

The Investigation on The Factors Influencing Lady Dior Handbag Consumption in China's Luxury Market: Whether Price is The Dominant Factor

Sijia Chen^{1,*}

¹Gabelli School of Business, Fordham University, 150W. 60th St, NY, New York, USA

Abstract. The luxury industry is full of challenges especially under the COVID-19 pandemic, business has been struggling through, such as logistics problem. Despite the difficult economy background, China's luxury market experienced a double-digit growth while Dior increased the price of Lady Dior handbag. According to the law of demand, quantity demand falls as price increases. Luxury goods are not necessities, thus in economics, luxury goods are defined to have an elastic demand. It is predicted that total revenue falls when price of Lady Dior rises. This is because of the elastic demand will lead to a fall in quantity demand but proportionately larger than the rise in price. However, the financial report of Dior has shown a rises total revenue and increase in demand for luxury goods. This paper explains why consumers are still willing to buy luxury goods even though price increases and the value of price elasticity of demand (PED) of Lady Dior handbag. PED is a numerical measure of the responsiveness of quantity demand of a product following the change in price of goods.

1 Introduction

Luxury goods are often expensive and scarce, with high quality. The Chinese luxury market has always been the dominant market for luxury brands. Chinese customers have a desire to pursue extravagant lifestyle and develop the increasing desire as more western luxury brands has entered China [1].

During the COVID-19 pandemic, the price of Lady DIOR handbag is increasing constantly since January 2020 [2]. The price increased 17.65% throughout the period. However, it is expected that the total revenue of luxury goods to decrease since they are not necessities. The Chinese luxury market benefit from the reduction of international travel, which created exponential boost in domestic spending. Chinese luxury market has a 48% growth [3]. As a major luxury brand, the total revenue of Dior has also been increasing.

This paper is going to figure out the price elasticity of demand of Lady Dior, the determining influence of price, and what other factors influence consumers' decision in luxury consumption.

2 Literature review

Chinese luxury consumption behaviours, the influencing factors and economic effects have been investigated. In this part, it introduces the basic concept of luxury and relevant theories, include the background of the research followed by the basic economic concepts related to the

research and finally the key effect that are used to explain the influence of price in luxury market.

2.1 Luxury goods

Luxury goods has a fastly growing demand while consumer's income increases at a much lower rate [4]. Etymologically, luxury has two meanings: luminosity and sumptuousness. Luxury is usually related to exclusive, high status and quality [5]. What kind of product is luxury has changed throughout the period. In the past, people usually consider that piano is a luxury in 1900, but now space tourism is a luxury [6]. Usually, there are some characteristics of luxury goods:

- Brand history
- Goods that have the highest quality
- Goods that are very expensive, which are distinct from essential goods
- Goods that are unique and scarce
- Goods designed with unique creativity

2.2 PED in economy

Price elasticity of demand (PED) is the numerical measure of the responsiveness of the quantity demand following change in the price of the product, *ceteris paribus* [7]. The value of PED reflects the sensitivity of consumers towards the price of the product. When $PED > 1$, people have a relatively elastic demand towards the good, products with this kind of PED has a high proportion in consumer's income and often has many

* Corresponding author: schen440@fordham.edu

substitutes. When $PED < 1$, people are relatively inelastic towards the change in price of the product, product with this kind of PED only take up a small proportion of consumer's income and often has few substitutes. In real life, the PED is not that extreme. However, when PED is infinite, the demand for the product is perfectly elastic. If the $PED = 0$, the demand is perfectly inelastic. Usually, the expense on luxury goods take up a large proportion of consumer's income and they are not necessities, thus consumers usually have a relatively elastic demand towards luxuries, then $PED > 1$. As price increases, the quantity demand decreases which falls proportionately greater than the rise in price, as price elasticity of demand is elastic. Therefore, total revenue should decrease when luxury goods are more expensive. However, the annual financial report of Dior shows a rise in total revenue, while the price of Lady Dior handbag raises. This research will discuss whether price is the dominant factor influencing the luxury consumption.

2.3 The Veblen effect

Veblen effect is a popular theory in microeconomics, which it means consumers will follow the luxury consumption of rich people [8]. The sociologist Thorstein Veblen studied the phenomenon of conspicuous consumption, called this effect as the Veblen effect. It explains the purchase of conspicuous consumption, the demand for the good rises as the price increases [9]. The important economics feature helps explain that The Veblen effect divided price into two categories: the utility from a product is consist of both qualities and the price paid for it. Conspicuous price is the price others think people paid for these goods; it also determines conspicuous utility. Some consumers may even stop purchasing when conspicuous price decrease since the utility falls [9].

