Data analysis in price police marketing research in construction

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Abstract: The article deals with the data analysis marketing approach to pricing in construction in the segment of luxury housing at the present stage. The authors consider three approaches to setting the price of luxury housing in construction, dwell on the marketing aspect of determining the price. The problem of perceived quality and its relation to price is described at length. The authors demonstrate that psychological pricing is one of the common approaches to price determination in this sector of construction industry. The article presents the results of survey aimed at young Russian consumers. The distinctive features of this segment and their requirements to justify the price are described in detail.

1. Introduction
Nowadays any engineering enterprise cannot be economically successful without a well-chosen and debugged working pricing policy, as it has a huge impact on the relationship of the construction company with suppliers and final consumers of the product or service. The goal of any engineering enterprise is to maximize the amount of profit and sometimes it goes through increasing the product or services prices. Undoubtedly, the price is one of the most flexible and significant tools of the commercial policy of an enterprise. Moreover, price is one of the main elements of the marketing mix and is the “economic” element. If all other elements can be changed by non-price factors, then the price itself is a price factor in itself [1]. Prices determine the structure of production; have a decisive impact on the movement of material flows, the distribution of commodity mass, the level of profitability of an enterprise. However, pricing approaches may vary. If the producer's goal is to maximize profits, the consumer's goal is to get not only a product or service at a certain price, but also a value that should be high. This largely determines the further relationship of the consumer with the company so Lancaster distinguishes four different views on price and pricing: from the point of view of the economy, from the point of view of accounting, marketing and finally the consumer [2]

The economic approach assumes that in a free construction market [3], the price of a good or service is set by supply and demand. The idea is that the price increases or decreases until it reaches a point where buyers are willing to buy just as much as sellers can sell [4]. According to this approach, the main goal of the construction company is short-term profit maximization. However, this is not always true. For example, a construction company may belong to an economic sector where high profit margins are not allowed (in many countries, this is energy and water supply) [5]. In fact, there are many reasons why a construction company may choose to make less profit than it can. Price is not the only factor influencing demand, and it is very difficult to determine the function dependent on all
possible variables, for example, from marketing communications (promotion), the prices of competitors, so the demand forecast is never 100% accurate. Thus, analyzing the supply on Russian luxury housing market we saw that it has hardly changed in the premium segment over the 2019 year. Almost half of the supply (47%) is represented by flats of under 100 sq m. Finding a flat or an apartment of over 200 sq m appears to be most difficult as such lots amount to 4% of all premium new-builds. (See graph 1). The non-expensive supply priced under 50 million rubles and within 50 to 100 million rubles comes in almost equal shares of 44% and 43% accordingly. The average lot area of elite supply has declined by 1% to 155 sq m over the past six months. The average lot price, on the contrary, reached 171 million rubles showing an 11% growth. It means that non-economic approach in pricing should be implemented [18].

![Figure 1. Primary market supply structure. Source: Knight Frank Research, 2019](image)

The accounting approach to the price assumes covering of all costs on production and sale of production. However, it is often difficult for construction companies to calculate all the costs of producing and selling a company’s product or service. Paying attention exclusively to its own costs, the company ignores the market and the potential of other tools of its marketing complex: maybe buyers are willing to pay more, especially if it is a strong brand and competitors have prices two times higher. From a marketing perspective, price can be seen as an opportunity to achieve a competitive advantage. It is vital for companies to take into account what the construction market can withstand: how many people are willing to pay for the company’s goods, what prices competitors set for similar products [6].

The disadvantage of this approach, according to Lancaster, is that in the process of setting the price, the costs of production and marketing of goods will not actually be fully covered. It is clear that such a situation is permissible for a relatively short period, otherwise the company will be forced to suffer losses. As noted above, the consumer purchases the product at a certain price, and the highest quality of the purchased product at the lowest price. Variables such as perceived value, which can be calculated as the difference between perceived benefits and price, are also important to the consumer.

