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CLV MODEL APPLICATION IN BANK CLIENTS' PROFITABILITY PROJECTION PROCEDURE

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ABSTRACT

Nowadays, bank clients' profitability analysis represents a new field and modern tendencies in various disciplines such as accounting, finances and especially marketing. Bank clients' actions, methods and measures of value help managers anticipate the future profit level the banks will achieve. Among all available measures, the experts estimate that CLV – customer lifetime value is the most comprehensive and accurate measure of value for customers, thus bank clients, as well as largely future-oriented. The topic of research in this paper is to indicate that customer relationship marketing concept – CRM has proved very useful in banking, and it has become an important factor in competitiveness as well as the achievement of better business results. However, marketing can hardly help any bank achieve long-term profitability without the appropriate financial support. In this context, the research in this paper deals with the advantages in CLV concept application to bank client profitability projection, thus providing long-term profitability feedback for the bank. CLV concept has accelerated necessary marketing and financial activity integration. CLV is the link connecting these two interrelated and mutually dependent business functions, introducing a multidisciplinary approach to bank clients' profitability projection.

Keywords: *banking, finance, marketing, profit, CLV model, customers*
JEL classification: *G21, F65, G32, M31*

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INTRODUCTION

Bank customers, that is, clients' assessment is nowadays a modern and important trend in various disciplines such as accounting, finance and especially marketing. The inefficiency of classic marketing lies in the fact that marketing experts avoid financial responsibility, and pay too much attention to marketing communications.

Contemporary customer profitability analysis introduces financial calculations into the marketing research domain, thus establishing a dialogue between marketing and finance. It does not diminish the significance of traditional marketing activities, but clearly emphasizes that various marketing analyses should be conducted in a multidisciplinary way, with the aim of increasing the role of marketing for business subjects' competitiveness strengthening. Starting from the aforementioned statements, as well as the research topic in this paper, we have established the basic hypothesis that bank profitability can be increased if the choice of the most valuable clients is performed using CLV model, which actually starts from the foregoing statements.

Customer value assessment is not directed towards their past, but current and future value. On the basis of business activities of the banks, we can notice more frequent application of marketing in banking. However, without the appropriate support of finance, i.e., financial sector, marketing can hardly help the bank achieve long-term profitability. In this context, CLV concept illustration indicates interrelations and mutual dependence between marketing and financial dimensions of the banks. The paper is organized in order to point out CLV model definition and application as an indicator of future customer profitability in its first part. The second part of the paper refers to alternative procedures in the CLV measures. The third part is the final and fundamental component of the paper related to future changes in CLV value projections.

RESEARCH METHODOLOGY

There are several approaches to the methods that can be used in customer, i.e., bank clients' value assessment procedure. The analyses indicate that customer lifetime value – CLV is the most accurate and comprehensive measure of bank clients' profitability. One of the models used in profitable segment identification, referring to RFM. "RFM models describe customer behaviour based on three variables of customer past buying behaviour or prior purchases: recency (time since the last transaction), frequency (number of transactions during a time period of calculation) and monetary value (of transactions)". RFM models provide enough statistical rigor to serve as a basis of CLV model [1]. References mention Return on Customer – ROC, most frequently as an indicator enabling a company, that is, bank in the case considered, to realize the aggregate changes in CLV over a time period. As an indicator, ROC involves the current as well as future cash-flow (or profit) for all clients. Considering that CLV model requires a multidisciplinary approach to research, ROC cannot completely replace various financial measures for bank business success.

Production, as well as service organizations, as in case of the banks, usually choose a comprehensive indicator, as a long-term success indicator. In the past, it referred to the ROI performance measures or return on capital employed – ROCE [2]. Nowadays, companies or banks mainly employ a management criterion based on value, such as EVA – economic value added, CFROI – cash flow return on investment, and discounted cash flow variations [3]. In addition to the calculation of added economic value, market value added is calculated, since there is a correlation between them. In this context, weighted average cost of capital (WACC) calculations are also presented, which also reflect the set financial goals, with an effort to improve the business (profit through WACC), with existing and new customers, i.e., clients. According to the financial theory, the Weighted Average Cost of Capital (WACC) is the method used to discount customer cash flows [4].