2.4 The Bandwagon effect

Bandwagon effect means people's demands can lead other people to consume the same products. This theory means that people have a desire to purchase the same goods as others, but they initially do not have the desire to buy it. One's demand can be more affected by the demand of others.

2.5 The Snob effect

The last effect is the snob effect, which means that people's demand for the goods decreases when others consume lots of them. Consumers may feel threatened when seeing other people wearing the same or similar luxury goods as they do [10]. Therefore, some consumers choose unfamiliar brands or stop consuming popular brands with common items. The need for uniqueness allows consumers to engage in distinguishing among all consumers. Different consumers have different response to the change in price [11-15].

2.6 The materialism

Materialism is a tendency to consider material possessions and physical comfort as more important than spiritual values. Materialistic consumers are interested in finding ways to make their social status outstanding by using luxury goods to symbolize their personal standing and getting effective response from others. There are extrinsic goals, which is to achieve financial accomplishment, social recognition, and social image. In other words, materialism is an explanation for luxury consumers because of their intrinsic motivations and other motivations, according to previous research. Intrinsic motivations derive from a macro-theory of people's motivation. Intrinsic goals, such as the desire for enjoyment, fulfilling personal needs, and physical fitness. Luxury consumption is tied to the idea of physical appearance and achievement vanity in luxury.

3 Methodology

This part explains the methodology used in this research, including which methods are used, how the data is collected, what kind of data, and the limitations of these measures, and how they are used to answer research questions of this project.

3.1 Research methods

The methods used in this project cover qualitative and quantitative methods. Specifically, in order to find the background information of this project, secondary data collected from Google scholar, Jstor will be used. Also, official statistics from Christian Dior Official Website is used as resource to find out the change in total revenue.

3.2 Questionnaire

Using questionnaire, a quantitative data, as my research method is because responses are standardized with closed-form questions. The results of questionnaire can show the proportion of attitudes of the respondents, while the answers are fixed. Questions includes their basic information, their attitude towards the price of luxury goods, and their thoughts of reason for purchasing luxury. The questionnaire is mainly sent to consumers who have stable and high income, or consumers who are in wealthy families.

3.3. Interview

By using the quantitative data, questionnaire, it is also necessary to use the qualitative data— Interview. By interviewing Dior's salesmen and consumers helps to explain and gain better understanding on the behaviours of consumption. Also, interview has open-ended questions so that answers are not limited. The answers from interview will be more accurate than that of questionnaire and maybe even unexpected. The questions include people's change of attitudes towards the increase of price, the strategies that company uses to

maintain consumer loyalty, and his own interpretation of luxury consumption during the COVID-19.

4 Findings and discussion

In this part, the essay will explain the data from questionnaire and interview, followed by a conclusion of the research question. Eventually, the results based on the real response will also be evaluated (Table 1 to Table 8).

4.1 Results from questionnaire

Table 1. Respondents' Gender Frequency Table

Gender	Frequency	Percentage	Gender
Male	44	22.34%	Male
Female	153	77.66%	Female
Gender	Frequency	Percentage	Gender
Total	197	100%	Total

Table 2. Respondents' Age Proportion Bar Chart

Age	Proportion
41-7	21.83%
31-40	26.40%
19-30	18.78%
10-18	32.99%

The questionnaire has a total respondent of 197, in which there are 77.66% of the respondents are women, and 22.34% of men respondents. respondents are covered from teenagers to elderly, a range from 10 years old to 70 years old. Half of them occasionally purchase luxury goods, 41.62% of them purchase luxury goods at a low rate, only 8.12% of the respondents often buy luxury goods.

Table 3. Respondents' Frequency of Luxury Purchasement

Frequency	Proportion
Barely	41.62%
Occasionally	50.25%
Frequently	8.12%

The questionnaire also covers their preferred determining factors whether buy the luxury good or not, each respondent is allowed to choose two influencing factors. The most determining factor is the style (including the colour, the sense, the decorations of the product), which nearly 83% of the respondents think this is the most important factor when choosing luxury goods. The next top choice is the brand of the luxury goods, where there are almost 62% of the respondents chose this. On the other hand, only 49% of the respondents think price is a determining factor when deciding to purchase luxury goods. Although the proportionate of choosing 'price' as the determining factor is not small, it does not show a high connection between price and the quantity demand.

