

CONSUMER VALUATION MODEL IN THE CONTEXT OF RELATIONSHIP MARKETING

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Abstract. *The aim of this paper is to present a theoretical model of the establishment of the value created to an enterprise by consumers, which would allow a complex measuring of the benefit of the exchange of relationships based on the totality of the features significant to the exchange of relationships. The problem of an increasing concern about with the form of the relationship exchange in the theoretical and practical context of marketing calls for the need to identify the specific features of the relationship exchange, which create the value of exchange with the consumer for the company. The concept of the relationship marketing dictates the measurement of the consumer valuation for the company not only in the financial and/or exchange duration variables, but also socio-emotional features of the exchange.*

It can be argued that the methods of the assesment of the e consumer valuation for the company and the models, which they create, are not adapted to the specific marketing concept and exclude the features of value-generating exchange for the company, which are characteristic of that concept. The article aims at the substantiattion of the hypothesis that the concept of the marketing of relationships dictates the measuring of the value created to an enterprise by the consumers not only by means of the financial variable and / or the variable of the lack of exchange, but also the socioemotional features of the exchange. The following methodology has been applied to confirm the hypothesis: proceeding from the system analysis of the research, the main features of the relationships characteristic of the exchange, which are interpreted as the significant variables for the measurement of the value of exchange have been marked; the totality of the features is used to create a new model of the establishment of the value created to an enterprise by consumers needed to measure the return from the relationships, describing the criteria of selection of the variables and the principles of their calculation.

Key words: *relationship marketing; consumer trust; consumer commitment; consumer perceived value; consumer valuation.*

Introduction

The value system of modern consumers and their growing social significance in the consuming environment form an essential precondition for the necessity to change

the long-standing attitude towards value creation and valuation models. The relevance of the problem is revealed through the economic, social and technological changes taking place in the contemporary era, which influence the individualization

of the value creation chains, and through the changing perception of value as a fundamental marketing category are affected by the importance of consumers' growing social needs on the market. The system of demands of modern consumers¹ and their increasing social value in the consuming environment stimulates the recognition of the consumer as an *individual person*, who is at the basis of the the exchange with an enterprise using not only economic (functional) elements but, first of all, the *socioemotional elements*. Transition from the transactions to the form of the relationship exchange as such calls for an adjusted approach to the attributes, which influence the exchange process and to the ways of their evaluation since the relationships should be interpreted as a higher *category* of exchange. The relationships with consumers that are beneficial to an enterprise may be reached when not only the return from the performed transactions (purchase or consumption transactions) is evaluated, but the *return from the relationships*² as well.

The systematized and summarised theoretical literature on the relationship marketing (R. Christy et al., 1996; F.A. Firat et al., 1995; Ch. Gronroos, 1994; Ch. Gronroos, 1997; Ch. Gronroos, 2004; E. Garbarino and M.S. Johnson, 1999; E. Gummesson, 2004; Ch. Holland and P. Naude, 2004; A. Ravald and Ch. Gronroos, 1996; W. Re-

inartz and V. Kumar, 2003; J.N. Sheth and A. Parvatiyar, 1995a; 1995b; J.N. Sheth and A. Parvatiyar, 2000) revealed the following characteristics which urge to establish the new features of the exchange with the consumer that form value for a company and define the principles of application thereof for the measurement of consumer value:

1. The changing values in a society reveal the growing significance of satisfaction of consumers' social needs on the market, which alters the approach to value and the features of the exchange used to measure value.
2. The form of the relationship exchange is increasingly based on the the altered conception of value and value creation chains, the main component whereof is the *emotional characteristics* of consumption.
3. Applying the concept of the relationship marketing, the value created by consumers for a company is measured by the *return on relationships* based not only on economic but also on *socioemotional elements of the relationship exchange*.
4. The well-established models of the establishment of value created by consumers for a company do not reveal the typical features of the relationship exchange and they are intended only for the measurement of the benefit from the exchange of transactions without taking into account the social and emotional characteristics of the exchange.

It is noteworthy that the highlighted features serve as the basis for the scientific issue to create a model for the establishment of value created by consumers adapt-

¹ The needs typical of the modern consumers of the market were mastered thoroughly in the works of A.F.Firat and N. Dholakia (2003), F.A.Firat, N.Dholakia and A.Venkatesh (1995), A.F.Firat and A.Venkatesh (1995).

² The term and conception of the return from the relationships was thoroughly examined in the works of E.Gummesson (2004).

ed to the concept of relationship marketing, which would include exchange features that are characteristic of relationships³. Examination of consumer valuation for the company in terms of the *relationship exchange* contributes to the development of the relationship exchange concept not only on the theoretical, but also practical level, integrating the variables characteristic of the relationship exchange used to measure the benefits of the company's exchange into the model of assessing consumer valuation for the company.

It can be argued that the theory of relationship marketing issues of evaluating consumers lacks a single paradigm⁴ from

the point of view of both concepts and ideas and the applied models of assessing consumer valuation for the company. The assessment of consumer valuation for the company by applying the characteristic features of the relationship exchange is a comparatively new field of research analysed fragmentarily and without clearly identified relationships in the marketing theory, as a result of the conceptual divide between the theoretical principles of the relationship exchange and consumer evaluation methods with their associated models.

