CRM ADOPTION FACTORS IN THE GAMING INDUSTRY

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Abstract. The aim of this paper is to evaluate critical success factors and investigate the benefits that might be gained by adopting Customer Relationship Management (CRM) in the gaming industry from the perspective of individuals involved in the process of adopting the CRM. A total number of 109 casinos’ managers from all over the world have been surveyed about the factors’ importance for the CRM adoption. Based on the multiple regression and ANOVA analysis, an estimated function of the influence of the most important umbrella factors – human, project and technological, for the success of CRM project in a company has been formulated. The highest rated elements in successful cases of CRM adoption are almost entirely bound to human factor. CRM systems are estimated to evolve further into a direction of individual customer experience management and become more and more intelligent, integrated and data-driven.

Key words: customer relationship management, experience management, gaming industry, casino competition, adoption, critical success factors.

1. INTRODUCTION

The main purpose of this paper is to analyse the factors that influence the success of Customer Relationship Management (CRM) adoption in the gaming industry, as seen from the perspective of managers involved in the process of adopting the CRM.

UNWTO (2019) reports the year 2018 to be the 9th consecutive year of sustained growth of tourism. Gaming tourism could be described as a mix of the gaming and travel sectors, representing gamblers visiting places explicitly with the intent to gamble, but also the industries supporting them (Casinopedia, n.d.). Looking individually, Australians gamble $916 per person, Singaporeans $891, Americans $504 and Irish citizens $490 (Casino.org, 2019). Park et al. (2018) agree that gaming industry provokes distinct economic effects and grows into important tourism industry branch, capable of exceeding its limits; but as the gaming industry prospers, so does the industry competitiveness. Gaming operators strive to fight with the growing competition through the expansion of services and product lines, offering numerous promotions,
and with the introduction of CRM (Kivetz & Simonson, 2002; Palmer & Mahoney, 2005; Jeon & Hyun, 2014). Doyle (2009) explains that casinos are changing into tourist resorts with adjacent hotels, retail stores, food and beverage outlets, and different entertainment locations, so the abundance of information gathered is overwhelming – the elaboration of extended gaming and non-gaming data helps gaming industry to better understand their customers’ behaviour. The worldwide gaming industry grew rapidly since the early 1990s following the Las Vegas Strip in the United States (US), later by 2002 gaming liberalization in Macau and Singapore’s gambling approval in 2005 (Tsai, Hsu & Lee, 2017).

Every company has a business model (BM), whether it articulates it or not; a BM explains who your customers are, how you provide value to them and how you will retain part of that value (Janeš, Biloslavo & Faganel, 2017). Business processes have to be constantly improved through fresh initiatives and its successful implementation (Gošnik et al., 2016), avoiding redundant administrative burden (Staroňová, Krapež, & Pavel, 2007). If a company wants to accomplish the long-term strategic goals, they should decompose the vision and strategic goals into a set of causally related key performance indicators, which represent the financial perspective, the customers and internal processes perspectives, and the learning and growth perspective (Janeš & Faganel, 2013).

Maechler, Neher & Park (2016) are convinced that companies aren’t programmed to understand the journeys taken by their customers; if company wants to see the traditional touchpoints as customer journey, an operational and cultural shift is required. Such a change in mindset can lead to a higher customer and employee satisfaction, profit and cost improvements, and a long-lasting competitive advantage. Customer Relationship Management (CRM) provides companies with a leverage to understand their customers’ preferences and behaviour, but it often happens that CRM adoption leads to failure, because of a lack of focus and too high expectations. Baharak (2018) confirms that “the integration of CRM technology resources, human resources and business resources are crucial to assist in maximising CRM technology capability”. CRM also contributes to provide more information about the customers, through the use of data which are not visible in scattered databases. Hsieh (2009) warns that CRM technology has to be supplemented with a customer-centric organizational policy in order to be able to realize completely the CRM benefits. It also allows to diminish the conflicting stakeholders’ interests (Kavčič, Mevlja & Rižnar, 2016). The use of CRM facilitates casino operators to better understand the behaviour of their customers, streamlines advertising and customer engagement, contributes to the improvement of customer service, eases the customer acquisition and retention, and allows an effective cross-selling.