DEFINITION OF CLV AS CLIENT PROFITABILITY INDICATOR

During the last ten years there was an expansion in methodological approach to customer research in services, especially in banking. Banks are good examples of service organizations implementing CRM concept, possessing databases on their clients. Client database creation and its regular update is a prerequisite for the application of the methodological approach in client satisfaction and loyalty with the aim of increasing their profitability, as well as bank value increase based on that. The prerequisite is that a bank creates and delivers superior value for its clients, thus increasing the bank's competitiveness. In addition to the bank having a good knowledge of its clients in order to be able to assess the risk when lending or doing any other business, it is also important that the banks notice those elements of service offers representing value source for clients. This is the way the banks have a chance to create and deliver added value for the clients.

A specific trait for all modern corporations, as well as the banks, is that the process of value creation is not set on the basis of the traditional formula starting with input and ending in output. A bank creates value for clients within a two-way interactive process between input and output. The input for output creation comes from the interaction with the bank clients. It indicates that when a bank creates superior value for a client (in terms of its offer package), it also generates simultaneously the knowledge from its output, that is, value created for clients.

Therefore, this approach to value creation enables the increase in the bank's input value at the same time. This value creation perspective is based on the idea of mutual knowledge exchange, leading automatically to higher value creation for both sides. That is why banks based on knowledge pay a lot of attention to customer relationship management – CRM. The aim of customer relationship management is the establishment of long-term and profitable relationships [5].

Thereby, as follows, an important measure of efficient customer relationship management is customer lifetime value (CLV). In reference to that, it is important to emphasize that an individual customer or client value is not assessed only on the basis of his/her previous contributions to the company. Customer value assessment should apply those measures that are future-oriented, as well as directed to present and future customer value. Therefore, customer value projection is one of the key activities for marketing-oriented companies. Customer value should be based on their contribution to the corporation or bank throughout the complete period of business cooperation with the bank. The above-mentioned statements require the introduction of such a measuring system that will be able to assess the future customer profitability.

There are a number of customer or client lifetime value definitions. Most of them are given in determinants expressed in an implicit form, while a small number of definitions consider customer value in an explicit form. However, a common feature is that they all contain the same or similar components in their final form, so customer or bank client's lifetime value can be defined on that basis, and his future profitability assessed. If we adapt the CLV definition given by Kotler and Keller [6] to the bank activity, i.e., its relationship with clients and individual customers, then it would reflect "future profit flow net present value expected from the long-term transactions with clients during the lifetime of their cooperation with the bank". Kumar [7] provided a more accurate and comprehensive criterion for future client profitability assessment, defining CLV – customer lifetime value as "a sum of cumulative cash flow brought to the corporation by a certain customer, discounted using weighted average cost of capital during customer lifetime cooperation with the corporation". In the case of a bank, CLV considers customer's total financial contribution, i.e., it includes the expected future income and costs, customer retention rate, discount rate.

Starting from this approach and CLV measurement method, "Kumar succeeded in profitability improvement for some pharmaceutical companies up to 35%". CLV application in many companies improved their profitability. Accordingly, we can state that the application of the above-mentioned approach and method in CLV measurement could also improve bank profitability. However, there are other authors' views, such as Peppers and Rogers [8] who think that a better solution is "to look at future cash flow instead of profit when calculating CLV".

With regard to the above-mentioned definitions, according to Chan [9], CLV can simply be understood as current value – CV, potential value – PV and customer loyalty function. If we start from the definition above by CLV calculation, it is necessary to take into account the present, as well as future profitability. Speaking in monetary terms, a certain number of monetary units will not have the same value in the future in relation to the present, which includes monetary time value in the analysis. It can be achieved through the application of the appropriate discount rate, which turns the considered future monetary amount into the present value. CLV calculating procedure also includes a well -known marketing component "individual customers and clients retention rate". This is especially due to the fact that there is a possibility the clients will stop using bank services at some point due to poor quality, high interest rates or more favourable service offer packages provided by competition under the same conditions.