1. Significant features of the relationship exchange

It should be noted that the analysis of the significant features of the relationship exchange was based on the theoretical literature on the relationship marketing (R. Christy et al., 1996; F.A. Firat et al., 1995; Ch. Gronroos, 1994; Ch. Gronroos, 1997; Ch. Gronroos, 2004; E. Garbarino and M.S. Johnson, 1999; E. Gummesson, 2004; Ch. Holland and P. Naude, 2004; A. Ravald and Ch. Gronroos, 1996; W. Reinartz and V. Kumar, 2003; J.N. Sheth and A. Parvatiyar, 1995a; 1995b; J.N. Sheth and A. Parvatiyar, 2000). The chosen method of the systematic analysis allowed to select those features that are characteristic of the relationship exchange, which become the key elements shaping the creation and maintenance of the relationship exchange, and which are interpreted as significant

³ The applied method of the systematic analysis confirmed that the methods of *customer lifetime value* (CLV), *net present value* (NPV) and *customer equity* models for the consumer value measurement based on them that are examined in the scientific literature (Ambler, 2002; Shih, Liu, 2003; Bechwati, Eshgi, 2005; Berger, Nasr, 1998; 2003; Libai et al., 2002; Venkatesan, Kumar, 2004; Berger et al., 2003; Fader et al., 2005; Haenlein et al., 2006, etc.) fail to reveal the characteristic features of the relationship exchange and can be used irrespective of the applied marketing concept: benefit for a company is measured by using *financial and duration indicators* in order to evaluate the return on the direct financial investments from the consumer. The application of the financial and relationship duration variables is intended for dividing consumers into the following two groups: *profitable* and *unprofitable*, using the duration variable as an additional component to assess the financial benefit for a company during the entire consumer's existence with the company by interpreting the duration of exchange as a significant dimension to measure the benefit for the company. The use of financial variables in the models for the establishment of value created by consumers for a company is significant in terms of measuring the *value of transaction exchange* seeking *economic benefit of exchange*, whereas the concept of relationship marketing forms a new paradigm of value creation and its establishment by emphasizing the importance of creation of indirect exchange value based on the socioemotional relation.

⁴ Analysis of the published research confirmed that schools representing different trends of relationship marketing disagree whether the relationship marketing

theory forms a new paradigm. This dissertation is based on the approach of the Nordic school that the relationship marketing concept is based on a new paradigm, which replaced the formal transactions with relationships.

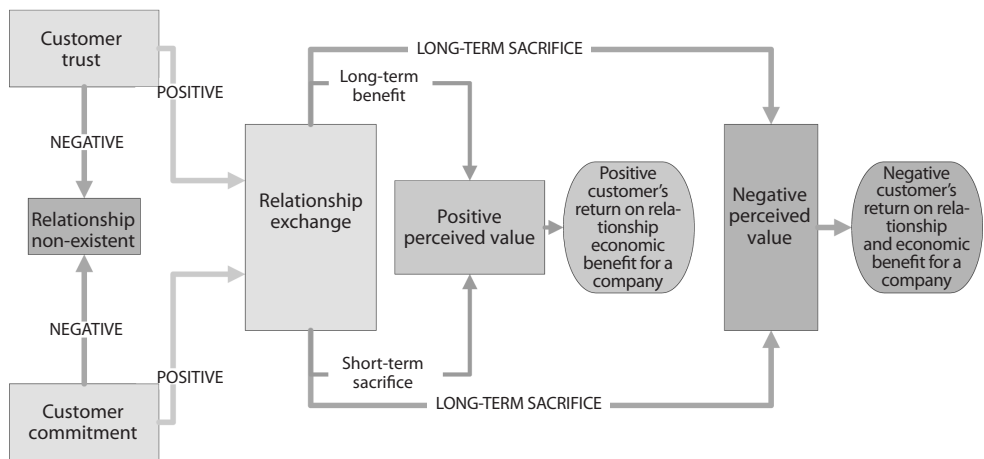


Fig. 1

variables used to measure the benefit of the relationship exchange in this study.

Having systematized and summarized the views of different scientists on the characteristic features of the relationship exchange, the author of this article presents his own attitude towards the relationship exchange process in the consumer's aspect in Figure 1.

Proceeding from Figure 1, it can be stated that the following three main consumer's features determine the formation of the relationship exchange: *consumer trust*, *consumer commitment*, and *consumer perceived value*, all of which have influence on the *economic benefit*⁵ created by the consumer for a company. This sequence of features can be based on the val-

ue creation chain by A.Payne and S.Holt (2001), where the benefit for a company is created subject to the value created for the customer⁶. Therefore, the economic result of the exchange between the company and the consumer is directly dependent on the values of the socioemotional features of the exchange of the benefit created by the company or brands of its product for the customer.

Having systematised and summarised the analysed literature on the relationship marketing (R. Christy et al., 1996; F.A. Firat et al., 1995; Ch. Gronroos, 1994; Ch. Gronroos, 1997; Ch. Gronroos, 2004; E. Garbarino and M.S. Johnson, 1999; E. Gummesson, 2004; Ch. Holland and P. Naude, 2004; A. Ravald and Ch. Gronroos, 1996; W. Reinartz and V. Kumar, 2003; J.N. Sheth and A. Parvatiyar,

⁵ The significance of economic benefit of the exchange expressed in consumer's profit (loss) or profitability indicators is mentioned in the works of Ch.Gronroos (1997); E.Gummesson (2004); J.N.Sheth and A.Parvatiyar (1995); J.N.Sheth et al. (2000); A.C.Malhouse and R.C.Blattberg (2005); A.Ravald and Ch.Gronroos (1996), R.Christy et al., 1996; J.C.Anderson and J.A.Narus (1998), J.L.Gattorna (2006); P.D.Berger and N.I.Nasr (1998); L.Gattorna and D.W.Walter (1996).