In this way it is easier to combine marketing incentives and campaigns tailored to different customer segments. Stroburg & Roberts (2018) study findings backed the effectiveness of CRM, confirming that gamblers who have been exposed to the CRM program with direct mailing went to the casino more often and spent more money than customers not receiving the direct mail. Besides this, the higher the number of direct mail solicitations, the higher the increase of visits; and additionally, the higher the number of direct mail writings redeemed, the higher the increase in the average amount spent per visit (Tsai, Hsu & Lee, 2017). Study demonstrates that the CRM program
effectiveness increases as gamblers engage in the CRM program and it increases the trust in the casino and its services. Tabaj Pusnar & Bratina (2018) created a direct marketing response model for casino industry, based on logit regression, that significantly improves the accuracy of direct marketing activities compared to the previously used Recency-Frequency-Monetary (RFM) model and offers more insight into important gamblers’ choice characteristics.

Inside the gaming industry, CRM information allows companies to follow their customers’ expenditures, and offer them products that create value for individual customer and increase the profitability of the business (Hsieh, 2009). According to Haag (2019), the most successful casinos cannot imagine to exist without CRM platforms, and they are trying to develop CRM into sophisticated systems which could pull the socio-economic information of their customers as well as increase the effectiveness of their advertising campaigns and loyalty schemes. Taylor and Bodapati (2017) study on CRM and target marketing used in casinos allowed them to develop a model, based on Bayesian learning models, suggesting that profitability could rise significantly, if customers’ beliefs are incorporated, as well as past outcome sequences inside the targeting decisions.

Hendler & Hendler (2004) say CRM is adopted in gaming industry to identify customers’ preferences, demographics, their psychographic profiles and other characteristics to forecast behaviour and to adapt casino’s marketing activities. Kale (2003) says CRM adoptions in gaming companies are more successful if CRM is considered a business philosophy and if it is accepted as a component of the corporate culture. Buesing, Kleinsteing & Wolff (2018) point out that one of barriers to a successful CRM introduction is the lack of a more comprehensive view of the customer journey; service and CRM shouldn’t be viewed as separate from other elements of customer engagement if companies don’t want to miss growth opportunities. Kale (2012) acknowledges that CRM attracts growing attention throughout the gaming industry and argues the low attention towards the importance of the change management role for the successful CRM adoption. The author emphasizes the core initiatives: internal understanding of change, devoted infrastructure for change management, CRM-relevant training, a reinvigoration of the company’s structure with performance measures, and renovation of established incentive systems. Mai, Perry & Loh (2014) offer an integrated model, which explains how to link companies change programs, together with internal and external CRM programs, through 7 main elements: vision, key challenge, objective, measure, strategy, initiative and outcome. Authors find that internal CRM is still a new and unbalanced concept in casinos, mostly applied as HRM practice, but it should be managed together with external CRM in the same way, using the proposed model.

Loveman (2003) found out that one quarter of Harrah’s visitors contribute 82% of the company’s revenues, and Hsieh (2009) recognized Harrah’s to have the most loyal customers. Harrah’s Cherokee integrates revenue management and marketing activities with CRM systems, which selects customers that might stay on specific dates, when a low season is predicted, and they target them through automated communications, offering additional incentives (Metters et al. 2008). Casinos use CRM to understand gamblers’ preferences, follow the spending, and to offer their customers services that they value. Park et al. (2018) developed a five components customers’
lifetime value assessment model, fitting the gaming industry, which allows managers to plan gamblers’ specific strategies and care.

