Customer Value: Determination in Undefined Environment

The authors are analysing customers’ given value to the supplier organization and traditional methods used for value determination. The paper presents J. Pease customer value management cycle and the connection between three phases of the cycle – determination of customers’ given value, relationships support and relationships development. Having analysed scientific literature and distinguished factors of undefined environment, the authors start creating the customers’ given value determination model, which can be applied in undefined environment.

Keywords: customer value, undefined environment, Pease cycle, real options, binomic model.

Introduction

The customer is an object, which a company should be orientated to when choosing a strategy and giving priorities. The importance of the client is exceptional. Because of the limited resources managers have to analyze the structure of existing and potential clients and group them according to their potential growth. Companies do not have enough resources to give priorities to all their customers, for this reason the main task for managers is to focus on the clients, who give the biggest value.

Scientists have made many researches on the customer’s value determination, but most of the methods do not take into account the influence of undefined environment. Instruments as real options are able to define the environment’s factors, but they are used for financial evaluation, not for marketing. Such methods are used in determining the value of the company’s shares, investment projects. Companies cannot solve a dilemma, which instruments

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should be used in determining the most important – the most valuable customers in undefined environment. There are many questions as: how they should recognize, which customer has the biggest potential for the future growth; how they should evaluate the influence of undefined environment.

The scientific problem of this research is: which instruments should be used in determining customers’ value, taking into account the factors of undefined environment. The object of the research – the customer’s given value to the supplier. The task of this research: analyzing theoretical aspects of customer’s value determination, to present the innovative real options method for the customers’ evaluation in undefined environment.

In this paper different views of researchers on customer given value will be summarized, the conception of undefined environment and its impact on companies will be presented. The authors will present traditional methods of customer value determination and develop the customers’ segmentation matrix, followed by the innovated real options method for the customers’ evaluation in undefined environment.

Customer value

The term „customer value“ has many meanings, however, it is possible to group them into two main groups: value to the customer (the value, which is received by customers) and value to the company (value received by the supplier from the customer). This paper will shortly introduce customer’s received value. The target of the research is the client’s given value to the company.

Concept of company’s given value to the customer

The creation of customer’s value is a critical task for marketing specialists (Arnett, Macy, Wilcox, 2006). From the clients’ point of view, value for them is what they „get“ (benefit) in comparison to what they „give“. The creation of customer value is considered to be the main task for organizations. It is evaluated as the main company’s success factor because it improves clients’ satisfaction and loyalty. It is believed, that companies exist to create value to the customers (Bick, Alexander, Bendixen, Abratt, 2009). The main marketing task is to achieve organizational and public goals by developing value. Even if the value concept is differently explained by various individuals, in general the receiving of value includes two components: giving something (price) and taking something (receiving value). The value development concept may vary in different industrial sectors.

According to C. Gallucci (2008), through the customer value creation a company achieves customers’ satisfaction (Figure 1), which leads to the growth of customers’ loyalty and all this leads to positive general results.

Customer satisfaction becomes one of the most important objects in marketing research. Satisfaction is usually considered to be the evaluation of a product or service after its use up (Carmen, 2009). Moreover, customers are used to evaluate a product or service due to preliminary expectations. For this reason satisfaction is influenced not only by the quality of a product or service but also by preliminary expectations.

Besides the given concepts, we have to acknowledge that there is no common
concept of customer value. There were plenty attempts to determine, what customer value is, however, all attempts were not final.

**Concept of customer given value to the company**

Customers are the main object, which company should be orientated to, when making decisions and giving priorities (Kuusik, 2008). Customers express their power through buying behavior. They make a huge influence on a company by accepting or refusing to buy certain products from certain companies. As customers are a compulsory part of the company’s life and expansion, their importance is exceptional. However, it is important to notice, that each company’s resources (financial, human etc.) are limited (Muthuraman et al., 2006). Companies’ managers have to analyze the structure of existing and potential clients and put them into segments according to the growth potential and other priorities.

The real customer given value is current (existing) value of future cash flows, calculated by estimating the price of the invested capital. The company’s market value – a total sum of current customers’ values (Collins, Steg, Koning, 2007). If the company’s market value corresponds with its real value, one of the methods to increase the real value of the company is to increase the value of each relationship with customers. To achieve this purpose one should behave in three ways (Clark, 2008):

For current customers, which create value:
- to increase profit and/or,
- to increase size of cooperation and/or,
- to increase duration of cooperation,

For current customers who do not create value, but do in opposite way – destroy it:
- quickly achieve value creating connection or
- tear off connection if nothing else can give positive results.