⁶ In the present article, the value created for the consumer is perceived as the satisfaction of consumers' needs in market exchanges. In the postmodern era, consumers' needs are satisfied not only by the rational-functional elements but, most frequently, by psychological elements of products or exchanges, emphasizing the safety, exclusivity and individuality of the exchange object.

Table 1. The main features for measuring the benefit of the company's relationship exchange.

<i>Feature category</i>	<i>Category description</i>	<i>Feature</i>	<i>Main characteristics</i>
Economic benefit of the exchange	Reveals typical features of transactions by evaluating the exchange on the basis of financial <i>variables and measuring return on the investments from the consumer</i> . The variables falling within this category are intended to determine the direct benefit of the company's exchanges.	Financial benefit of the exchanges	The variable is used to measure the quantitative benefit of transactions (purchase) for an enterprise. This benefit creates a direct value for the shareholders. The variable of the modern marketing discourse is substantial, and in the context of the application of the postmodern discourse unveils the goal of <i>the economically beneficial</i> exchanges as one of the most important results of the exchanges between an enterprise and consumers.
			The variable is significant as one of the main results of the marketing control, which discloses the success of exchanges performed with consumers, irrespective of the applied marketing paradigm or discourse (the analysis of the scientific literature has proved the significance of the imperativeness of the "beneficial" exchanges in the postmodern marketing concepts).
Socio-emotional benefit of exchange	The consumer's socio-emotional state, which reveals the features typical of the relationship exchange by using the consumer's emotional features to measure the benefit of the exchange. The consumer's socio-emotional features become the attributes generating an indirect benefit for the company, which have an impact on economic results of the exchange and duration of the relationship.	Trust and commitment of consumers	The elements stimulating relationships, whereby the relationships based on economics are substituted by the socioemotional relationships.
			The trust and commitment are associated with <i>the psychological</i> category, which, on the one hand, increases the <i>feeling of safety</i> of consumers, <i>decreases the risk of exchanges</i> , and ensures <i>emotionally comfortable exchanges</i> (typical of the trust feature) to the maximum, on the other hand, controls the consumers' behaviour in the market and encourages the performance of agreements (typical of the commitment feature).
		Perceived value	The variable unveils <i>the emotional</i> state of consumers. Therefore, in the context of value creation, the result of the exchanges implemented by consumers is important as an expression of <i>the emotional state</i> , which is determinant for <i>the type and duration of exchanges</i> .

1995a; 1995b; J.N. Sheth and A. Parvatiyar, 2000), the author of the given article highlights the main features of the measuring benefit of the relationship exchange, which should be interpreted as significant variables for designing a model for the establishment of value created by consumers, in Table 1. The highlighted features are classified into the categories defining the type of exchange benefit: *economic* and *socioemotional* benefit of the exchange.

The highlighted totality of features is significant in terms of the complex assessment of the benefit of the exchange for a company by applying the features defining the benefit of relationships for the company that are different in their content. The benefit of the relationship exchange for a company is measured by the following two categories: *economic*, which is used to assess the return on the investments from the customer, and *socioemotional*, which is used to assess the *return on the relationships* from the consumer, measuring the exchange by consumer's emotional state. The highlighted features support the value creation chain by A.Payne and S.Holt (2001), where the value for a company depends on the value generated for the consumer. The established features that are typical of the relationship exchange form a new approach to the concept of value for the company by perceiving the consumer's socioemotional features as significant elements generating value for the company. The form of the relationship exchange itself presupposes the application of the socio-emotional features to measure the benefit of relationships in terms of social and emotional features characteristic of the relationships. Therefore, the benefit of

the relationship exchange for the company is measured not only by the economic features but also by the socioemotional features in order to determine the value of the elements generating indirect exchange benefit for the company.

2. Principles of the development of the theoretical model

The identified significant features to measure the benefit of the relationship exchange for the company are used to develop a theoretical model.

2.1. The objectives of the model

Creation of a theoretical consumer evaluation model had the following objectives assigned to it:

1. The model should be developed by means of such methods that could measure the relationship return for the company not only by the economic, but also *socio-emotional relationship exchange* variables.
2. Consumer valuation should be measured in several variables simultaneously, therefore the variables used to develop the model are viewed as different dimensions to define value.
3. The outcome of the model is a defined number of value groups to which consumers are assigned according to their calculated values of relationship exchange.

The highlighted objectives are interpreted as *the significant features*, which will be the part of the theoretical model created to measure *the return from relationships*. These features reveal the *qualitative* attribute of the examined object, which is

applied by setting up a conceptual model anticipatorily defining the methodical requirements specified to it.