According to some studies, only one third of managers that were involved in the CRM adoption, expressed themselves as satisfied, regarding the project objectives attainment (Barran, Zerres & Zerres 2014). Smilansky (2017) reports that 91% of US and Canadian companies employing more than 10 people already introduced a CRM system, but less than a third share an opinion that they are well equipped with the tools they need to actually be successful or that these tools are fully delivering on their companies’ missions, strategies, and tactics. Hubspot (2018) report brought the information that 13% of companies said investing in a CRM system would be an important marketing priority in 2019. CRM adoption will bring many benefits to the company: stronger links would be established between the company and gamblers, targeted advertising could be facilitated and automated, and average customers separated from high rollers. Prentice & King (2011) described premium players or high rollers as the ‘high-end’ market in the gaming industry. These are all the reasons why it is very important to understand which the critical success factors for the CRM introduction in gaming companies are, seen from the view of managers. Managers are responsible not only for the effective CRM implementation, but also for securing the full support from top management, setting the right project goals, advising the measurement approaches, advocating an adaptive and customer-oriented organisational culture, etc. (Steel, Dubelaar & Ewing, 2013).

Piskar & Faganel (2009) discuss the issues that the companies have to be careful about before, during and after the CRM implementation and what changes are necessary for achieving a positive result through a case study of a CRM implementation. It has been demonstrated that if the organizational culture supports changes, a company has more chances to successfully implement CRM system and that the implementation approach needs to be carefully planned, with appropriate emphasis on user adoption strategies.

As Hsieh (2009) reports, the ever-emerging technology and advancements in gaming industry, such as video poker, slot machines, etc. allow different opportunities in which companies can implement available CRM resources more adapted to customers. Slot machines are connected in networks to guarantee their proper functioning besides overseeing the spending through players’ loyalty cards (Goff, 1999). Networked slot machines also provide casinos with the chance to manage the financial resources more effectively by checking the floor rooms that are bringing the most revenue (Hardy, 2008). Such technology is granting players to print the won rewards for shows, food, etc. instantly from the slot which they are playing right on (Hardy, 2008). So, the CRM makes it possible for casinos to offer their loyal players instant rewards and diminish the expense of later tracking down the best customers. It also grants casinos to be more efficient in providing players an appreciated service and in managing the costs more efficiently because of the lag time removal (Hsieh, 2009).

Any introduction of CRM requires an immediate farewell to the prevailing arrangements, established practices, processes and organizational structure of the company. At this stage, it is extremely important that employees are as prepared as possible and armed with knowledge and information
that will help them cope with the changes brought by the new CRM software. The main components of successful CRM implementation are motivation, training and user friendliness. Trainings usually provide basic skills in how to handle software. They must be designed with regard to both the processes and the CRM strategy so that employees who will use the new system know how to use it and also what purpose it serves. Effective use of the system enables employees to draw additional information from it, and to transfer customer knowledge back to the system (Costantini, 2011).

2. SURVEY METHODS AND SAMPLE

A structured closed-type questionnaire has been selected as the basis for obtaining data for the survey. In addition to 32 statements, questions from the five-digit Likert scale (from 1 - not at all, to 5 - totally), the questionnaire implemented in the survey consisted of additional questions that examined the facts on the particular respondent’s involvement in a successful or failed project, the particular respondent’s role in the organization, and the questions about the size of the company in which the respondent works.

Based on the literature review, the most important adoption factors have been united under three umbrella factors: Human factor (change management factors): Strong leadership support and the establishment of change agents, Adequate vision and customer-centric business strategy, Redesigning work processes and existing reward systems, Changing the company culture and its organization, CRM training employees receive, Understanding the CRM philosophy and its added value to the company and the individual; Technological factor: Implementation of an appropriate software as the main foundation of CRM, System integration and suitable software architecture, Ensuring adequate quality and efficient data management system, Segmentation and analysis of customers, Establish a feedback monitoring system; Project factor: Definition of project implementation goals and metrics, Formation of a competent project team with appropriate authority; Proper project management; Ensure an adequate budget for implementation.