Comparing CLV with some traditional profitability criteria such as past customer value, share of wallet or RFM model, Kumar and Shah [10] think that CLV is a modern way of measuring profitability, considering that it includes a large number of determinants in the analysis. Intuitively, firm managers can apply rules (conventions) based on the RFM amount of past purchases in order to decide whether or not a customer is still active. However, individual bank customer or client past value based on profit is profitability indicator in the past time period. If we consider bank value at any given moment, it is necessary to assess its value on the basis of client current and future profitability. With regard to that, bank client profitability can only be one of the parameters in future profitability projection and bank value anticipation in the long-run. As stated by Keiningham [11], CLV considers past behaviour and extrapolates it into the future in order to assess future profitability. With regard to RFM, CLV is more future-oriented. Kumar [7] conducted some comparative research in this context.

According to the research, "a corporation can increase profitability up to 60% if it makes a choice of 20% most valuable customers using CLV, not some other criteria".

According to Stahl *et al.*, [12], CLV calculation is based on the following value determinants for corporations:

- basic potential – cash flow the corporation achieves through product or service realization;
- growth potential – cash flow the corporation realizes through cross-selling and increasing individual customer market share;
- relationship development potential – cash flow created as a result of the relationship development between the corporation and new customers;
- learning potential – cash flow created as a result of corporation employee knowledge accumulated through the development of marketing relationship with the customers.

The final component of bank value creation is especially important from the aspect of cash flow created as a result of employee knowledge. A client and individual customer are in the centre of all the activities in the banks based on knowledge. Value creation process is aligned with the clients' requirements.

Therefore, the banks with the business based on knowledge pay a lot of attention to customer relationship management – CRM. The aim of CRM is the establishment of long-term and profitable relationships with clients. The processes in this system of management are defined according to the acquisition stages, customer attraction and their retention.

The assessment of customer retention rate is an important issue because it represents the key parameter in CLV calculation. The other equally important key parameter for accurate CLV calculation is expected profit projection. Customer or client segment formation on the basis of CLV offers the opportunities for a bank to increase its profitability through the direction of the appropriate strategies towards each segment separately [7, 13]. In addition to profit brought to the bank by a client, client retention rate, bank value is determined by two more key factors: discount rate and customer acquisition costs.

It is clear from these statements that the initial profit from bank clients comes from the customer acquisition and retention process. In fact, these two processes predetermine client value. In this context, bank or corporation value is created on the basis of profit, current and future cash flows from its clients. In their paper, Gupta and Lehmann [14] provide a vivid illustration of mutual connections between financial and marketing activities in company value creation.

"Traditionally, future profit assessment is the activity taking place under the sector of finance domain. Financial analysts were in charge of future profitability assessment, cost structure establishment and the appropriate discount rate. On the other hand, marketers' activities were reflected in customer demand identification as well as the creation of high-quality programs for the increase of their satisfaction and loyalty. While marketers were engaged in customer value creation, financial analysts were dealing with company value assessment". In this context, CLV concept and methodological approach imposed the necessity of the integration between marketing and financial dimension in value creation for every company, banks included. On the basis of these information acquired through CLV measurements, the impact of marketing strategy on company value can be determined more explicitly and accurately.