For customers, who will potentially create value in the future, but are not attended to service at current time:
- to „obtain“ those potential customers for reasonable „price“.

Sometimes managers try to keep the same level of costs for serving all the customers. But in this way companies are more likely to save on profitable and waste...
resources on less profitable or even non-profitable customers (Elpstein, Friedl, Yuthas, 2009). If a company knows each customer’s lifetime value, it has a possibility to maximize its own value.

**Customer value management cycle**

J. Pease (2008) presented the customer value management cycle, which consists of three phases: right customers pick out, development of proper relationship, proper customer maintenance (Figure 2).

![Customer Value Management Cycle](image)

**Fig. 2. J. Pease customer value management cycle**

Each of these three customer value management cycle phases support one another in order to maximize final results. Only by accomplishing the first phase of J. Pease’s cycle – picking out right customers, who create value to the company, it is possible to fulfill the other two cycle phases – to develop proper relationship and keep proper customer maintenance. Only by fulfilling all three phases, the company’s final results can be expected to be satisfying. The company does not have enough resources to service all customers irreproachably and perfectly (McMillan, Costley, Akoorie, 2007). One of the main purposes of the company’s managers is to keep an eye on each customer, because good customers are also a target of a competitor company. That is why it is so important to keep all existing connections with most important customers and develop long lasting relations with them.

**Right customers (picking out)**

The customer value management cycle starts by picking out the customers, which can be the most valuable in the future. It is necessary to create a model for establishing customer value in undefined environment. In most industry sectors a balance period, i.e. such a period of time in which a new customer starts giving real benefit for the company, is one or more years. A company cannot allow making investments into new customers without making previously the research on the customer’s lifetime value (Ramani, Kumar, 2008). Having calculated the individual customer’s lifetime value, customers can be grouped into special segments. The existing customer loyalty/benefit matrix (Figure 3) was used for the creation of value segmentation matrix (Figure 4). According to loyalty/benefit matrix, customers are grouped into four segments (Figure 3) basing on customer loyalty and given benefit. Four customer segments have been distinguished: a) those, which need to be developed; b) those, which need to be maintained for some time or which need to be refused; c) those, which need to be maintained only; d) those, which need to be grown up. Customers in the first segment give small benefit, but their loyalty is high and it is useful to develop them in order they become not only loyal but also giving better profit (Lemon, Mark, 2006). The second ones are less loyal and the benefit is also small, so their development is not perspective and a company should refuse them. The third ones are
most useful for a company at this moment (but not necessarily in the future) because of their loyalty and benefits they give. It is important to keep them. The fourth ones, which benefit is high and loyalty is low – are currently extremely important for a company and it is important to grow them up in order to increase loyalty, attach them to the company.

Fig. 3. Customer loyalty / benefit matrix

The improved matrix also consists of four segments – customers, which need to be developed, maintained, refused, and grown up. However, it does not depend anymore on loyalty / benefit. One factor is enough – customer given value to the company (in undefined environment, long-term perspective) (Figure 4).

Most companies do not have a possibility to define precisely their customers’ lifetime value due to difficulties in organizational structure and management processes. However, the aim of getting maximum good results is promising. New standpoints to business have been developed, distinguishing the following three aspects:

- Ability to determine which products and services are most likely to get investment is being developed. Product or service qualities can be corrected, adjusted.

- Customers which create and which decrease general company value can be picked out. There occurs an opportunity to concentrate the company’s attention to the segments or individual clients which create the biggest value (Desarbo, Jididi, 2006). Occurs an opportunity to determine alternative ways of profitable servicing those customers which do not create value to the company.

- Occurs an opportunity to determine individual (for a customer and a separate segment) service terms based on the whole customer (or segment) purchasing history; an opportunity to group products or services, change delivery time and terms, sales conditions, prices etc.

When certain biggest value giving customers are picked out in order to work with customers more efficiently, it is important to make the other two J. Peace’s cycle parts – to properly develop relationship and maintain valuable customers.
Concept of undefined environment and impact on companies

The world is changing rapidly: changes take place in markets, countries, organizations, work and leisure. Companies execute their business in undefined, hardly foreseen, but at the same time very competitive environment. Indetermination factors could be grouped into two main groups: economical and technological (Figure 5).