The survey questionnaire was completely anonymous for respondents and companies. The questionnaire was pre-pilot tested in the light of the appropriate understanding for the respondent, the design aspect, the comprehensibility of the questions themselves and of course from the content point of view. It was evaluated by six peers. After making minor technical corrections, they all rated the questionnaire as good and ready for use.

The survey method was online surveying, collecting data on the SurveyMonkey.com platform. The invitation to participate was sent by an e-mail to the target group of gaming companies that have already introduced or have been in the phase of introducing CRM into their business.

A structured database of gaming companies was used, collected by professor William R. Eadington, who served as the Philip J. Satre chair in Gaming Studies in the Department of Economics and a director of the Institute for the Study of Gambling and Commercial Gaming at the University of Nevada, Reno. Prof. Eadington allowed the use of his contacts base, and his name, as a signature and reference in the calls to fulfil the survey. Additionally, our own databases from LinkedIn connections, former studies and personal contacts have been
added. The joint database of targeted companies to which the survey was submitted, ultimately comprised a total of 387 companies from all over the world. Participants in the survey were invited by invitation letter to individuals who were involved in any way in the process of introducing CRM in these companies. The original invitation to complete the survey was followed by a reminder after three weeks. Towards the end of the survey period, the invitation has been sent again to the companies that did not respond in the first wave. The poll was answered by 113 companies, of which, due to inadequate fulfilment, four surveys had to be extracted from further processing. The final number of completed questionnaires suitable for processing was thus 109.

3. RESULTS

Analysis shows that 84 respondents rated CRM adoption in their company as successful and 25 as failed. The largest proportion of survey responses (45.9%) came from individuals who were members of the project team when introducing CRM into the company. Every CRM adoption is a big deal for every business that requires a structured and organizational approach. Another interesting fact is the high proportion of responses from employees in marketing departments (30.3%). The high proportion of marketers involved in CRM project also directly confirms the fact that organizations really view CRM’s business strategy as “soft”, customer-focused content rather than a narrow technological project. Company directors mostly related to small businesses account for 4.6% of the answers. In smaller companies, top management is much more operationally involved in implementing CRM than in larger companies.

The share of large enterprises (59.6%) and medium-sized enterprises (32.1%) dominates strongly. Taylor (2020) says that 91% of businesses with over 11 employees now use CRM, compared to 50% of those with 10 employees or less. Structured CRM policies and all supportive system solutions and tools represent the greatest added value to the medium and big companies. The business complexity due to the number of employees and the consequent functional job division within these companies, requires a systematic approach to building relationships with the customer and focused, exactly prescribed and consistent behaviour of the entire organization. The latter, however, is difficult to achieve without a solid and unambiguous CRM basis. On the other hand, smaller companies have a significant advantage in this context, as most of their limited CRM activities and policies can still be managed manually and verbally to some extent.

3.1. Analysis of key factors for successful CRM implementation

Factors decisive for successful CRM implementation can be grouped into three key overarching impact factors, namely the human factor, the project factor and the technological factor. As a general and illustrative introduction to the analysis of the impact of each factor on the successful implementation of CRM, results are presented in the so called upgraded radar graphs. In the first radar graph, a comparison between the successful and unsuccessful CRM adoptations is being demonstrated, combined with the achieved average scores across all 32 statements or questions. A scale of 1-5 in the Figure 1 shows the average grade obtained for each claim, while the circular figures show the consecutive survey questions.
Given the findings in the previous sections, it is no surprise that the ratings of the successful CRM adoptions were higher on almost all survey statements, with the exception of the statements 15 (Was the project led by the IT department?) and 24 (Was a CRM system built within an organization?). In the claim 15, successful projects scored lower than failed projects (1.68 vs. 2.67). The result can be interpreted in such a way that CRM IT-led implementations are more prone to failure if the project is managed by IT. Therefore, in our case, this finding, also supports the findings from all the reviewed literature, stating that it is better that IT does not lead CRM implementation projects. Under the second apparent exception (claim 24), successful projects also scored lower than failed projects (1.51 vs. 2.00). The difference between successful and failed implementations is relatively small regarding this issue, but based on this minimal difference we can conclude that CRM systems purchased from professional commercial providers have a slightly higher chance of success than systems built within organizations.

