.12
		Least shopped							32.43	12.00	8.49
	Cosmetics	Most shopped	60.00	10.50	4.95	43.31	27.50	13.44	31.08	11.50	10.61
		Normal	40.00	7.00	7.07	37.01	23.50	3.54	45.95	17.00	0.00
		Least shopped				19.69	12.50	4.95	22.97	8.50	4.95
Local market	Groceries	Most shopped				9.09	5.50	2.12	36.49	13.50	4.95
		Normal				30.58	18.50	2.12	40.54	15.00	7.07
		Least shopped				60.33	36.50	4.95	22.97	8.50	3.54
	Bazaars	Most shopped							27.03	10.00	5.66
		Normal							44.59	16.50	6.36
		Least shopped							28.38	10.50	3.54
	Appliances	Most shopped							17.57	6.50	0.71
		Normal							82.43	30.50	14.85
	Textiles	Most shopped							28.38	10.50	4.95
		Normal							45.95	17.00	4.24
		Least shopped							25.68	9.50	6.36

APPENDIX 4 (CONT.)

Market Segment	Item		Cluster1			Cluster2			Cluster3		
			%	Mean	Std	%	Mean	Std	%	Mean	Std
	Cosmetics	Most shopped							21.62	8.00	5.66
		Normal							33.78	12.50	2.12
		Least shopped							44.59	16.50	7.78
	Fresh	Most shopped	0.09	1.50	2.12	42.15	25.50	6.36	50.00	18.50	9.19
		Normal	0.43	7.50	6.36	28.10	17.00	4.24	29.73	11.00	4.24
		Least shopped	0.49	8.50	3.54	29.75	18.00	1.41	20.27	7.50	2.12



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