Table 4. Respondents' Attitude about Luxury Consumption Factor

Category	Proportion
Limited edition	1.52%
Practicability	55.84%
Price	49.24%
Style	82.23%
Brand	61.93%

Since the research question mainly focus on the price of the luxury goods, respondents were asked to choose the determining level for one about the price of the good. The results show that most people consider price as an important or not-that-important factor, each with 32.99% and 39.09% proportion respectively. Only less than 20% of the respondents think price is crucial, and 10.15% of them think that it is not important.

Table 5. Respondents' Attitude about The Importance of Price Factor

Level	Proportion
Not important	10.15%
Not care	39.09%
Important	32.99%
Very important	17.77%

Furthermore, since this paper discusses about Lady Dior handbag, respondents were asked to whether they would choose to buy Lady Dior with the increase of its price. Over half of them decide to purchase the Lady

Dior handbag, but they need to consider other factors as well. Less than 10% of them will buy it and 32.99% of the respondents refuse to purchase Lady Dior.

Table 6. Respondents' Choices

Choice	Proportion
Perhaps	32.99%
I will not	57.36%
I wil	9.64%

Previous research and new report show that many consumers rush to boutiques to purchase Lady Dior before it become more expensive, thus respondents were asked to choose their reasons in explaining why an increase in luxury goods may even stimulate the desire for people to purchase it. Over half of them, 62.44% of them, prefers the choice of 'Price is not the most determining factor when purchasing luxury goods. Some respondents said that they may want to get the luxury goods before the next increase in price, and some said consumers may be forced to buy the luxury goods but to their own needs. Others said that the increase in desire may be a result of a thought that an increase in price means increase of the item's value and scarcity.

Table 7. Respondents' Attitude about the Price Factor

Attitude	Proportion
Price is not the determining factor when purchasing luxuries	30.96%
Worry the product will increase price again	62.44%
Others	6.6%

Lastly, respondents were asked to answer why most people has the desire to own luxury goods. 55.84% of the respondents think having luxury goods is a symbol of high-quality lifestyle. 25.38% of them thinks it represents personal taste and 13.2% of them think it represents social status.

Table 8. Respondents' Attitude about What Luxury Means

Hat Luxury Means	Proportion
Symbolises superior	55.84%
Symbolises taste	25.38%

Symbolises social status	13.2%
Others	5.58%

4.2 Key findings of interview

In December, the author has interviewed a manager in Chongqing Dior. He used to be the salesman in Dior located in Chongqing IFS mall, and now he is the manager of the Chongqing district. During the interview, the author has asked questions about his attitude towards the luxury market in China and Chongqing, his answer towards the price factor in consuming luxury goods, his understanding of Chongqing people luxury consumption, how sales are trained and other relative questions.

'During the COVID-19, as China has been locked down, many cities forbid citizens to travel abroad. Since most Chinese consumers are into purchase luxury abroad, their luxury consumption has changed from foreign countries like France and Italy to their local city. This switching consumption has greatly increased the Chong Qing's Dior consumption.' This is what the salesman mentions that the total economy of Dior has increases, despite price of all goods increases. This is because of the proportion of the increase in price is greater than the proportion of the decrease in consumer quantity.

Furthermore, he also suggests that Dior and other luxury brands will increase their product price approximately 2 times a year, usually the increase percentage is about 10% to 20%. The manager of Dior mentions that consumers will consider factors such as style, colour, raw material, scarcity, limited edition, and product value. Moreover, some consumers even have different purchasing objective. Granted, most consumers purchase luxury goods for themselves because they like the product. Some consumers buy luxury goods simply because they have been influenced by social media, as well as social trends. Others consume luxury goods as a present to themselves since they have worked so hard for a long time. These consumers think they will feel satisfied and encouraged from luxury goods. Some of them buy luxury goods as a present to others.

4.3 Discussion

4.3.1 Price elasticity of demand

The questionnaire has only shown a low percentage (17.77%) of respondents that they think price is a dominant factor when consuming luxury goods [16]. Concluding that consumers are less responsive to the change in price. Moreover, there are no close substitutes for the specific Lady Dior handbag. For consumers especially fascinated about Lady Dior handbag, they cannot use other handbags to substitute the more expensive Lady Dior. Lady Dior handbag has its own unique style and design, so it is hard for consumers to find a similar handbag in the luxury market. Moreover,

Dior has used a variety of valuable, scarce, and expensive raw materials to produce Lady Dior. Fabrics such as lizard skin, cattlehide, sheepskin, crocodile leather, and ostrich skin. Dior has also collaborated with world artists, allowing them to design limited edition Lady Dior handbag. With the variety of raw material and style, the market of Lady Dior handbag has lots of choices, increasing the choices for consumers to purchase. In this way, Dior has continued to expand its Lady Dior handbag market.