An even clearer insight into the highest rated and thus most important influencing factors for successful CRM adoption is shown in the Figure 2. It shows the comparison between successful and failed CRM implementations, combined with the achieved ratings across all 32 statements in cross section with the three group (umbrella) factors of successful CRM adoption. A scale of 1-5 in the graph shows the average grade obtained for each claim, the circular numbers show the consecutive survey questions (sequentially grouped by
individual influence factor), and the letters in addition to the circular numbers illustrate the abbreviation of one of the three most common umbrella impact factors for CRM success (H-human factor, P-project factor, T-technology factor).

![Radar graph](image)

**Figure 2:** Radar graph representing the comparing respondents’ average scores to the 32 statements, combined with the three most important factors for success, for successful and unsuccessful CRM implementations.

Statements combined into the three most important overarching factors of successful CRM implementation in our research, also demonstrate very clearly and directly the impact of an individual factor on successful and failed project. Figure 2 makes it clear that the highest scores for successful implementations are precisely those issues pertaining to the human influence factor. This simple but extremely important presentation of the intersection of three items, therefore, firmly confirms previous theoretical findings that the most important factor for successful implementation of CRM in companies is precisely the human factor or individual change management factors. A review of individual issues shows that customer ranking by relevance, customer base segmentation, setting up an implementation project team, regular and in-depth CRM employee education, strong support from top management, and properly selected CRM software are crucial for successful CRM adoption. These results confirm the findings represented in the theory review chapter.

Proper customer ranking and accurate segmentation are core components of all subsequent CRM activities. If the basis is not properly laid, all future CRM activities will be based on inadequate foundations. CRM implementation is usually a large-scale, content-rich and intensive process that requires a structured approach. For this reason, it is necessary to enable in-depth CRM activities in a structured and professionally managed manner. The assessments from the presented statements speak in favour of a structured
project approach. The review of the questionnaire responses confirms also the need for a continuous process of employee training, not only in the CRM philosophy, the available CRM tools, analytical and support systems, but also in motivational information on the added value of CRM implementation for employees and for the company. Only properly educated and motivated employees are able to achieve the set CRM goals in practice. The basic and highest prerequisite for successful implementation is the sincere and unconditional support of top management. Without this support, any CRM implementation is doomed to failure.

Assessment of data quality, additional budget for project implementation, interim reporting on project achievements, compliance of existing business processes with the desired CRM strategy, on the other hand, in our case, have less significant influence on the implementation success. The question about IT project management and the question about purchased or internally built CRM system statistically show the lowest scores among the questions from the group of successful projects. However, we have to interpret these findings somewhat differently because of the questions asked. Based on the evaluations of these two issues, we can say again that it is better for the implementation of the project not to be led by IT department, and that the likelihood of successful implementation of CRM is higher if the CRM system is purchased than internally built in an organization.

The review of the highest rated assessments shows that the creation of a project team, employee training on CRM, customer segmentation and appropriately selected software are important content drivers for implementation even for failed implementations (Faganel, Constantini & de Luca 2017). The mentioned statements thus proved to be important factors for both types of surveyed companies, the ones with successful and with unsuccessful project introductions. It can be observed, of course, that the average scores of these statements are, in general, lower than the average scores of the same questions on successful introductions. However, they are still above the median of the poll, which in our case is three (neither no nor yes). It is also interesting to note that, despite high scores on issues related to identifying employee training needs and achieving complete system architecture integration, these CRM implementations proved to be unsuccessful. From a substantive review of the highest-scoring statements on failed CRM implementation, and a similarly high ranking of those contents on successful ones, we can logically conclude that the key factors for failure are likely to be found in other influential items.