Economical factors, which indicate economic indetermination, can be the ones that decrease/increase of production demand due to customers’ weakening, strengthening, competitors’ actions, appearance of new alternative products, changes in supply costs, and changes in work force costs. All these factors have a huge impact on product development costs, demand and in this way affect the company’s sales, especially – export results.

As factors indicating technological indetermination, can be mentioned the ability to acknowledge new technologies, equipment, innovations, and to develop new competitive products (Smith, Colgate, 2007).

Besides the undetermined environment factors, there are a few more obstacles in determining the customer’s given value. One of those obstacles there should be mentioned organizational structure. Most of corporations are developed according to geographical location, products or functions – but not according to customers (Stahl, Matzier, 2009). The companies have worldwide functional branches such as R&D, production, etc. In such types of organizational structure nobody is responsible for the specific customer value maximization. In order to achieve general value maximization in this type of an organization, one more decision making dimension should be added to the already existing geographical and product dimensions (Piscopo, 2007). A three-dimension matrix should be developed.

Customer lifetime value – traditional method

The customer value concept has changed significantly in the last few years: product (or service) buyers get special meaning. It is believed, that company’s expansion and future depends especially on customers.

![Fig. 5. Environment indetermination](image-url)
However, very small improvement on customers’ value measurement models research can be noticed. Huge number of methods, dedicated to customer value measurement, exist, however, some of them – traditional – are criticized as being too much static, not able to evaluate environment indetermination, company’s flexibility and other factors.

More than 30 years ago P. Kotler (1974) determined long-term customer benefit as „current value achieved from transactions with customers in specific time period“. Since then customer lifetime value (CLV) has been used for making decisions on companies merge and purchases, also has been used in customer value evaluation sphere. In order to increase general value of customer base it is important to refuse of customers which give the smallest (or negative) value to the supplier. Customer lifetime value is acknowledged to be one of the most important value index because it takes into consideration not only current customer value but also present value of customer’s future purchases (Hughes, 2009). Constant CLV measurement is being carried out by companies, wanting to know the effectiveness of their loyalty marketing programs. CLV calculation and usage must me the core part of each business if the aim of the business lies on profit maximization. Customer lifetime value was analyzed by Berger P.D., Nasr N. (1998) who emphasized that CLV is the indicator, which shows the difference between the cost, service, maintenance and income from customer through it’s lifetime cycle.

CLV calculation model values net present value of customer’s future cashflows. This model is based on the fact that cooperation and marketing expenses become constant in time, in each time period goes regularly. Also, precondition could be made that customers are constantly buying from producer for specific time period and when cooperation stops it cannot be renewed again. For those reasons the usage of this method is restricted especially for strategic decisions. N. Bechwati, A. Eshghi, E. Malthouse (2005) made the same conclusions about this method’s limited abilities and added that there are still some doubts about CLV value precision. Basing on the facts of past data in order to predict customer’s future plans may lead to very inaccurate results. Precision depends on presumptions, data quality and specific time period. The longer projection period, the precision is less accurate.

CLV – the traditional customer evaluation model, which is easy to use when it is necessary to make general customer evaluation (Bechwati, Eshghi, 2008), there is no obligation for exact results. However in today’s undetermined environment traditional customer evaluation methods are not the best solution– they cannot evaluate undetermined environment factors, company’s flexibility.

Usage of real options method

According to J. Lovett (2006), connection between the buyer and the seller can be expressed as a set of options. As customers have possibility to choose to buy or not to buy at any time it is offered to calculate customer given value by using binomic real option evaluation method. H. Hogan and R. Hibbard (2006) have developed a methodic based on real options, which is suitable for calculating business relation value. They assert that any relation value is influenced by two options value: switching option (i.e. flexibility to
go from one buyer or seller to another) and growth option (freedom to expand relations beyond current limits is evaluated). There have been many researches done in financial analysis sphere on option evaluation, however, there is still enough space for further researches for options in marketing sphere.

Mathematic algorithm of binomic real option model:

Binomic real options model is based on the fact that at any period of time (e.g. year) and from any specific customer different cash flows can be achieved. It is not known which cash flow is achieved after making investment to relations

\[
NPV_{\text{proj}} = C.F_1 + C.F_2 + C.F_3 + \ldots + C.F_n
\]

**Fig. 7. Project current value calculation**
with customer – growing (UP) or falling (DOWN). Also it is not clear which cashflow (C.F.) is achieved in the second stage – UP.UP, UP.DOWN, DOWN.UP, DOWN. – their meanings are completely different (Figure 6). It strongly depends on threats and possibilities occurring during cooperation with customer.