Moreover, the manager claimed that Dior has a stable consumer base, who have stable and high-income resources, and these consumer groups are usually careless towards the change in price. Normally, the price of Lady Dior is between 30 thousand RMB to 60 thousand RMB. The price of one Lady Dior handbag only consists of a small percentage of the total income for wealthy consumers. Therefore, a fluctuation in Lady Dior handbag will not be a serious problem for wealthy consumers. They are careless of the change in price, thus price elasticity for most Lady Dior handbag's consumers is inelastic, less sensitive to the change in price.

Lastly, the accessibility of luxury consumption is limited by the pandemic. Many cities have locked down in 2020, and even in 2022 some cities, like Shanghai, are not totally free to travel around. Therefore, choices of shops have greatly decreased due to COVID-19 restrictions, Chinese consumers can only purchase luxury goods local. Choices are limited, thus demand for Lady Dior is relatively more inelastic than before the epidemic.

4.3.2 The Veblen effect

This theory refers to the positive impact of the price of a product on the quantity demand of that product. Where quantity demand increases as price increases. The luxury consumption in this effect is called as conspicuous consumption, quantity demand is conspicuous demand, and price of the luxury is conspicuous price. The theory represents the change in quantity demand after the turning point of the demand curve of consumers represent below (Figure 1).

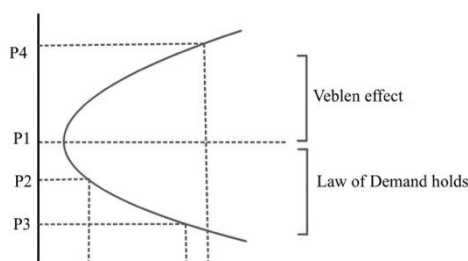


Figure 1. The Veblen effect [16]

The curve of the demand curve is 'C' shape. When price is below P1, the demand follows the law of demand, where quantity demand falls as price rises. When price rises from P3 to P2, the quantity demand falls from Q3 to Q2, follows the law of demand.

However, when price is above P1, the demand obeys the law of demand. The quantity demand rises as price rises, which is the Veblen effect. Thus, quantity demand rises as price rises after the turning point (P1) of demand curve.

In the case of the increase in total revenue of Lady Dior can be explained by the Veblen effect. The Lady Dior handbag is a Veblen product where the change in quantity demand does not follow the law of demand (Figure 1).

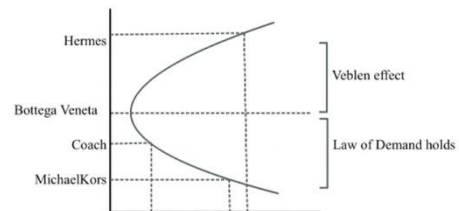


Figure 2. The Veblen Effect in Luxury Market [16]

In the figure 2, there are 5 brands, and the y-axis represents the price of each of their price in increasing order. Coach and MichaelKors are considered as quite affordable brands, where consumers are attracted to the low price. For these two brands, the law of demand holds. If price of Coach and MichaelKors falls, handbags are more attractive to consumers, consumers are more willing to buy the handbag, thus the quantity demand for the brand's handbag will increase. However, Bottega Veneta is considered as the turning point of the demand for luxury handbag, because BV has both expensive and relatively more affordable products. Brands above Bottega Veneta, like Hermes, the law of demand does not hold. For these brands, price is not only a demand factor, but also a monetary value of the symbol of luxury goods. Price of a Hermes Birkin or price of a Lady Dior represents status, wealth, and power. The higher the price, the stronger the symbol of these identities. Therefore, consumers' quantity demand for handbag rises as price of the product increases.

Therefore, the Veblen effect is the theory for explaining the phenomenon of the luxury consumption. As Lady Dior handbag's price increases, the quantity demand rises, leading to a rise in total revenue. After the price have reached a certain high level, the law of demand does not hold anymore. The price factor is different from what people thought before, but the price has other meanings. The price after it reached P1, it also represents status, wealth, power, and symbol. The price after P1 is a monetary value of these symbols. Therefore, when the price of a product is high enough, price is a symbol of those identities, where other factors like intrinsic needs, external goals, and psychological needs influences the quantity demand, which explains the increase in demand for Lady Dior as it becomes more expensive.