The statements that received the lowest scores for failed implementations reflect, to some extent, the success factors in successful implementations. The lowest marks for failed projects are the contents related to communication during the project, the relevant project team credentials, the estimated additional budget, the transformation of the reward systems and the inconsistency of business processes with the CRM strategy. Regarding the low assessments of these factors in failed implementations, it can be concluded that this content was neglected by this group of respondents and clearly has a significant impact on the performance of CRM implementations. By properly managing these issues throughout the adoption process the likelihood of ultimate CRM success increases directly. This finding can be further substantiated by the fact that none of these topics appeared at the bottom of the ranked statements in the successful introductions. The importance of individual content factors that influenced the success or failure of introductions in the surveyed companies can also be easily demonstrated by the magnitude of differences in the scores achieved on each claim.

The biggest differences in the levels of average ratings of the same issues between successful and unsuccessful implementations
are found among the statements regarding the urgent transformation of the remuneration system and the support to the project by senior management. In the case of the group of respondents with unsuccessful introductions, only a minority (1.80) paid adequate attention to the transformation of employee remuneration systems. On the other hand, respondents who successfully introduced CRM managed this issue better (3.81). Similarly, in the case of unsuccessful implementations, the support of senior management was rather low (2.52), and in the case of successful implementations, the top managers were extremely supportive of the project (4.40). From the findings, it can be summarized that these two factors have a great impact on the success or failure of CRM implementation among the surveyed companies. At the general level they can also be classified as key factors that companies need to pay proper attention to the path of CRM implementation. Significant differences among the assessments are also highlighted by issues relating to the relevant authority involved in the project, the proper management of the implementation project, and the appropriate ranking of customers. This set of issues is also characterized by large differences in evaluations between successful and unsuccessful implementations, and based on this it is concluded that in the process of CRM implementation it is essential to pay close attention to all these issues.

### 3.2. Influential factors for successful CRM adoption through descriptive statistics

Frequency distribution presents the distribution of the value of the answers across different sets of survey questions. Calculated average values have been used as a measure of the mean both in assessing the agreement with the influencing factors as well as in the importance of each factor. The standard deviation, however, shows the average deviation from the average value. For the sake of clearer interpretation, in this case too, the substantive issues were grouped into three umbrella influencing factors.

#### Table 1: Descriptive statistics of human influencing factors

<table>
<thead>
<tr>
<th></th>
<th>Successful adoption (n=84)</th>
<th>Unsuccessful adoption (n=25)</th>
<th>Total (n=109)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1H</td>
<td>Has a proper CRM vision been developed at the company level?</td>
<td>3.66 0.94</td>
<td>2.76 0.86</td>
</tr>
<tr>
<td>2H</td>
<td>Was a customer relationship or CRM strategy defined?</td>
<td>3.94 0.66</td>
<td>2.96 1.00</td>
</tr>
<tr>
<td>3H</td>
<td>Have any new CRM relationships or strategies been established (e.g. the CRM Director position created?)</td>
<td>3.68 1.22</td>
<td>2.29 1.24</td>
</tr>
<tr>
<td>6H</td>
<td>Has strong top management support for the project been guaranteed?</td>
<td>4.40 0.58</td>
<td>2.52 1.10</td>
</tr>
<tr>
<td>7H</td>
<td>Was there enthusiasm / agreement on the project even at inter-organizational levels?</td>
<td>4.02 0.76</td>
<td>2.76 0.51</td>
</tr>
<tr>
<td>13H</td>
<td>Have the employees been formally educated on the use and acceptance of CRM applications during the project?</td>
<td>4.51 0.55</td>
<td>3.64 0.74</td>
</tr>
<tr>
<td>18H</td>
<td>Has the CRM project influenced the change in company culture (e.g. has the focus shifted from revenue growth to customer satisfaction)?</td>
<td>3.93 0.55</td>
<td>2.44 0.75</td>
</tr>
</tbody>
</table>
Table 2: Descriptive statistics of project influencing factors