2.2. Applied methods

The model to assess the consumer valuation described in this paper is based on *three components*, the entirety whereof reveals the characteristic structure of the model:

1. *Method of assessing consumer valuation*, which determines the measured variables to calculate the benefits of relationships. Depending on the number of applied variables, the value created by the consumer for a company may be measured by the following methods:
 - a) *single-dimensional assessment method*, where a single consumer's *profit (loss)* variable is used to measure the benefit of the relationship exchange.
 - b) *two-dimensional assessment method*, where the *financial* and *time* variables are used to measure the benefit of the relationship exchange.
 - c) *multi-dimensional assessment method*, where different features characterising consumer behaviour in the market, which differ in their structure, data collection and processing process, complexity and nature of received information, are used. Features characterizing the consumer behaviour are applied in order to determine *not only the direct benefit of the exchange* but also the alternative benefit of the exchange – consumers and the relative value for the company of the features characterizing their behaviour in the market.
2. *Principles of measuring the variables*, which are used to determine the level of detail of the variables employed in the development of the theoretical model. Subject to the chosen method, variables can be measured on the *consumer segment, niche or individual consumer level*. The conducted research (Bolton et al., 2004; Reinartz, V. Kumar, 2003; Hogan et al., 2002; Esse, 2003; Gummesson, 2004; Sheth, Parvatiyar, 1995a; 1995b; Sheth et al., 2000; Ravald, Gronroos, 1996; Ambler, 2002; Malthouse, Blattberg, 2005; Libai et al., 2002; Holland, Naude, 2004) is the basis for the calculation on the *individual consumer* level to develop the model.
3. *The time dimension*, which is used to identify and select the time circumstance (factor) to calculate the result of the relationship value. Development of the exchanges by using the socioemotional base, *the actual* establishment of the value created by a consumer for a company is more correct than the foreseeable future when the emotional relationship between an enterprise and a consumer dominates, understanding

the emotions as the subjective understanding of the person's expression, which not always depends on the objective factors. The selected components, necessary for the development of the theoretical model are viewed *as a set of methods (instrumentation)* to develop the model of assessing consumer valuation for the company through the application of the postmodernist value creation discourse and the features required for the relationship exchange.

2.3. Criteria for the selection of variables

The variables used in the theoretical model are selected on the basis of two criteria according to their characteristic approach to the value of relationships:

1. *The direct relationship value criterion.* It is used to select the characteristic variables, which are employed to evaluate the *economic* benefits of *transactions* for the company. Based on J.E.Hogan et al. (2002) and T.Esse (2003), the direct value for an enterprise is created by the economic features of the exchanges – the scope of purchase / consumption of the products or services by the consumer, the income or revenue received from the consumer during the exchange of relationships. This criterion has the features of *the economic expression*.
2. *The indirect relationship value criterion.* It is used to select the specific variables characterizing *the benefits of the relationships*, which are relevant for measuring only the outcome of the relationship exchange. The variables defining the indirect value of an enterprise

form in the personified relationship between an enterprise and a consumer when the mutual *trust* and *commitment* manifest themselves, the interaction whereof decreases the disjuncture of the socioemotional connection between both parties of the exchanges.

2.4. Employed variables

The variables for the development of the theoretical model were selected on the basis of the theoretical analysis (Table 1), which reveals the significant attributes of the *relationship exchange*, which affect the creation of value in the exchange between the company and consumers:

- *financial benefits from transactions*, which means *quantitative benefits from transactions*;
- *consumer perceived value*, which denotes not only economical, but also *socio-emotional* benefits of past exchange for consumers;
- *consumer trust and commitment* used to reveal one of the fundamental factors stimulating the *natural exchange of relationships*, which helps to evaluate the *form of exchange* and the *maturity of relationships*.

The selected variables are used to measure not only *direct financial* benefits for the company, but also the antecedents, which influence it (consumer-perceived value, consumer trust and commitment), which, as elements of the value creation chain, create *indirectly* the added value for the company and stimulate the form of the relationship exchange. Table 1 provides the main reasons why the variables for the creation of the theoretical model have been selected.

2.5. Calculation of variables to assess consumer valuation for the company

The singled out significant features of the *economic benefits of exchange, consumer-perceived value and trust and commitment* are used as individual dimensions employed to evaluate the different benefits of the relationships for the company. The developed model reveals the theoretical basis of the relationship marketing concept since the variables employed are relevant only to this postmodern marketing concept and enable to evaluate the benefits of the exchange with the consumer in the characteristic features of the relationship exchange. The model of assessing consumer valuation for the company is developed as follows:

1. To ensure maximum individual approach to the consumer when measuring his/her generated value, variables were selected on the *individual consumer level*.
2. The *quartile method* is used to divide the values of the variables into 4 groups which are approximately equal according to the examined sample of consumers and are separated from one another by quartile values which form intervals $[\min, X_{25})$, $[X_{25}, X_{50})$, $[X_{50}, X_{75})$, $[X_{75}, \max]$ ⁷. This method was chosen in an attempt to use not unique values of consumer variables, but pre-defined interval groups. In the marketing management

context the advantage of applying this method is that tactical actions of marketing are planned and implemented not on individual consumer (which from the business point of view is not cost-efficient), but consumer group level.

3. The distinguished intervals are given values from 1 to 4: the first interval $[\min, X_{25})$ is given value 1, and $[X_{75}, \max] - 4$. The values attributable to the intervals can be used not only to form a variable of consumer valuation, which is used to group consumers according to their generated value, but also to identify the location of the used variable in the defined scale of values.
4. The distinguished intervals are interpreted as *individual groups* (values from 1 to 4), which are formed subject to the values of the variable interval. It should be noted that subject to the value of the specific variable the consumer may be attributed to different groups of variable intervals.
5. The variable of the consumer valuation is formed as weighted arithmetic average of all the used variable values, whose final value is rounded up to a *whole figure*⁸:

$$\overline{VSV}_s = K_1 EN_n + K_2 SV_n + K_3 VP_n + K_4 VI_n, \text{ where}$$

\overline{VSV}_s – variable of consumer valuation (index)

EN_n – variable of the economic benefits of exchange

SV_n – variable of consumer-perceived value

VP_n – consumer trust variable

⁷ After sorting the sample of consumers in the ascending order, the first group should include consumers whose variable value comprises the lowest variable value of the examined sample – 25% of the total sum of the examined sample. **The second group – next according to value 25% etc.** Consumers with equal variable values are attributed to the same consumer group. Attribution of such consumers to the higher or the lower group depends on the group into which more users with the same variable values fall.

