

## METHODOLOGICAL APPROACHES TO THE “BREAKTHROUGH” PRODUCTS PRICING

© Demkiv Y.V., 2014

The concept of “breakthrough” products, their characteristics and methods of their identification are specified. The main approaches to pricing the products that are new to the market are analyzed. The basic factors that affect formation of the “breakthrough” product consumer value are examined. The use of methodology for the “breakthrough” product pricing according to the level of its consumer value is grounded.

**Key words:** “breakthrough” concept, “breakthrough” product, price, value, utility, consumer value scale.

Я.В. Демків

Національний університет “Львівська політехніка”  
кафедра менеджменту організацій

## МЕТОДИЧНІ ПІДХОДИ ДО ВСТАНОВЛЕННЯ ЦІНИ НА “ПРОРИВНІ” ТОВАРИ

© Демків Я.В., 2014

Уточнено поняття “проривних” товарів, їх характеристики та методику ідентифікації. Проаналізовано основні підходи до встановлення ціни на нові для ринку товари. Досліджено основні чинники, що впливають на формування споживної вартості “проривного” товару. Обґрунтовано застосування методики встановлення ціни на “проривний” товар на рівні його цінності, сприйнятої споживачами.

**Ключові слова:** концепція “прориву”, “проривний” товар, ціна, цінність, корисність, споживна вартість, шкала споживної вартості.

### Problem statement

The terms “disruptive product” (also used the “breakthrough product”) and “disruptive innovation” have spread through the works of Clayton Christensen, the Harvard Business School professor. In a broad interpretation, they are the type of a revolutionary innovation. However the concept of disruptive innovation is based not only on a product innovation (although it does not exclude it) but largely on the organizational innovation. Disruptive innovation now involves the use of new technology for the destruction of prevailing business model in the existing market, which leads to expansion of a large number of undifferentiated offers on the market. The concept of disruptive innovation differs from the well-known innovative concepts. Traditional innovative concepts consider innovation process as a process starting with focusing on consumer expectations and resulting in creation of new technologies. Disruptive innovation concept assumes that when the new technology already exists, company is looking for customers or new opportunities. This includes new approaches to research and market segmentation, product positioning, etc. Important role in this process is given to the issue of pricing, as the price is the most flexible element of the marketing mix, the use of which allows quick respond to changing market conditions and business objectives. The unconventional approach to pricing provided some innovative

enterprises a breakthrough on a number of markets (examples: emergence of budget airlines, small private steel mills, etc.). Difficulty of such pricing is indisputable, since the offer is fundamentally new, and its value to the consumer could be detected already in the process of consumption. Classical methods of pricing, such as: based on costs evaluation, on competitors' offers or existing demand could not be applied to the new market offers. In this regard, there is a need for alternative methods of analysis, same as the pricing strategies.

### Analysis of recent research and publications

To the research on the concept of disruptive products number of renowned foreign scholars works are dedicated. Among them: K. Christensen [1], A. Slywotzky [2], S. Fynkelshteyn, C. Harvey, T. Lawton [3] and others. Among the local authors D. Kuzmenko and A. Mal'tseva research [4, p. 78–91] should be noted. Proceedings of the authors in the majority are focused on the study of breakthrough concept development, effective business model elaboration for such concept implementation, new approaches to the study of the market and its segmentation investigation, risk management etc. However, the problem of disruptive products pricing is not widely coverage in the literature of the subject.

Problems of innovative products pricing are discussed in a large number of works of domestic and foreign scholars. Among them: Illyashenko S.M. [5] Krykavskyy E.V. [6], Pavlenko I.A. [7], Chukhray N.I. [6, 8] and many others. These authors conducted a solid analysis of the strategic aspects of pricing, however methodological aspects of innovative product pricing according to the type of innovation require further study.

### Objectives

The objectives of this study are: to clarify the concept of disruptive product and to ground the methodical approach to price setting for such products.