<table>
<thead>
<tr>
<th></th>
<th>Successful adoption (n=84)</th>
<th>Unsuccessful adoption (n=25)</th>
<th>Total (n=109)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td>SD</td>
<td>AM</td>
</tr>
<tr>
<td>4P</td>
<td></td>
<td></td>
<td>4.10</td>
</tr>
<tr>
<td>5P</td>
<td></td>
<td></td>
<td>3.74</td>
</tr>
<tr>
<td>8P</td>
<td></td>
<td></td>
<td>4.52</td>
</tr>
<tr>
<td>9P</td>
<td></td>
<td></td>
<td>3.79</td>
</tr>
</tbody>
</table>

The analysis showed that in the case of the human factor issues, the respondents, from both successful and unsuccessful introductions, pay the highest attention to the ranking of clients by importance and customer segmentation. The table above shows that respondents who have been successful in implementing CRM pay much more attention to these two factors, which is also reflected in the comparatively higher average scores. The same conclusion can be drawn from the CRM employee education factor, which achieves very high average scores in both extreme implementation cases. However, this factor achieved a very high average score (AM = 4.51) among successful introductions. Unlike the cases of unsuccessful introductions, very high marks among successful introductions are achieved by the factor of necessary support of management (AM = 4.40) and the factor of enthusiasm achieved among employees at the inter-organizational level (AM = 4.02). In case of unsuccessful introductions, high average scores are achieved by the factor that determines the importance of the defined customer relationship strategy and the factor of preliminary review of business processes.

Based on the results gained for responses to statements that define the human factor affecting the success of CRM implementations, we can summarize that these issues achieved the highest average scores, which was supported also by the references in the scientific literature. These prove to be the most important factors for the success or failure of the CRM implementations in casinos.
The analysis shows that in both cases, the importance of setting up a project team achieved the highest average grade. At the same time, this factor also achieves the highest overall average score among all the statements in our questionnaire (AM = 4.56). The appropriateness of project metrics is a very important factor for both instances of implementation, as evidenced by high average estimates. On the other hand, the respondents of successful introductions have a rather higher average score for the factor referring to a properly assembled project team (successful introductions AM = 3.79, unsuccessful introductions AM = 2.44). As a summary of the results of the issues that make up the project impact factor, we can conclude that, in practice, the awareness of the need to set up a task force is very strong. However, it is extremely important that the established project team is composed of adequate staff. Therefore, this factor has a significant impact on the success of CRM implementation in a business.

Table 3: Descriptive statistics of technological influencing factors

<table>
<thead>
<tr>
<th></th>
<th>Successful adoption (n=84)</th>
<th>Unsuccessful adoption (n=25)</th>
<th>Total (n=109)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td>SD</td>
<td>SD</td>
</tr>
<tr>
<td>24T</td>
<td>1.51</td>
<td>0.76</td>
<td>2.00</td>
</tr>
<tr>
<td>25T</td>
<td>4.20</td>
<td>0.77</td>
<td>3.33</td>
</tr>
<tr>
<td>26T</td>
<td>4.06</td>
<td>0.73</td>
<td>3.50</td>
</tr>
<tr>
<td>27T</td>
<td>3.59</td>
<td>1.03</td>
<td>2.84</td>
</tr>
</tbody>
</table>
Table 3 shows that within the group of statements of the technological umbrella factor, the most important issue is the choice of the appropriate software. This factor is even more pronounced in the case of successful implementations where it achieves an extremely high average score (AM = 4.20). So does also the claim about the integration of system architecture. It scores high in both successful and unsuccessful adoptions. Among the technological factors, depending on the height of the average score, we can highlight the factor of the necessary programs / processes for improving the quality of the data.