⁸ The values of the variable of consumer-generated value (index) can range from 1 to 4.

VI_n – consumer commitment variable
 n – number of interval group: the higher the variable value, the higher the group number

$K_1 - K_4$ – relative weight of variables⁹.

The selected variables must be evaluated in the integrated way as inter-complementary components revealing different consumer valuation for the company: The economic variables highlight the *benefits of transactions with the consumer*; consumer-perceived value – *the emotional sensations of the individual*, whereas the trust and commitment variables – *the type of relationships and maturity of relationships*. The developed model is also significant because consumer valuation can be examined on the level of both individual consumer and the group to which the consumer belongs. This implies that the model allows for the achievement of different objectives subject to the defined goal.

In conclusion, it is possible to state that the created theoretical model gives a sense to the characteristics of the marketing relationships, understanding of the exchanges of the relationships as *a multidimensional* phenomenon for the measurement of the benefit the variables whereof defining only the economical benefit of the exchanges or / and the duration of the exchanges may not be used alone. Empirical research proves that the theoretical model to assess consumer valuation for the company can be applied practically in a specific compa-

ny, measuring the outcome of exchange in variables of the features, which are characteristic of the relationships.

3. Empirical research

Relevance of empirical research. The empirical research is relevant from the scientific point of view because it allows for the practical validation of the fact that the developed model is applicable to address issues of consumer valuation and to reveal the variables defining the return of the relationships which are characteristic of a mobile telecommunications company and used to evaluate direct and indirect benefits of relationships for the company.

Aim of the empirical research – to test in practice the developed theoretical model intended to calculate the relationship return of the chosen company.

Object of the empirical research – a theoretical model of evaluating consumers developed in UAB Omnitel, the company of the Lithuanian sector of mobile telecommunications services.

Process of the empirical research

1. Criteria are defined to form a sample of consumers to test the theoretical model.
2. Criteria are identified to form indicators and their calculation principles are described. During the empirical research indicators are calculated on the basis of the specific data on the company's consumers, applying different theoretical and statistical research methods.
3. Based on the theoretical and statistical research methods, significant indicators are selected to measure the consumer value and to develop a practical model.

⁹ Relative weights of variables are subject to a number of *external (market) and internal (company) factors*; therefore, they are not predefined and attributed to the established variables. The company's marketing strategy determines what relative weights must be assigned in order to give significance to the impact of a particular variable on generating benefit for the company.

4. The indicators used to develop the model with the additional consumer behaviour indicators were examined in order to confirm the outcomes of the developed model to measure consumer valuation.

The theoretical model described in the article was created in UAB Omnitel, the company operating within the sector of mobile telecommunications services, which was chosen as the mobile telecommunications company with the highest number of consumers in the Baltic States¹⁰, therefore the specific behaviour features of its consumers can be interpreted as significant and reflecting the characteristic trends of this sector. Empirical research was based on the consumer data as of September 2007. The theoretical model was tested by means of the application of statistical software SAS Enterprise Guide 4.0, which was used to form data tables and to select statistically significant indicators applying SAS software procedures (PROC VARCLUS, PROC CORR, PROC UNIVARIATE and SAS RANK).

Limitations of the empirical research

1. The model can be applied only in those companies, which develop their exchange with consumers on the market not only within the economic, but also socio-emotional framework of relationships. The application of the model is limited by the selected marketing concept and the market situation: with dominating functional consumer-perceived value, benefits of the exchange

for the company cannot be evaluated according to the characteristic features of the relationships.

2. The theoretical model can be applied in practice in a single company since its development requires specially processed consumer data and accumulated relevant history.

Identification of the sample of consumers

1. Consumers belong to the post-paid¹¹ type of consumers.
2. Consumers belong to the private¹² segment of consumers.
3. Consumers (subscribers) examined during the calculation of indicators must be *active*¹³. Application of this criterion ensured the comparability of data through the selection of subscribers with similar usage history and guaranteed that data on real consumers were used during the empirical research.
4. The consumer (subscriber) used at least one service within the last 6 months¹⁴

¹¹ Post-paid type of users are subscribers who use the company's services and pay for them according to the issued invoices.

¹² The private user segment is defined as a target group of consumers including all subscribers of the company who use the company's services to satisfy their private needs.

¹³ An active subscriber is defined as a user who was using or could use Omnitel services at the specific moment in time (to whom provision of services is not discontinued). In the examined company each subscriber has an assigned meaningful code, which shows whether the subscriber is a company consumer or his/her contract with the company is terminated (he/she is an inactive user).

¹⁴ If one chooses a too short period, for instance, 3 months, the behaviour of subscribers on the mobile telecommunications network would be non-representative due to the influence of potential seasonality or other valid reasons.

¹⁰ Based on the Report on the Electronic Communications Sector 2008 of the Communications Regulatory Authority of the Republic of Lithuania.

(calculating from the month of calculating indicators).

Based on these criteria, $n=270318$ sample of consumers was selected during the empirical research. Since the theoretical model was tested by means of SAS software procedures, which allow for the automation of data processing, the sample of consumers examined during the empirical research corresponded to the entirety of consumers. For this reason the empirical research did not identify the permissible tolerance for the size of the examined sample of consumers.