### Materials

The research of internationally renowned companies' successful practices of bringing new products to market, conducted by J. Cagan and G. Vogel [4, p. 79] showed that the creation of higher-level use value today is the most important factor in the success of new product in the market. Based on the research, the authors proposed a classification of innovative products, which enables to define the essence of disruptive products (fig. 1).

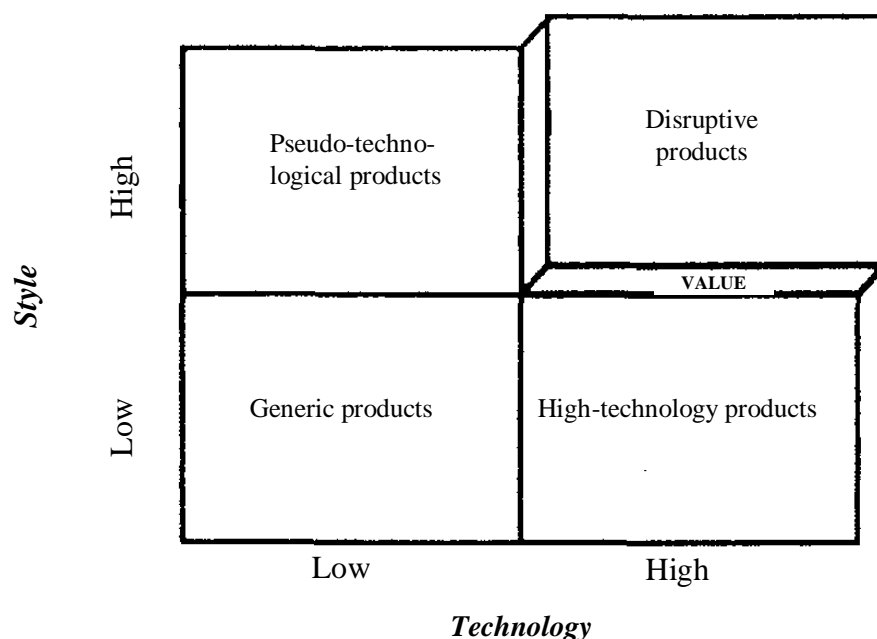


Fig. 1. Style – technology positioning  
Source: [0, p. 79]

According to the scheme in fig. 1, generic products provide a minimum level of style and technology used. The only advantage is low cost, which allows setting a lowest price. However the price attractiveness is usually not enough to succeed in the competition for modern dynamic markets.

Pseudo-technological products – most products from this quadrant has a high level of design, which hides the lack of new technological solutions. The company that brings to market these products can expect a high level of sales only in the short term, risking losing customer loyalty.

High-technology products – the main competitive advantage is the research and development while the design is not regarded as an important characteristic. Providing a high level of technology, they are designed for a narrow target segment, which limits their potential in the market. One of the most successful companies that managed to work in this quadrant is Hewlett-Packard, focusing on narrow segments of the professional markets.

Disruptive products have the highest level of technology and style, creating the highest value for the consumer and are in the highest demand. Usually for success in the market the use of advanced production technology or invention is not enough. To make a product disruptive, technology must be combined with innovative organizational solutions, business models, new way or the culture of goods consumption and more.

This combination is the main prerequisite for the creation of high value products. Value added positioning on the map is a kind of third dimension that is present only in the quadrant of disruptive products. In addition, when moving in the right upper quadrant, the company is able to increase profits: the cost of creation a high value product increases slower than the price, which consumer is ready to pay. Accordingly, this quadrant has the highest potential of profit, which may the company gain while bringing its products to market (fig. 2).