4.3.3 The Bandwagon effect

This effect is a psychological phenomenon in behavior economy where people do something because others are

doing it, even though they intentionally don't want to do it.

In luxury consumption, the Bandwagon effect explains luxury consumption psychologically why quantity demand for Lady Dior rises. Consumers can easily be influenced by comments of others. Chinese consumers often evaluate the quality and value of a product by relying on the opinions from other consumers. Under the environment of this thinking, consumers are indirectly accepting this misleading information. For example, consumers are influenced by celebrities and popular culture. The certain style celebrities wear, or the certain item famous person wear is a symbol of themselves. People are influenced by the status of the wearer, and consumers may think that buying the same item or wearing the same style can be like that person.

The Bandwagon effect can happen positively and negatively. If people's initial preferences are similar, consumptions are rational, and they have accurate information of the quality of product. Therefore, it makes sense for consumers to follow the trend and make consumption. However, the bandwagon effect in luxury consumption can be misleading because it indirectly gives consumers the signal to purchase goods that they intentionally do not want to buy. Luxury goods are not necessities thus there is no need for consumers to buy extra expensive handbag. Also, some consumers are not that wealthy, and they probably do not like the Lady Dior handbag, but they still buy one at the store. Additional consumption of Lady Dior handbag may be considered as a waste of resources. Rationally, consumers do not need extra handbag. Nevertheless, consumers in practice are irrational and their motivations for buying luxury goods is not just marginal utility anymore.

All in all, the Bandwagon effect explains the luxury consumption psychologically, through explaining the consumer behaviour. Meaning that people can be influenced by others, can following the consumption if others are buying too. Though the influence may be rational, but in luxury consumption it is often seen as irrational and misleading.

4.3.3 The Snob effect

The Snob effect refers to the phenomenon that quantity demand for certain consumer falls because others are increasing their demand for a product. It explains the psychological reason of the fall in quantity demand is due to the feeling of being unique. Thus, these types of consumers pay less attention towards popular brands and popular products. Therefore, as Lady Dior is getting more and more popular, some consumers are decreasing their demand for Lady Dior.

4.3.5 The desire to achieve psychological goals: symbolism, self-satisfaction and perfectionism

Other factors may influence luxury consumption more--Materialism. Luxury goods does not only present to other people about the wearer's social status, also

provides hedonistic effects and psychological satisfaction. Materialistic consumers mainly consider the symbolism of luxury goods, and what luxury goods can represent them.

The Chinese luxury consumption motivations mainly includes individuals internal desire and external stimulations. In research done by Silverstein and Fiske, it has a result that many consumers who purchase luxury goods are not rich, but they still spend a large amount of money on luxury brands. This motivation from these consumers can be explained by individuals' self-esteem. Although consumer do not consider luxury goods as necessities, they still spend a large proportion of their income to purchase on of them.

Chinese consumers care about the feeling during the consumption and what the product can bring them, such as superiority, self-satisfying, recognition, and 'saving face'. There is a strong connection between the motivation of luxury consumption and psychological satisfaction. Chinese consumers are obsessed with luxury goods and often consume luxury goods to satisfy themselves, for internal needs, or to satisfy their desire in owning one of it.

Furthermore, Chinese consumers luxury consumption is also relevant to social needs rather just only internal demands. Many job now requires employees to dress up, for instance, job in a fashion industry and business industry. Having a delight suit of Dior or having a classic Lady Dior handbag may give the business partner or employers a good impression. Moreover, Chinese care about their figure in public and their reputation among people. Self-recognition is one of the motivations for luxury consumption. When others give effective response towards luxury clothes, shoes, or accessories, this satisfies consumers' psychological needs and increases consumer's recognition. Thus, Chinese tries to present themselves by owning luxury brands. Chinese purchase luxury goods because they think luxury goods is a symbolic of an extravagant lifestyle. In order to directly show they are rich and live in an affluent lifestyle, Chinese are particularly interested in well-known brands with obvious logo on the products. The other motivation is the specific term, often use only in China, is 'saving face'. Saving face always occurs in social occasions and even in daily-get-along between friends and families. Consumers depend on the well-known brand, expensive price, and the symbolic meaning from luxury goods to show-off or use luxury goods as a communication.

Purchasing luxury goods provides consumers hedonistic rewards. Consumers are interested in satisfying their own thoughts and feelings, which factors other than price influence on decision making more.