Particularly, discussing the pricing of luxury products Veblen and Sombart mentioned that luxury is usually regarded by consumes or other members of the community as “expenditures that exceed required limits” [7], [8]. Research of the Russian luxury market conducted by Skorobogatykh, Shirochenskaya and Tarasenko as well as comparative analysis with traditional luxury markets (European, Northern American and partially Japanese) and other developing markets (BRICS countries) revealed that customers expect the following values from the product as well as brand [9]:

- Unique brand or product character;
• Exceeding quality level (often reached as a result of introduction innovations);
• Brand image and brand prestige;
• Exclusiveness (limited edition);
• High price meets quality;
• Highest service standards.

Hines and Bruce as well distinguish some additional features characterizing modern consumers of luxury goods. They can also be applied to the Russian consumers of luxuries, including high-class dwellings [10]:

• High level of personal identity and individuality;
• Customer’s participation in luxury product development. In marketing practice this is known as “customization”;
• Customers’ activity in Internet and social nets. As a result there is a great possibility of their receiving, perceiving and assessing new information in a flash;
• High educational level;
• High level of customer confidence concerning their current and future social and economic status;
• Even higher status of intangible luxury (emotions, impressions) over material ones.

Consumers’ readiness to purchase luxuries at high price as high price signals high quality and motivates them to consume these products. [11]

2. Materials and methods

2.1. Price-setting methods

Starting to decide on the formation of pricing strategies, the company chooses one of the pricing methods. The use of these methods allows you to set a specific price. There are three main pricing methods:

1. Cost-oriented pricing method (cost-based method)
2. Competitive pricing method
3. Consumer-oriented pricing method

The main idea of the cost-oriented pricing method is that companies calculate their costs per unit of output, and then add standard margins that provide a profit. Often a company aims to cover all, or at least a significant portion of the costs, despite the difficulty in achieving this goal. The calculation of costs is based on the data of production accounting and planning.

Pricing policy formation is greatly influenced by the prices of competitors and their possible reaction to price changes in the market. This is the basis for a competitor-oriented pricing method. Therefore, conducting research and studying the prices of competitors is an integral part of the company in the field of pricing.

Depending on the structure of the market, the number and strength of competitors, the homogeneity of the product, the company chooses one of three strategies:

• adjustment to market price
• consistent underpricing
• consistent price increases.

In the first case, prices are determined on condition that each seller sets prices based on the situation prevailing in a certain market. This method of pricing is usually used in the market of undifferentiated mass goods-metal, grain, sugar, cement, etc.

In other cases, the manufacturer determines its prices based on the prices of the leader. The industry leader usually has the largest market share (approximately 40%). Since the leader has the strongest position in the industry, he usually sets higher price.
The basis of Consumer-oriented method is the willingness of consumers to pay a certain price (the upper limit of prices), the reaction of consumers to changes in prices associated with price elasticity and the possibility of price differentiation [12]. Very often, consumers of luxury goods determine quality by price, i.e., the higher the price, the higher the quality and are willing to pay a high price for a particular product or service.
Thus, the leading price-setting method of luxury goods and services is considered Consumer-oriented method, though later methods are also observed.