CLV MEASUREMENT MODEL

A large number of recognized authors [6, 7, 14] made significant effort to find a model providing opportunities for the most accurate measurement of profitability value for all clients, bank clients included. In time, there have been valuable improvements in CLV measurement procedures. In this context, we can single out aggregate and individual approach to CLV measurement. In aggregate approach, CLV is calculated as an average of all customers' lifetime values representing the given segment. In that context, CLV is obtained through the division of the sum of all customers' lifetime values belonging to the same segment by the number of customers in the given segment. If we consider it separately, on the individual level, CLV is calculated for each customer. According to the illustrations in the papers by Kumar [7], as well as Gurau and Ranchhod [15], stages, that is, the course of the procedure for CLV measurement are depicted. They illustrate vividly CLV measurement procedure, typical for the aggregate approach, according to the model of average CLV calculation for an individual customer, i.e., in case of a bank, a client belonging to the specific segment. According to the illustration mentioned, two key initial elements in CLV calculation are average gross contribution margin per client and the amount of average marketing expenses. Two important elements in CLV calculation procedure, as we can see in the illustration, refer to new customer or client acquisition (the cost of their acquisition) and retention of the existing customers, i.e., clients.

The basic parameters illustrated by the aforementioned aggregate approach in individual client average CLV measurement can be calculated using the formula originally provided by Kumar [7]. Estrella *et al.*, [1] also illustrate the given relation in detail:

$$CLV_1 = \sum_{t=0}^{T} \frac{(GC-M)\, r^t}{(1+d)^t} - A \qquad (1)$$

where GC – average gross contribution margin; M – marketing costs per customer (client); d – discount rate; A – acquisition costs per customer (client), i.e., new customer (client) acquisition; r – customer (client) retention rate, i.e., the customers will repeat purchase, that is, clients will repeat service in the given entity; t – time period.

According to the model [1, 7], when it comes to individual customer average CLV it is necessary to calculate average gross contribution margin per customer, i.e., client, as well as marketing average amount and acquisition costs per customer, i.e., new bank client acquisition. Discount rate is determined on the basis of the characteristics of each bank, as well as the environment where it operates. It is necessary to include the inflation rate, as well as bank and activity risk [2] for the needs of discount rate determination. Individual customer, i.e., client retention rate can be determined as an average value for the complete segment, and it can be considered as a constant value during specific time period. Therefore, it is necessary to know retention rates from the previous periods in order to use their analysis and future trend prediction for the projection of the rate in the specific future time period.

In the individual approach, CLV is not derived as an average, but calculated according to the model listed above [1, 7] for each client separately. In that context, individual customer value measurement represents the function of the expected profit, client tendency to continue the established relationship with the bank and future marketing resources related to client retention in the bank. The above stated hypotheses can be expressed in the following relation, originally illustrated by Kumar [7]:

$$CLV_i = \sum_{t=1}^{T} \frac{(FCM_{it} - FC_{it})}{(1+d)^t} \qquad (2)$$

FCM – future contribution margin; FC – future costs;

Unlike the previous model, Gupta and Lehmann [16] provide a model for individual client CLV measurement which can also be applied in case of a bank client. This is the case when customer, i.e., client lifetime value is discounted future net cash flow (profit) from customers, that is, bank clients. It is, consequently, most frequently determined according to the well-known formula expressed in the following relation [16]:

$$CLV = \sum_{t=0}^{T} \frac{(p_t - c_t) r_t}{(1+i)^t} - AC \tag{3}$$

Pt – price paid by the customer in time t; ct – direct costs of serving customers, that is, bank clients in time t; I – discount rate, i.e., entity, i.e., bank capital costs; rt – probability that the customer or client will “purchase” again in that entity, that is, the client will be “alive” in time t; AC – acquisition costs, i. e., new client acquisition; T – time horizon for long-term individual customer or client CLV assessment.

The aforementioned model [16] is illustrated in detail by Komnenić and Lukić [5] in the specific example of a company operating on business-to-business principle.

They state the following as important customer lifetime value sources: past consumption level, that is, customer service usage; cross-purchase, that is, service behaviour; purchase or service usage frequency, recent service purchase, past purchase activity and company marketing contacts. “More efficient management of these sources considerably influences the increase of customer lifetime value as a modern key indicator of the company’s total performances. It has a further positive effect not only on income increase, but cost reduction and increase in return on (marketing) investment”. In this context, the authors mentioned [5] illustrate the listed model on the basis of customer lifetime value calculation. The implementation of thus illustrated management process allows it for the bank to approach the building of relationships with its clients in a sensible and systematic manner. Various procedures, techniques and methods for client capital performance measurement are applied in this process, used to monitor the bank’s ability to develop close and long-term relationships with clients, gain their loyalty and increase the level of their satisfaction. The information obtained in such manner serves the bank to determine the contribution that the client’s activities directed towards his own satisfaction have for value creation process, as well as the bank value increase.