Relations with a specific customer and relations development can be treated as separate investment project. Current value of all projects is calculated from all cash flows (Figure 7). When using a real option model, a manager has an opportunity not to pay attention to negative cash flows (C.F.), as a project with negative C.F. can be canceled.

Each cash flow is calculated by multiplying predicted cash flow by C.F. value coefficients (Figures 8 and 9).

C.F. value coefficients are multiplied by each other in further than 1st stage period.

Predicted cash flows (in each stage of success or failure) are calculated by ana-

\[ C.F. = \text{For. C.F. Ip.UP} \times q \ UP. \]

\[ \text{For. C.F. Ip.UP} \]

\[ \text{For. C.F. Ip.DOWN} \]

\[ \text{For. C.F. Ip.DOWNDOWN} \]

Fig. 8. Predicted cash flows

Fig. 9. Cash flow value coefficients
lyzing market, environment and demand. This job is done by Company’s managers. Cash flows are calculated by solving this equation system:

\[ 1 = q_{UP} \cdot V_{UP} + q_{DOWN} \cdot V_{DOWN} \]

\[ \frac{1}{1 + r} = q_{UP} + q_{DOWN} \]

The result of this equation system is as follows:

\[ q_{UP} = \frac{1 + r - V_{DOWN}}{(1 + r) \cdot (V_{UP} - V_{DOWN})} \]

\[ q_{DOWN} = \frac{q_{UP} - 1 - r}{(1 + r) \cdot (V_{UP} - V_{DOWN})} \]

The coefficients of profitableness value in one period of the market grow or fall is calculated according to the formulae:

\[ V_{UP} = \exp(R + \sigma) \]

\[ V_{DOWN} = \exp(R - \sigma) \]

Explanations:
- Ip, Iip – period in which C.F. has been received (spent),
- C.F. – cash flow,
- C.F. UP. – C.F. growing value, C.F. DOWN. – C.F. falling value, For. C.F. – forecasted cash flow,
- q_{UP} – cash flow value coefficient in case of success (C.F. growing value),
- q_{DOWN} – cash flow value coefficient in case of failure (C.F. falling value),
- \( \sigma \) – market change instability, indetermination of investment project’s future cash flows, standard deviation of future cash flows. Future cash flows can be influenced by various inner and outer factors (changes in demand and supply, customer, competitor actions).
- r – risk free interest norm,
environment the precise customer value evaluation cannot be carried out only by using traditional methods – they cannot evaluate undetermined environment factors, company's flexibility to make changes.

- Real options combined with CLV method is untraditional way of thinking. This method is based on financial investment evaluation principles and is calculated by using mathematical algorithms. The difference of this method to traditional ones – this method evaluates environment indetermination – it evaluates economical, technological factors, risk and opportunities of undefined environment. It takes into account possibility to stop, expand, resume the investment program fulfillment.

References

KLIENTŲ TEIKIAMA VERTĖ: NUSTATYMAS NEAPIBRĖŽTOJO APLINKOJE

S a n t r a u k a

Klientai yra tas objektas, į kurį įmonių vadovai turi orientuotis tvirtindami veiklos strategiją bei teikdami prioritetus. Dėl resursų ribotumo įmonių vadovai turi nuolat analizuoti esamų ir potencialių klientų struktūrą bei juos segmentuoti pagal augimo potencialą ir kitus prioritetus. Įmonė neturi tiek išteklių, kad galėtų visus klientus laikyti prioritetinius, todėl vadybininkų pagrindine užduotis – koncentruotis į didžiausią vertę teikiančius klientus.


Straipsnyje apibendrinami tyrių teoriniai principai bei požiūriai į klientų teikiamą vertę įmonei, nagrinėjama neapibrėžtos aplinkos samprata ir galimas jos poveikis įmonėms. Pagrindžiama klientų teikiamos vertės įmonei nustatymo svarba vadybiniai kontekste, nagrinėjami egzistuojantys metodai, kuriais būtų galima nustatyti toki pobūdžio teikiamą vertę. Kuriamas klientų teikiamos vertės įmonei nustatymo modelis, gebantis įvertinti neapibrėžtos aplinkos veiksnius.