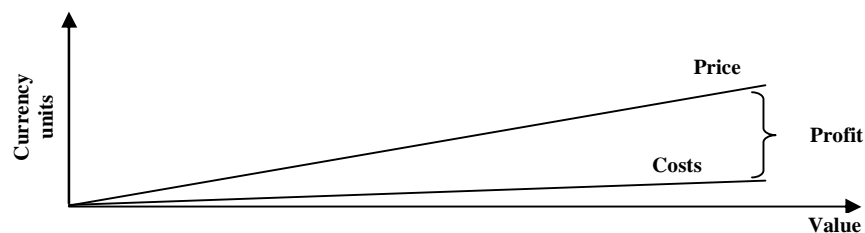


Fig. 2. Value effect  
Source:[0, p. 81]

Traditionally the price component of the marketing mix is focused on the strategy and tactics of pricing, excluding general consumer spending for possession, consumption or use of the products. However, from the consumer's standpoint, he is interested first of all not in the purchase price of the products, but in the total costs of consumption. Consumer is more interested in the total costs than in purchase price that performs only the "marking" function.

Since value could be defined as customer satisfaction at the lowest possible possession and consumption price, the concept of customer economy system should be mentioned. This concept highlights the difficulty in understanding customer requirements. The authors of the concept A. Slywotzky, D. Morrison, B. Andelman in [9, p. 44] state: "... Consumer economy system includes: the amount of money, paid for the product or service; costs of their use, storage and elimination; time spent on the transaction of purchase and use; risks that customer need to stand throughout all the process. In summary, it is money, time, and risks that the client "pays" to buy and use this product or service. This is the "big box" of customer economy. It comes out of the "small box" of the company products...".

The concept of customer economy system is shown in fig. 3 This approach assumes that most customers do not know the true economics of their "system". This opens opportunities for businesses that first expand knowledge on the subject and "open" a new way to increase the value created for the customer. It is especially difficult to investigate the needs for logistics services, because it is necessary to understand the internal processes of the consumer, because in that case the customer should be considered as part of the supply chain. Thus, the study of customer economy system is able to add value to the company offers to consumers and, consequently, to realize the breakthrough in the market.

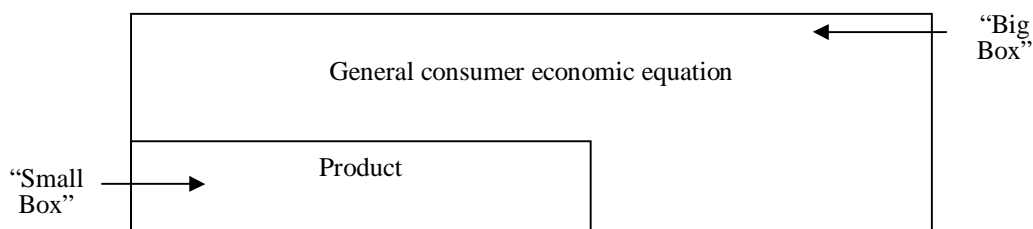


Fig. 3. Customer economy system  
Source: [9, p. 44]

Creating a new high-value market offer assumes to avoid “side by side” competition, which assumes competition with rivals for one and the same product and price options. Today it is too expensive and in the long run – as harmful for the company and for its market segment because it reduces margins for all market participants. To create a disruptive product concept, it is advisable to orient the company to compete with substitute products that satisfy the same need, but in a different way and establish a competitive price level. For example, services cost analysis of substitute modes of transport allowed budget airlines once to create a new profitable market niche. Pioneers of the market proposed to non-target consumer (for which services of airlines was a luxury) basic need satisfaction (moving from one point to another) with higher use value (faster than other modes of transport) at a reasonable price (higher than other modes of transport but much lower than traditional airlines). This has been achieved by potential consumer study, unimportant parameters for these proposals identification, which raised its price, but did not significantly affect the level of value perceived by consumer, and their elimination.