David Packard, co-founder of Hewlett-Packard Company, said, according to Kothari and Barone [17]: “Profit is not the true goal and purpose of management – it actually means that it makes all the right goals and purposes achievable”. The true purpose of a company (in this case a bank) is to create value for its individual customers or clients, and make a profit as a result [18]. Considering the process of value creation for customers or clients, and higher value for business entity based on that, the role of accounting in competitive advantage creation in retail, Lukić [19] states: “The system of strategic cost management creates strategic information, financial and non-financial in nature. In the past, performance financial measures were in focus, as well as sale and profit growth, cash flow and stock price. Unlike all that, strategic success measures are in the main focus of company strategic management in modern business environment, many of them being non-financial measures of successful business". Furthermore, it is stated that customer lifetime value – CLV is a significant efficiency measure of customer relations management.

THE PROCEDURE OF FUTURE CHANGES IN CLV PROJECTION

Three main types of approach [1] can be singled out, that is, applied in individual bank customer or client profitability projection procedure on the basis of theoretical approach and the results of empirical research. The first one pursues only the analysis of the Customer Profitability – CP [20], the second one pursues the analysis of the Customer Lifetime Value – CLV [21], and the third one pursues the analysis of the Customer Equity – CE [22]. Zeithaml *et al*., [23] determine, CLV and CE provide good basis to assess the market value of a firm; on that basis, they create value for customers improving their profitability, and therefore the company's financial performances. Unlike CLV, CE indicator represents the sum of lifetime values of all current and future customers.

When it comes to the comparison between CP and CLV, certain questions arise. In case of Customer Profitability – CP:

Is an arithmetic calculation of revenues minus costs for a specified period of time [24]; This measure is calculated on a single period basis, usually the last economic year [25];

Is an accounting summary of events from the present and the past. Is not forward looking [24; 26].

In case of Customer Lifetime Value – CLV:

Is the present value of future cash flows [24];

This measure needs several time periods of data to be calculated [25];

Is forward looking, for this reason CLV is a more powerful measure than historic CP analysis; CLV looks at the future potential of the customer [24, 26].

CLV application is particularly useful from the bank aspect because the client profitability projection procedure provides the bank with useful information about its most valuable clients. This is the way to identify the segments that will receive special attention in the future. In this context, a bank should not treat its clients in exactly the same way, but depending on the value the clients bring to the bank.

Based on that, the bank can design various strategies for different bank client segments. So called customer, that is, bank client lifetime value is a very good criterion for the implementation of such segmentation.

There are several approaches to the methods used in the procedure of CLV future changes projection. References mention Return on Customer – ROC most frequently as an indicator that makes it possible for a company, therefore a bank as well, to consider CLV aggregate changes in time. As an indicator, ROC includes current as well as future cash-flow (or profit) of all customers, not just specific individual customer. Thereby, current cash-flow increases for the change in discounted future cash-flow during certain period of time. The increase is reported as a percentage in discounted cash flow value at the beginning of the period observed [8]. On the basis of the statements above referring to ROC, we can ascertain that it is similar to customer equity indicator – CE. As stated by Marinković [27], who conducts CLV research in detail and certain parts are used in this paper, the basic difference between ROC and CE is that ROC does not show the total discounted future cash flow over time, but it is directed towards measurement changes in future cash flow in consecutive time intervals. In order to follow these changes, a bank should predict its clients' future behaviour on the basis of the currently available information. Therefore, it is necessary to be familiar with key factors with affecting CLV formation and change. Adjusted to Peppers and Rogers [8], all factors affecting CLV changes can be classified into four categories:

- CLV initiators (customer retention rate, acquisition costs, profit, discount rate);
- the changes in customer, that is, client lifestyle according to the data on their demographic characteristics (education level, jobs, family changes, etc);
- customer or client behaviour (the analysis of transactions with banks, bank website visits, number of calls to call centers, filed complaints);
- customer or client attitudes. It is important to determine the satisfaction level, willingness to recommend bank services to others, as well as their intention to continue using these services in the future through the examination of bank customer or client attitudes. Customer satisfaction and loyalty measurement, as a bank brand, is an important activity in modern approach to customer research.

As we have already mentioned in the methodological part of this paper, ROC cannot completely replace various business success financial criteria. Nowadays banks, as well as other companies, usually choose one comprehensive indicator as a long-term success indicator. It refers especially to economic value added (EVA).

In addition to economic value-added calculation, market value added is also calculated, since there is a correlation, (logical) connection between them [3].

WACC – weighted average cost calculation is also presented within this context, reflecting set financial goals with the tendency to improve business (profit through WACC), using the existing and new customers, that is, and bank clients.

The perspective of creating this connection relationship between financial and non-financial dimension in bank added value creation can be achieved through client demand identification and high-quality marketing program creation in order to increase their satisfaction and loyalty [28].

Since ROC indicates the need for CLV monitoring in consecutive time intervals, it enables value assessment in future marketing actions implementation. ROC helps the bank identify profitable clients and form various strategies for various segments. This is the way that ROC implementation distinguishes segments with higher profit potential more clearly. The bank will concentrate its resources on the segments with the highest ROC values. It is very important from the aspect of the bank's financial perspective. Its implementation enables the bank not only to project its future profit, but acquire more accurate insight into the confidence level of its clients. This is the way that ROC stands for a criterion providing, among other things, the opportunity for a bank to analyse marketing actions effects on business results. Marketing managers will be directed towards value creation for customers that contributes to their profitability and future.

Customer profitability measurement and projection is an activity giving customer or service user perspective an additional and new dimension.

In the specific case of a bank, this is the way to establish a mutual connection between marketing and financial dimension in the function of the creation of the superior value for a client, thus increasing bank profitability in the long-run [29].

Bauer and Hammerschmidt [30] give a key statement, despite the fact that the assessment of customer is an important trend in various disciplines such as accounting, finance and especially in marketing, multidisciplinary approach is needed to complement the models developed to date, establishing a dialogue between marketing and finance.

CONCLUSION

CLV implementation is especially useful from the bank aspect because it provides useful information on who are the most valuable clients in the bank client profitability projection procedure. This is the way to identify those client segments that will receive special attention in the future. In this context, the bank should not treat all its clients in the same way, but it should do it depending on the value the clients bring. More valuable clients should be treated in special ways in order to retain them, thus enhancing profit production and increase the profitability of a bank. However, less valuable clients should be offered a product or service that is less costly to provide.

This is the way the bank will concentrate its resources on the segments that possess the highest ROC value. The aforementioned data result in an important statement that the predictions about CLV are an important input to target clients for special treatment, which is a central operational tactics of relationship marketing.

Therefore, on the basis of the research presented in the paper, we have two important suggestions: first, the present value of future cash flows over time is the most suitable technique to calculate the numerator of the CLV formula (i.e., monetary value that each customer or client brings to the bank) and second, WACC is also the most appropriate method to get the client cash flow discount rate. On the other hand, despite the fact that the assessment and bank client profitability projection is an important and modern trend in various disciplines such as accounting, finance and especially marketing, multidisciplinary approach is needed to complement the CLV models developed to date, establishing a dialogue between marketing and finance. On the basis of the foregoing statements and presentations in this paper, we have confirmed the hypothesis that CLV is the most comprehensive and accurate value and bank client profitability projection criteria among all available. According to that, bank profitability can increase if CLV model is implemented in the choice of the most valuable clients.

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