Criteria for selecting indicators. The indicators used for the practical application of the theoretical model were selected according to the following criteria:

1. Indicators are calculated on the *subscriber level* and reveal the behaviour of each consumer within the examined sample on the mobile telecommunications network.
2. Indicators help to calculate the *financial* value of *transactions* with consumers, which reveals consumer directly-generated value for the company. The indicator must reveal not only the direct, but also *indirect* costs of the company to attract and retain the consumer. The selected criterion is based on the fact that it facilitates a more precise assessment of the financial value for the company through the analysis of the different costs in connection with the attraction and retention of consumers.
3. The indicators must reveal the outcome of the *consumer-perceived value of the exchange* regardless of the dominating type of relationships between the company and the consumer. The indicator must reveal a long-term emotional state

of consumers, which can be measured in time.

4. The indicators must reveal the characteristics of the consumer *trust* and *commitment* features, which determine the future form of exchange. The indicator of the type of trust must reveal the strength of relationships between the company and consumers. The indicator of the type of commitment must reveal the potential personal actions (cases) of breaching the consumer contract with the company, which increase the risks for the company and stimulate the application of measures limiting the freedom of action.

It is noteworthy that more than 20 different indicators were produced during the empirical research to measure the benefit of the relationship exchange for the company. The produced indicators were divided into the following two main groups according to the type of their value:

1. **Financial value**, to which *economic benefit of the relationships* is incidental. In terms of its semantic meaning, this type corresponds to the highlighted *direct value* for assessing the benefit of the relationship exchange. Financial value indicators reveal the result of the performed marketing actions for the company, which does not depend on the applied form and (or) duration of the exchange. Financial exchange benefit indicators may be attributed to the *accounting-type data*, as their calculation is based on the company's accounting data. This group includes the following indicators of the economic character: economic benefit – “6-month net income from the subscriber calculated in the current month”, “6-month profit

(loss) of the subscriber calculated in the current month”, “6-month profitability of the subscriber calculated in the current month”, etc.

2. **Non-financial value**, to which the consumer perceived value, consumer trust and commitment are incidental. The non-financial value indicators directly reveal the benefit of the relationship, which generates *additional value* for a company. The non-financial value indicators may be attributed to the *marketing-type data*, for the calculation of which additional data revealing consumer behaviour and habits are used. This group includes the following indicators of the socioemotional character: consumer perceived value – “*subscriber loyalty*”, “*subscriber satisfaction*”; consumer trust – “*number of the subscriber’s active unique services in 6 months*”, “*duration of the subscriber’s last contract*”, “*duration until the expiration of the subscriber’s contract*”, “*number of the payment plans used by the subscriber in 6 months*”, “*number of days after the subscriber’s last contact with the company*”, etc.; consumer’s commitment – “*amount of the subscriber’s delayed bills in 6 months*”, “*number of days of delay in paying the bills by the subscriber*”, “*quantity of the subscriber’s partly paid bills in 6 months*”, “*amount of the exceeded credit limit set for the subscriber in 6 months*”, etc.

Selection Methods for the Significant Indicators

During the empirical research indicators were selected by means of the following methods:

1. *Theoretical research method*, which helped to identify the indicators used to calculate the company’s *economic benefits* and *consumer-perceived value*. This research method was selected as one of the simplest research methods, and it was used to select significant variables for the development of the model on the basis of the systematic analysis of scientific literature.
2. *Statistical research methods*, which are used to identify the features of consumer trust and commitment. To select these indicators, *cluster analysis* and *linear correlation analysis* methods are applied by means of SAS software procedures (SAS VARCLUS and SAS CORR). The factorial analysis method used in the study to search for the direct meaningful factors helped to reduce the number of primary indicators and to find latent (hidden) ties between the variables. In order to select from each cluster the most significant indicator, i.e. which describes the behaviour of each cluster best, the *statistics of the determination of the coefficient ratio* ($1-R^{**2}$) is used.

Table 2 provides the significant indicators selected by means of using different research methods and employed to apply the model in practice.

It should be noted that using cluster analysis and statistics of the determination of the coefficient ratio ($1-R^{**2}$) a different number of clusters was used to select the ‘significant’ indicators (3 in the first test and 2 in the second). This action was intended to find out what number of clusters is the most suitable for to select the significant indicators taking into account the ob-

Table 2. *Selected significant indicators to test the theoretical model.*

Indicator	Formula	Applied method to select indicator
6-month profit of subscriber calculated in the current month	$PN_t = \sum_{i=t-6}^t GP_i - \sum_{i=t-6}^t TNK_i$, where PN _t – 6-month profit of subscriber calculated in the current month GP _i – 6-month net income from subscriber calculated in the current month; TNK _i – 6-month direct and indirect costs calculated in the current month which were required to perform actions of providing service and sales of services to the subscriber, t – current month.	Theoretical research method based on the examined published research on relationship marketing.
Subscriber loyalty	$AL = t_x - t_y - t_z$, where AL – subscriber loyalty, t _x – date within the period of calculation, t _y – subscriber attraction date, t _z – number of the subscriber's days of disconnection (self-disconnection) from the company.	Theoretical research method based on the examined published research on relationship marketing.
Duration of the subscriber's last contract (months)	$ST = SPab - SPr$, where ST – duration of the subscriber's last contract, SPab – expiration date of the subscriber's contract with the company, SPr – initial date of the subscriber's contract with the company.	Cluster analysis method and statistics of determination coefficient ratio (1–R**2).
Difference in the size of credit limit determined for the subscriber after 6 months	$KL = KL_{t-6} - KL_t$, where KL – difference in the size of credit limit determined for the subscriber, KL _{t-6} – credit limit 6 months ago, KL _t – credit limit in the current month.	

tained values of clustered indicators. The clustering method was aimed at selecting the different, from the business point of view, indicators, which define the same variable (for instance, consumer trust) and choosing the most significant indicator, which described the specific variable.