Thus, price is one of the factors that consumers will consider whether to purchase luxury or not, but it is does not cover most of the decision making. The rises in price of Lady Dior handbag will lead to a fall in quantity demand but proportionately smaller than the rise in price. Overall, the total revenue increases.

5 Conclusion

5.1 Main findings

The reason why an increase in the price of Lady Dior handbag led to an increase in total revenue is due to the Veblen effect, the Bandwagon effect, and the luxury consumption behavior of Chinese consumers. The paper also draws conclusion that consumers have price inelastic demand for Lady Dior. Though price influences the quantity demand of Lady Dior, it only has a small impact on the change in demand. demand of Lady Dior, it only has a small impact on the change in demand.

Price has always been the demand factor, either when price of the product is low or high. What the Veblen effect meant is that when price is high enough, the price factor also represents more. The price is not only a demand factor, but also a monetary value of the internal symbols of the Lady Dior. Furthermore, price is an indicator of the quality. Thus, consumers may think products with higher price has better quality.

Other motivations for consuming luxury include fulfill self-satisfaction, materialistic motivations, achieve intrinsic and external goals, and 'saving face'.

5.2 Limitations and suggestions

Both questionnaire and interview have shown tendency about the importance of other factors for consumers to consider during luxury consumption. Motivations for Chinese consumers to purchase luxury goods contains their desire to satisfy their psychological needs and their desire to be served, as well as to enjoy the sale's services. Besides these needs, consumers buy luxury goods as a reward to themselves.

However, the result coming from questionnaire may be inaccurate and biased. Since the answers are previously set by the questionnaire designer, respondents can only choose the closest answer, but not the most accurate one. Thus, the results are inaccurate. Future researchers can avoid this problem by not providing any choices and let respondents to type down their answers. Nevertheless, this will lead to disincentive to answer the questionnaire.

Moreover, questionnaire is only answered by limited numbers of people, the sample subject is not large enough, so the answers are not representative. Researchers can use big data or random sample to improve the representative.

Also, interview is time consuming and it needs time to analyse the answers given by the respondents. Also, it is difficult to practice in large scale, thus the answers may be not representative and subjective. One of the solutions is to interview more managers with high status. Therefore, there are more answers, and their answers are more objective.

Lastly, the turning point of the Veblen effect is inaccurate and hard to measure. Everyone has different standards of the level considered as a start of the Veblen effect.

Though the reasons for the increase in sales can be predicted before the study, the investigation is surely worth it. The study can provide information to firms in what problems do firms have if their promotion failed,

how to adjust business strategies and what firms need to do to have greater opportunity to success. The research of Dior provides a great example for how business should do to improve their product and enhance consumer loyalty. Dior has designed a variety of colors and fabrics of Lady Dior. And collaborated with famous artists in the world, to make Lady Dior more various so that most consumers can buy one of them. Thus, the research suggests that luxury firms should also find ways to make their supply more flexible and elastic, in order to face different kinds of demand.

References

1. C. Bamford, S. Grant, C. U. P, F 8(2014)
2. M. Kasztalska, I. M. M. I. I. S. E-J, 2, 77-87 (2017)
3. Y. Chan, K. To, C. Chu, J. R. C. S., 27, 1-10 (2015)
4. Y. Truong, R. McColl, J. R. C. S.,18, 555-561 (2011)
5. E. Ko, M. Megehee, J. B. R., 65, 1395-1398 (2012)
6. D. Bochanczyk-Kupka, L. G. E. E. S. D. B. P., 122-127 (2019)
7. H. Leibenstein, T. Q. J. E., 64, 183-207 (1950)
8. M. Husic, M. C. J. F. M. M. A. I. J. (2009)
9. S. Bagwell, D. Bernheim, T. A. E. R.,349-373 (1996)
10. Y. Wang, S. Sun, Y. Song, J. P. M., 17, 345-359 (2011)
11. Q. Zhou, L. *Market in China* (2011)
12. B. Trigg, J. E. I., 35, 99-115 (2001)
13. L. Zhan, Y. He, J. B. R., 65, 1452-1460 (2012)
14. S. Nwankwo, N. Hamelin, M. Khaled, J. R. C. S., 21, 735-744 (2014)
15. J. Choo, H. Moon, H. Kim, N. Yoon, J. F. M. M. A. I. J. (2012)
16. S. Chen, L. Lamberti, Q. M. R. A. I. J. (2015)