On the other hand disruptive product pricing requires determining the level of consumer value of fundamentally new to the market offers. This could not be implemented without market testing. According to a study held by M. Johnson and J. Shukhevykh [10, p.21], for fundamentally new paradigms specifically designed for them business models are needed. For example, a large number of dotcoms tried to create new patterns of doing business online, but most of them duplicated the traditional model – the existence of the proceeds from advertising, while Google was able to combine its advanced search technology with a new business model – search, paid for by advertisers. Thus the company has become one of the fastest growing and profitable in the world. However, only relatively simple and isolated business environment is appropriate to test key assumptions about technologies and business models integration, to optimize the system and to demonstrate the idea to the skeptically tuned to consumers or investors. The most practical and effective way to act in situations of high uncertainty is to try to predict as accurately as possible what will work out and then find creative and inexpensive method to test the assumption underlying this prediction. The aim should be following: for the minimum investment to implement the smallest possible experiment able to demonstrate the scale of the whole idea. Thus it is possible to evaluate the perception of a new product by potential customers and conduct a preliminary evaluation of its consumer value.

Thus, disruptive products pricing requires prior evaluation of product’s consumer value through market testing in a relatively simple and isolated environment and taking into consideration the price of substitute goods that satisfy the same or similar basic needs. This price is able to provide both the attractiveness of offer for consumers and ensuring the proper level of profit by receiving the benefits of opening a new market segment. If the task is conceptually straightforward, its practical implementation is not so obvious. First of all product’s consumer value estimation is necessary. The approaches to market offers consumer value evaluation analyzes and further pricing according to consumer value level, conducted by the author, allows us to offer the method consumer value scale for disruptive products pricing developed in [11, p. 46–61].

According to this approach, utility of the product, expressed in its consumer value, is evaluated by consumer through specific characteristics of the product or their combination. However, it should be noted that the category of consumer value is subjective, because the same combination of product attributes have different value to different users. It has situational and dynamic nature. These features make it difficult to measure the consumer value of products. It shifts the emphasis in the evaluation of this category in the plane level of measuring customer satisfaction.

The first step in the consumer value evaluation process is to set attributes for which consumers compare products. Generally, for this purpose it is advisable to start with a detailed definition of the current and projected needs of consumers of each product. This definition will allow to classify the product to the corresponding set of product offerings of competing manufacturers, same as to the set of products, which attributes consumers can compare.

One of the most detailed generalized lists of characteristics of product offerings to be compared is suggested by the Polish scientist W. Svitalsky in [12, p. 197]. This list is grounded on the attributes of so-called K-quality (quality in terms of competitiveness). Its essence meets the consumer value, and some attributes in this list are allocated according to the well-known concept of the four levels of the product. While analyzing the levels of the product, following main groups of attributes for comparison competing products consumer value can distinguish: use (the main function of the goods), technical parameters, advanced features, ease of access to and use of the product features, performance, safety use, reliability, structural and operational documentation, ease of entry of the goods, the quality of after-sales service system, ease of resale of second-hand goods personalization, reputation of the manufacturer, the development of relationships with customers and others. Depending on the complexity of the product, the list of groups defined by a set of attributes can be longer or narrower.

Research of different producers' offers competitiveness on the basis of selected attributes begins with the selection of offers from substitute products or direct competitors (if there are any) that meet the same needs of a certain segment of the market [12, p. 196]. Conventionally, marking the studied product market through  $g$ , we can state that the set of analyzed product offerings  $g$  consist of  $n$  elements (where  $n=1,2,\mathbf{K},N$  is single offer). Based on expert assessments, product  $g$  market lists of attributes that must be considered in determining consumer value indicators. Denote the elements of this list as  $f=1,2,\mathbf{K},F$ . The next step is to establish the value of the  $f$  feature in the  $n$  offer.

Not all attributes of  $f$  list could be referred to numbers. Such characteristics as after-sales service system or reputation of the manufacturer could be established on the basis of the comparison between offers. In most cases, the values of these features are installed on the  $[0; 1]^1$  segment or measured at a given scale. Expressing all attributes of each offer by means of numbers, we obtain a  $C$  matrix of  $[c_{fn}]$ ,  $n=1,2,\mathbf{K},N$ ,  $f=1,2,\mathbf{K},F$  elements:

$$C = \begin{pmatrix} c_{11} & c_{12} & \mathbf{L} & c_{1N} \\ c_{21} & c_{22} & \mathbf{L} & c_{2N} \\ \mathbf{L} & \mathbf{L} & \mathbf{L} & \mathbf{L} \\ c_{F1} & c_{F2} & \mathbf{L} & c_{FN} \end{pmatrix}$$