2.2. Price sensitivity of demand and factors affecting its change
To meet their needs, buyers seek to purchase goods, i.e. the needs of buyers are expressed in the demand for certain goods. Demand is the desire and ability of buyers to purchase a specific product at a certain place and at a specific time.
Demand is influenced by two groups of factors:
• price factors (price changes);
• non-price factors (advertising, propaganda)
A change in demand under the influence of price factors is called a change in the magnitude of demand, and a change under the influence of non-price factors is a change in the level of demand.
Price sensitivity (elasticity) of consumer demand is the percentage change in the volume of sales of goods in physical terms, occurring when the price of goods changes by 1%:
The indicator of price elasticity is a negative value, as demand increases, as a rule, decreases with increasing prices, and increases with decreasing prices. However, the demand for different goods will change differently when its price changes. The price sensitivity of the demand for a product makes it possible to determine whether consumers can be influenced by changing the price. Depending on the strength of the impact of prices on the value of demand, there are four states of the commodity market.
1. Elastic demand - when the price decreases, the sales volume increases.
2. Inelastic demand - as a result of a decrease in price, sales volume falls.
3. Absolutely inelastic demand - because of a decrease in price, the sales volume does not change.
4. Absolutely elastic demand - because of a decrease in price, sales volume increases significantly [13].
An example of absolutely elastic demand luxury goods or exclusive goods, the sales volume of which significantly decreases with an increase in price and increases significantly with its decrease.
At the level of the market as a whole, price elasticity is related to market share: brands with a small market share are more sensitive to price changes than brands with a large market share within one type of goods. This is due to the influence of brand power: buyers who are used to acquiring products of famous or luxury brands will more quickly put up with the increase in the price of the “favorite” product, rather than the increase in the price of goods that have not yet gained such popularity.
Recent research demonstrated that luxury is the most stress-resistant segment of the fashion market. The share of luxury and premium segments accounts for about 10% of the market, and this share remained unchanged during the crisis. For international luxury companies, Russia continues to be a strategically important market with high demand. It proves that luxury market experiences a transformation from elastic to inelastic demand.
To determine the sensitivity of consumers to the price, it is necessary to conduct marketing research using special methods, or use ready-made data.

2.3. Consumer segmentation by price sensitivity and value perception
Consumer segmentation analysis can be conducted on the basis of research of price sensitivity
• Price oriented buyers are interested in low prices that provide a minimum level of quality. It is almost impossible to convince them to pay more for additional qualities - based on their own past experience, they clearly “know” how much to pay for a particular product. Such buyers
are not interested in information about the properties of the product, and make purchases in
the markets or in stores with the lowest prices - discounters.

- Relationship-oriented buyers have strong preferences for brands — both products and stores. Like price-oriented buyers, they are not inclined to consider alternatives, and if the range of prices for goods in the selected brand meets expectations, there will be no other options. Change can occur only in case of loss of trust to the brand. Such buyers go shopping in the same stores, not paying attention to advertising. If they compare prices, it is only to strengthen their choice.

- Consumer-oriented buyers are not interested in comparing prices and brands and buy what is currently available to them, without spending any effort on searching. This is possible if the buyer appreciates the time or his spending on goods is insignificant, so there is no need to look for and consider other options for quality and price. It is for such buyers that stores with a maximum of services and amenities are designed [14].

As it was observed by Nagle, same buyer may exhibit different behavior patterns depending on how much of his income is spent on the purchase [15]. For example, when choosing food, it can be relationship-oriented behavior, and when choosing expensive household appliances, it can be value-oriented. And if a person just really wants to drink, then he will buy a bottle of water in the first stall, demonstrating an orientation towards convenience.

2.4. Psychological pricing

Though pricing roots in economics in terms of supply and demand, it is often from the psychological perspective that a consumer decides to make a purchase. Price and quality perceptions interact. Higher-priced products are perceived to possess higher quality. Higher-quality products (luxury products fall within this category) are perceived to be higher priced then they actually are. When alternative data about real quality are available, price becomes a less significant indicator of quality. When data are not available, price signals quality.

Prestige pricing being a symbolizes reputation, glamour, power and influence. Products or services exemplifying such characteristics need to reflect these in pricing. Consequently, prestige pricing is mainly used in luxury goods sector while setting prices for such products. It allows to create extreme image or extreme perceived value of the product that manifests its extreme quality. Therefore, high price must reflects (both real and perceived) value in the product or service.