In the empirical research the inter-dependence of the selected indicators was examined by means of the additional linear correlation method (applying Pearson's correlation coefficient). The inter-depend-

ence of indicators was analysed in order to assess whether the selected indicators fail to inter-correlate and can be used to test the theoretical model. The inter-dependence of indicators was tested in the following sequence:

1. The sample of private consumers selected during the empirical research was chosen (n=270318).
2. The linear correlation coefficient was calculated by means of the *CORR procedure* of SAS software, which auto-

Table 3. Outcomes of linear correlation of the examined consumer loyalty, trust and commitment indicators.

<i>Factorial feature</i>	<i>Outcome feature</i>	<i>Correlation coefficient (r)</i>	<i>Strength of relation</i>
Subscriber loyalty	Duration of the subscriber's last contract (months)	-0.14596	Weak
Difference in the credit limit established for the subscriber	Duration of the subscriber's last contract	-0.00325	Weak

Table 4. Application of Marketing Actions Based on the Indicator Value

<i>Indicator value</i>	<i>Recommended marketing actions</i>
1	<i>Mass marketing tactics</i> should be applied due to the relatively low value for a company generated by consumers in this group. <i>Economic relationship ties</i> , which generate value by satisfying an individual's rational-economic needs, are applicable to this group of consumers.
2	<i>Minimally individualized marketing tactics</i> , which allow satisfying in part consumers' individual expectations or desires in the exchange, should be applied. It is recommended that exchanges characteristic of the <i>social relationship ties</i> type, where value is generated by a <i>personalized, individual</i> service, should be developed. The main focus of the relationship marketing should be placed on the formation of the <i>socioemotional</i> rather than the economic relationship between the company and the consumer, to which the emotional categories of relationships are incidental.
3–4	<i>Maximally individualised marketing tactics</i> should be applied, taking into account the consumers' individual lifestyle and consumption habits. It is recommended that the type of <i>structural relationship ties</i> used to enhance the consumer's feeling of exclusivity, where the exchanges are promoted by the emotional tools, should be applied to this consumer group. The satisfaction of consumer needs with the socioemotional features must become one of the most important marketing objectives, when seeking the transformation of the approach to exchange from the determined economic into emotional type.

mates the calculation process through the selection of indicators, which need to be correlated.

Findings in Table 3 lead to the assumption that the strength of the relation of selected indicators is weak, therefore they can be interpreted as independent features to assess consumer value and used to test the theoretical model.

Values of additional indicators used to calculate the consumer valuation indicator are broken down into 4 groups, which are approximately equal according to the examined sample of consumers, using the

SAS SAS PROC UNIVARIATE procedure. The final indicator is calculated as the *weighted average of the distinguished indicators*¹⁵.

Subject to the indicator values, the recommended marketing actions are outlined in Table 4.

¹⁵ During the empirical research such relative weights to the used variables were attributed: 0.4 was attributed to the *economic benefits* variable; 0.3 to *Consumer-perceived value* variable; 0.2 to *consumer commitment* variable; 0.1 *consumer trust* variable.

**The main outcomes
of the empirical research**

It should be noted that the outcomes of the model applied in practice are not comparable to those of other models intended to assess consumer valuation for the company. The examined published research on the relationship marketing failed to identify the existing models, which allow for the measurement of consumer valuation for the company in the characteristic features of the relationship exchange. In order to test the suitability of the implemented theoretical model and its applicability to measure the benefits of the relationship exchange, additional indicators of consumer behaviour were selected and examined together with the indicators used to develop the model. This additional method validated the application of the developed theoretical model to measure the consumer valuation on the basis of behaviour features of the subscribers attributed to the distinguished groups of indicators.

1. The research confirmed that the consumer profit indicator has a direct relationship with the number of new services. Figures in Table 5 show that group EN4 has the highest number of subscribers who activated at least one new service within 6 months following the month of indicator calculation. . It should be assumed that such consumers are more valuable for the company not only for their values of the profit indicator, but also because they actively use and test the company’s new services. The relationship marketing concept leads to the assumption that such a phenomenon promotes not only the

economic, but also *socio-emotional* ties between the company and its consumers as the consumers satisfy their informational and cognitive needs. Figures in Table 5 lead to the assumption that the size of the consumer profit depends not only on the volume of services usage, but also the quantity of different services – the higher the number of the used services, the greater the probability that the profit from the consumer will be higher.

Table 5. Number of subscribers who activated at least one service within 6 months following the month of calculating indicators.

<i>Group of the subscriber's profit indicator</i>	<i>Number of subscribers who activated at least one service</i>
EN1	5,697
EN2	6,604
EN3	7,715
EN4	9,599

2. The research revealed (ref. Table 6) the dependence of the number of services used by the consumers on the duration of consumer loyalty. This trend confirmed the theoretical assumptions that positive consumer-perceived value directly affects their generated value for the company in the number of the services used.