The  $C$  matrix contains the consumer value primary characteristics of all analyzed offers in the  $g$  market. Because not all attributes are equally important, the  $\mathbf{w}$  – vector of weights of individual attributes in the consumer value final assessment is to be set. Product  $n$  consumer value can be estimated by the formula (1):

$$C_n = \sum_{f=1}^F w_f c_{fn} \quad (1)$$

Based on the calculated and ordered in increasing values of  $C_n$  all product offerings, we can build for  $g$  multiple the consumer value scale, consisting the  $Q$  stages ( $Q=1,2,\mathbf{K},10$ ), depending on the selected step. Each  $n$  product of the  $g$  set uniquely goes into the class  $q$  ( $q=1,2,\mathbf{K},Q$ ) of the scale:

$$d(q-1) \leq C_n < dq, \quad (2)$$

where  $d$  – the scale step.

---

<sup>1</sup> Some features may take the value 0 or 1, others – reflect the intensity of certain  $f$  feature criteria, ie to take values within the  $[0; 1]$  interval.

The scale illustrates the level of perceived utility of the product (offer) and helps to determine the price reasonably, depending on the scale class, in which we find the current product. It should be noted that under normal circumstances has come true this statement: if  $C_1 < C_2 < \dots < C_n$ , then  $p_1 < p_2 < \dots < p_n$ , where  $p_n$  is the price of  $n$  product. However, this condition is not always true, because in the process there are various random deviations, such as: the  $C_{n+1} - C_n$  difference is small and does not affect the difference in prices, costs of producer of the better offer are lower, or its prices are obviously reduced to capture a larger share of the market, etc.

To avoid randomness factor, we'll calculate the average consumer value and price in each  $q$  class of the scale, which will serve as the starting point in the process of pricing of the new to the market product:

$$\bar{C}_q = \frac{1}{m_q} \sum_{n \rightarrow q} C_n, \quad (3)$$

$$\bar{P}_q = \frac{1}{m_q} \sum_{n \rightarrow q} P_n, \quad (4)$$

where  $m_q$  – the quantity of products, that refer to  $q$  class,  $n \rightarrow q$  – means that product  $n$  refers to  $q$  class.

We can assume that in average prices the random deviation does not occur and the condition that the higher rates of consumer value correspond to higher prices. Average consumer value and price in those classes of the scale, to which at the time of study no products refer, can be found using statistical and mathematical methods.

Application of the consumer value scale makes it possible to identify direct and immediate competitors, objectively assess the value of products in terms of customers and to assess the validity of the pricing policy of the company. With scale enterprise can quite simply determine the level of the price that consumers are willing to pay, entering the market with a new product or moving their products from one class of the scale to another.

### Conclusions

Disruptive product pricing requires preliminary evaluation of its use value through market testing in a relatively simple and isolated environment, same as taking under consideration the prices of substitute products, which satisfy the same or similar basic needs. This price is able to provide both the attractiveness of offers for consumers and ensuring the proper level of profit by receiving the benefits of opening a new market segment.

In practice, new to the market offers consumer value assessment is a difficult task to implement. It requires searching for a methodical approach to such implementation. Consumer value evaluation approaches analysis allows us to assume that the method of consumer value scale is to be used for disruptive products pricing according to the determined level of their consumer value. Application of the consumer value scale makes it possible to identify direct and immediate competitors, objectively assess the value of products in terms of customers and to assess the validity of the pricing policy of the company.

### Prospects for future research

The concept of disruption is about providing a unique value to the customer. Often this is achieved by the optimal balance of value offered to consumers and affordable level of price. In order to allow pricing at the level of value perceived with customer and his expectations, businesses need to control operating costs and to improve costs management system. That will be the subject of further research of the author.