3. Results and Discussions

3.1. Product price quotation on a luxury housing segment of Russian construction market.

In order to stand out from a number of others, a product or company is obliged not only to comply with the declared status, but also to meet higher quality requirements. Positioning in the category of “premium” is possible only if there is a high level of consumer properties or the uniqueness of the product - the most powerful arguments of the high price. The research conducted at PRUE concerning luxury goods sector revealed the sums respondent were ready to spend on luxury goods (See graph 2). Despite the fact that it this research was mostly devoted to the less expensive products that houses are, we see – and it was the main finding from this research, fruitful for the theme of this paper and construction companies as whole – that perceiving quality of luxury goods – which is the matter of marketing efforts is influencing on buying decision twice stronger than so called “objective” characteristics of product.
Figure 2. Amount of money spent on luxury housing goods in roubles (thousand rub.)

Source: data from research “Customer perception of luxury goods by Young Active Consumers”, PRUE, April-May 2019).

The study was conducted by a group of students and teachers of the marketing department of Plekhanov Russian University of Economics (PRUE). Its main goal was to identify the features by which the segment of young active consumers made the choice of luxury goods. 250 people aged 18-30 years were interviewed, the main result of the study was creating a customer profile based on 15 most important criteria; the main of which were the attitude to purchases luxury goods online and the attitude to the simultaneous consumption of goods of different quality level and value in one product category. The study showed a growing level of confidence in online shopping with the simultaneous development of premium services in this sector. Young consumers allow the simultaneous use of brands of different price categories, in contrast to more adult consumers.

3.2. Quality guarantee

The quality guarantee of a luxury housing today can be the high reputation of the construction companies. Also no less important are the following factors: reputation, safety of use; counterfeit protection (special housing or additional constructions design, housing maintenance service etc.); high-quality materials and personnel, the country of origin as well [16]. So, basic foodstuffs, cosmetics made in Russia is perceived as more natural. Products from Western Europe are considered better quality than products from Eastern Europe (Poland, the Czech Republic), while products from Asia (China, Korea, etc.) are perceived as low-grade [17]. However, products from China are no longer perceived as low-quality as it was 10 years ago, many premium brands move their production to China because of the correct policies of the Chinese authorities who are trying to make the lowest possible cost of production, as we see most brands not only of the industry clothes and practically all spheres of production in modern society are moved to China. On Russian market construction companies from former Yugoslavia and Turkey are still the brand for b2b and b2c customers. The most important requirement for a premium housing is the ability to satisfy the rational and emotional expectations of customers. The higher the degree of “involvement” of a consumer in a category, the more difficult his expectations are, both rational and emotional.
3.3. **Premium class product quality trap**

A characteristic feature of the premium class product on the construction market are the reputation of the company, cutting edge design and modern safe materials. This not only enhances the prestige of the brand in the eyes of the buyer, but also reliably protects it from counterfeit.

However, a well-known brand and protection against counterfeiting does not always protect the buyer from low-quality constructions. Brand loyalty on the construction market and its luxury segment as well is lower than on other luxuries segments that's why construction companies meet the changing demand and try to make media campaigns with stressing point on their brand name. ( Don Story, PIK Group are the examples of heavy media campaigns users from construction market

The increase in the category of luxury housing deals correlates directly with the current market trend for the sale of the most ready-to-live housing. Thus, while about 31% of flats and apartments had final finishes at the end of 2018, the share of such lots rose to 43% over the past six months [18].

4. **Conclusion**

Thus, the marketing aspect of the pricing policy of luxury housing segment of construction market is to focus on studying consumer behavior and taking into account the importance of status consumption factors, quality transmission through price perception. At the same time, the research, in which the authors took part, shows that entering the phase of active consumption, consumers of luxury goods demonstrates new patterns of behavior in which the premium product is transmitted not only through the high quality of the houses itself and its high cost, but also through premium, exclusive experiences and service, including online supporting on each stage of buying and using the construction companies services and goods. This poses new challenges construction companies teams. New technological solutions - the possibility of online expert support and consulting — including flat designers, legal service and so on, flats customization through websites and collaborations with famous designers artists and even museum collections [18] - these are what consumers of luxury housing now expect from premium products with premium prices.