Table 6. Number of services used by subscribers in different groups of the subscriber loyalty indicator.

<i>Sections of the number of subscriber's active unique services in 6 months</i>	<i>Number of subscribers in groups of the 'Subscriber loyalty' indicator</i>			
	<i>SV1</i>	<i>SV2</i>	<i>SV3</i>	<i>SV4</i>
1–10	51,610	53,817	55,520	58,124
11–20	5,892	8,380	9,352	13,487

The obtained figures show the existing link between the duration of the subscriber's loyalty to the company and his/her number of active unique services: The higher the subscriber's loyalty (shown by the subscriber's loyalty indicator group), the bigger the number of his/her consumed services. This trend leads to the assumption that subscriber's loyalty to the company is useful for its ability to stimulate a higher consumption of services, which influences the company's income from the consumer. With reference to the concept of the relationship marketing, the subscriber's loyalty to the company as the expression of the consumer-perceived value is significant since it stimulates the change of consumption habits and increase of the number of the services used. It should be noted that the obtained findings of the analysis fail to explain what causes the subscribers fall into the group of the top subscriber loyalty indicator to increase the number of their used services: To establish the causal relationship one would have to determine the type of the services used and to evaluate whether the services were intended to satisfy the economic (the subscriber uses those services which reduce his/her invoice for services) or socio-economic needs (the subscriber uses entertainment or similar services).

3. The research (ref. Table 7) revealed the link between the number of payment plan shifts and the subscriber's contract duration. Subject to the term of the subscriber's last contract, his/her trust in the company can be evaluated according to the indicator of the number of payment plan shifts, which shows how many times within 6 months the subscriber changed his/her payment plan.

Table 7. Number of subscribers who changed their payment plan within the period of 6 months within groups of the 'subscriber's last contract term' indicator.

Number of subscribers in groups of 'Subscriber's last contract term' indicator, which have been changed payment plan within 6 months			
VP1	VP2	VP3	VP4
72,746	60,910	60,900	44,690

A clear trend that the longer the term of the last contract, the lower the number of payment plan shifts may be observed. The link between the examined indicators shows the consumer's trust in the company, which depends on the duration of his/her relationship with the company (referring to the last contract term indicator). This fact supports the theoretical assumption that consumers with higher trust are more valuable for the company.

- During the periods of economic recession, higher relative weight should be assigned to the *consumer commitment indicator* due to the potential reductions in consumer commitment and termination of contracts for the provision of services. A precondition should be made that during the economic recession the economic benefit indicator should have the lowest relative value, along with the changes in the approach to the features of the exchange generating benefit for a company. Relationships should be interpreted as a value; and therefore, socioemotional features and indicators defined by them should have higher relative values.
- The model may be improved by establishing the relative weights of variables characteristic of a particular sector, which would allow to adapt the theo-

retical model to measure the benefit of the relationship exchange in a more efficient way.

7. The developed theoretical model is based on the variables of the relationship marketing characteristic of the *business sector*; therefore, its application in the *public sector* requires an additional research in order to determine the significant variables and their significance for the generated value.
8. The theoretical model may be expanded by determining the significant variables characteristic of the socioemotional category not by means of the theoretical research method but by conducting the quantitative and the qualitative market research. This would enable to determine the trust and commitment features characteristic of consumers of particular goods / services, which could be analysed as significant indicators.
9. The model could be improved by determining *different socioemotional variables* depending on the prevailing type of the relationships between the company and the consumer. The current consumer trust and commitment variables fail to reveal the features characteristic of a particular type of relationships.

Conclusions

1. The assessment of the consumer valuation in the characteristic features of the relationship exchange is significant as a separate object of research, which has not been undertaken in the science of marketing or associated with the paradigmatic changes on the exchange market that are relevant for the postmodern era.

2. Relationships manifest themselves as a complex social phenomenon. Therefore, in order to measure the value created by the consumers the new models are necessary, the ones in which not only the common economic and / or duration variables are used, but also the qualitative ones encouraging the relationships attributes of the exchanges as well. Publications related to the theoretical research on such relationship marketing attributes of the relationship exchange as consumer trust and convenience as well as consumer perceived value are rather stated than directly introduced into the applied models and are examined only as elements, which shape the relationships rather than as features of exchange, which add value to the company.
3. Assessment of consumer valuation for the company applying the characteristic features of relationship exchange is a comparatively new field of research analysed fragmentarily and without clearly identified relationships in the marketing theory, this being due to the conceptual divide between the theoretical principles of relationship exchange and consumer evaluation methods with their associated models. In theoretical published research on relationship marketing attributes of relationship exchange are stated rather than directly introduced into the applied models and are examined only as elements which shape relationships rather than as features of exchange which add value for the company.
4. The developed theoretical model helps to evaluate, in an integrated way, the

relationships between the company and the consumers as well as to measure the *economic (functional) and socio-emotional (psychological) benefits of exchange* for the company, expressing the feature of economic benefits as consumer profit variable and socio-emotional benefits of exchange as the consumer-perceived value, trust and commitment.

5. The developed theoretical model modifies the paradigm of assessing the consumer valuation for the company, interpretation of the relationship attributes, which generate the economic value for

the company as relevant yet not essential categories defining the benefits of relationships for the company.

6. To ensure methodological validity of the model more empirical studies are required so that the application of this model is validated for measuring the benefits of relationship exchange. The developed model renders meaning to the theoretical imperatives of creating value of relationship exchange rather than explains causal relationships between the variables applied in the model to measure the benefits of relationships.

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