1. Кристенсен К. Дилема инноватора / Клей тон М. Кристенсен; пер. с англ. – М.: Альпина Бизнес Букс, 2004. – 239 с. 2. Сливоцький А. Прорив / пер. з англ. Анна та Ігор Гусак. – Львів: Видавництво Українського католицького університету, 2010. – 328 с. 3. Финкельштейн С. Стратегия прорва / С. Финкельштейн, Ч. Харви, Т. Лотон. – К.: CompanionGroup, 2007. – 336 с. 4. Кузьменко Д. Прорывное позиционирование / Д. Кузьменко, А. Мальцева // Маркетинг: стратегии, с которыми побеждают: сб. – К.: Максимум, 2006. – С. 78–91. 5. Маркетинг інновацій і інновації в

маркетингу: монографія / під ред. С.М. Ілляшенка. – Суми: ВТД “Університетська книга”, 2008. – 615 с. 6. Крикавський С.В., Чухрай Н.І. Промисловий маркетинг: підручник. – 2-е вид. – Львів: Видавництво Нац. ун-ту “Львівська політехніка”, 2004. – 428 с. 7. Маркетинг: підручник / [А.Ф. Павленко, І.Л. Решетнікова, А.В. Войчак та ін.]; за наук. ред. А.Ф. Павленка; кер. авт. колективу І.Л. Решетнікова. – К.: КНЕУ, 2008. – 600 с. 8. Чухрай Н., Патора Р. Товарна інноваційна політика: управління інноваціями на підприємстві: підручник. – К.: КОНДОР, 2006. – 398 с. 9. Slywotzky A.J. Strefa zysku. / A.J. Slywotzky, D.J. Morrison, B. Andelman. – Warszawa: PWE; 2000. – S. 43. 10. Джонсон М. Изобретая новую бизнес-модель / М. Джонсон, К. Кристенсен, Х. Кагерманн // &Стратегии. – 2009. – № 1–2. – С. 14–24. 11. Чухрай Н.І. Маркетинг на ринках високотехнологічних товарів: монографія / Н.І. Чухрай, Я.В. Демків; Нац. ун-т “Львів. політехніка”. – Л.: Вид-во Львів. політехніки, 2013. – 205 с. 12. Switalski W. Innowacje i konkurencyjnosc / W. Switalski. – Nokpol, Kobyłka: Wydawnictwa Uniwersytetu Warszawskiego, 2005. – 242 s.

УДК 338.436:339.924

JEL Q14

L.I. Katan

Dnipropetrovsk State Agrarian and Economic University

## FUNDING OF INNOVATIONS IN THE AGRICULTURAL SECTOR OF UKRAINE UNDER CONDITIONS OF SUSTAINABLE DEVELOPMENT MODEL

ã Katan L.I., 2014

The necessity of improving the model of innovations funding in the agrarian sector of Ukraine with the account of globalization processes is proven. The model constructed by the rule of “the golden sequence” is proposed.

Key words: agriculture, sustainable development, innovation, financial security, pragmatism, neo-liberalism, globalization.

Л.І. Катан

Дніпропетровський державний аграрно-економічний університет

## ФІНАНСОВЕ ЗАБЕЗПЕЧЕННЯ ІННОВАЦІЙНОЇ ДІЯЛЬНОСТІ В АГРАРНІЙ СФЕРІ УКРАЇНИ В КОНТЕКСТІ МОДЕЛІ СТАЛОГО РОЗВИТКУ

ã Katan L.I., 2014

Доведена необхідність вдосконалення моделі фінансового забезпечення інноваційної діяльності в аграрній сфері України з урахуванням глобалізаційних процесів. Запропоновано модель, побудовану за правилом “золотої послідовності”.

Ключові слова: аграрна сфера, сталий розвиток, інноваційна діяльність, фінансове забезпечення, прагматизм, неолібералізм, глобалізація.

### Problem statement

With the globalization and internationalization processes in economic relations, development of modern society is characterized by rapid structural and institutional changes. These changes are related to activation of innovations, which will provide a transition as some types of economic activity and the