**References**

[1] Kotler Ph and Keller K L 2015 Marketing Managemnt (Pearson Education)

[2] Lancaster G 2007 Marketing Fundamentals (Oxford: Butterworth-Heinemann)

[3] Borkovskaya V G The concept of innovation for sustainable development in the construction business and education. *Applied Mechanics and Materials. V.475-476. Chapter 15: Engineering Management. 2013. P. 1703-1706. DOI: 10.4028/www.scientific.net/AMM.475-476.1703*

[4] Kaur G and Sharma R D 2009 Voyage of marketing thought from a barter system to acustomer centric one *Marketing Intelligence and Planning. 27 (5) 567-614* doi: 10.1108/0263450910977845

[5] Borkovskaya V.G. Environmental and economic model life cycle of buildings based on the concept of Green Building. *Applied Mechanics and Materials 467. Materials Science and Mechanical Engineering. Chapter 2: Building Materials and Construction Technologies. P. 287-290. 2013. DOI: 10.4028/www.scientific.net/AMM.467.287*

[6] Porter M and Kramer M 2019 Creating shared value *Managing Sustainable Business Springer, Dordrecht*, 323-346. doi:10.1007/978-94-024-1144-7_16

[7] Sombart W 2008 Complete Works, Vol. 3. Luxury and Capitalism. War and Capitalism. (St. Petersburg; Vladimir Dal)

[8] Veblen T 2005 The Theory of the Leisure Class: An Economic Study in the Evolution of Institutions (New York:Adamant Media Corporation)

[9] Dubois B, Czellar S and Laurent G 2005 Consumer Segments Based on Attitudes Toward Luxury: Empirical Evidence from Twenties Countries. *Marketing Letters 16* (2), 115-128. doi:10.1007/s11002-005-2172-0.

[10] Hines T and Bruce M 2007 Fashion Marketing. Contemporary Issues. 2-d edition (Oxford: Elsevier)
[11] Jobber D and Shipley D 2012 Marketing-oriented pricing: understanding and applying factors that discriminate between successful high and low price strategies *European Journal of Marketing* **46** (11/12), 1647 -1670. doi: 10.1108/03090561211260022

[12] Groucutt J 2005 Foundations of Marketing. (New York: Palgrave Macmillan)

[13] Skorobogatykh I, Tarasenko E and Shirochenskaya I (2015) Possible Scenarios of Russian Luxury Market Development under Economic Uncertainty and Turbulence *Review of European Studies;* **7** (9) 131-139. doi:10.5539/res.v7n9p131

[14] Bertini M and Gourville I 2012 Pricing to create shared value *Harvard Business Review* **Vol. 90** (6). https://www.ssrn.com/abstract=2130417

[15] Nagle N and Holden R 2002 The strategy and Tactics of Pricing: A Guide to Profitable Decision Making (New York: Prentice Hall)

[16] Borkovskaya VG, Degaev E, Burkova I. Environmental economic model of risk management and costs in the framework of the quality management system. *MATEC Web of Conf.,* **193** 2018 05027. DOI: https://doi.org/10.1051/matecconf/201819305027.

[17] Seifullaeva M, Panasenko S, Shirochenskaya I, Tsvetkova A and Yevseyeva J 2018 Main tendencies and problems of agricultural export and import in Russia under economic sanctions *ESPACIOS* **39** (09). https://www.revistaespacios.com/a18v39n01/18390104.html

[18] Grineva O and Sidorchuk R 2015 Marketing Research of the Russian State Historical Museum Lecture-Hall Visitors *Modern Applied Science* **9** (3) 283-9. doi:10.5539/mas.v9n3p226

[19] Knight Frank RESEARCH H1 2019 PRIME RESIDENTIAL REAL ESTATE MARKET Moscow https://www.knightfrank.ru/research/moscow-residential-real-estate-market-6622.aspx