As a summary of the descriptive statistics of the technology factor group, we can conclude that the success or failure of the implementation depends heavily on the CRM system chosen and its integration with the existing software infrastructure in the company. The importance of the relevant software is also shown by the factor that refers to how the software is acquired: through purchase or internal construction. Although CRM systems may be more "skin-friendly" to the company, our survey shows that this is not always the best option. From the results of our survey, we can see that companies that buy CRM from specialized providers on the market are on average more likely to successfully introduce CRM than companies that build the system individually within the company.

From the descriptive statistics of the groups of factors of the three umbrella influencing factors, it can be generally concluded that on average almost all the factors in all three influencing factors achieve higher average scores in the case of successful CRM implementations. From the latter we can logically conclude that strict adherence to all the mentioned influencing factors directly influences the success of CRM implementation. However, the human factor stands out among the three umbrella factors in terms of the impact on the success of CRM deployments. On the second place is the project factor in terms of its impact importance, and the technological factor only on the third place.

### 3.3. The regression model of the impact of the three most important influencing factors on the success of CRM implementation

To study the impact of the three most important umbrella factors on the success of CRM implementation, the statistical method of multiple regression has been used. Multiple linear regression is discussed when we study the linear dependence of one dependent variable on several independent variables. In our case, it has been decided to use regression analysis because we wanted to check how more independent variables (predictors) affect the dependent variable and to find out how much of the percentage of variation in the dependent variable is explained by our predictors. Based on the model
assumptions about the relationships between the variables, we proposed a regression model that was tested on the selected sample. The model parameters and the statistical significance of this model were estimated by using the regression analysis since we do not know the actual population numbers. For the purposes of statistical analysis, we used a sample unit, and consequently, the regression function can only be estimated. Hence, parameter estimates were obtained instead of parameters. The estimates of the multiple regression parameters were evaluated during the analysis using the chosen method of incorporating explanatory variables. A backward method has been used, which allowed obtaining an estimated regression function as a result of the analysis, with those predictors (independent variables) that are statistically significant plus the constant.

The backward method is subject to the criterion $F > = 100$. In Model 1 of our analysis, all three factors of influence (human, project, technological) appear as predictors, and in Model 2 the technological factor does not appear since it has been found that in our case it has no statistically significant effects for the performance of CRM adoption. The conditions for the creation of a multiple regression model (the influence of independent variables on the dependent variable) are the following assumptions:

- the independent and dependent variables are approximately normally distributed,
- each of the independent variables has a linear effect on the dependent variable,
- there is no multicollinearity between the independent variables,
- there is no autocorrelation between the independent variables.

Regression analysis allows us to, based on the findings, draw up an equation for predicting the dependent variable, with a certain probability of being achieved. It can be explained as much as the explained variance in the regression model summary. The latter means that, with a certain percentage probability, we can predict the outcome of the dependent variable based on independent variables (predictors). A simplified form of the impact function of the human, project and technological factors, as a mosaic of the most important umbrella influencing factors on the success of CRM implementation in companies, is the basic function:

\[ \text{successful implementation of } CRM = f(\text{influencing factors}) \]

which can be expressed in the form of a linear model as:

\[ \text{implementation success} = \beta_0 + \beta_1 \cdot \text{human factor} + \beta_2 \cdot \text{project factor} + \beta_3 \cdot \text{technology factor} + \epsilon \]

The model features:

- implementation success = average rating of the opinions on the performance of CRM implementation,
- $\beta_0$ = constant of the linear regression model,
- $\beta_1, \beta_2, \beta_3$ = predictors as a function of influencing factors on the success of CRM implementation,
- human factor = average estimate of the opinions on human factor,
- project factor = average estimate of the opinions about factors that belong to the project factor,
• technology factor = average estimate of the opinions about factors that belong to the technology factor,

• \( \mathcal{E} \) = random deviation.

Statistical test through regression models has been set on the basis of lessons learned from previously defined theoretical basis. On this basis, regression analysis and the accompanying tests have been set up as shown in Model 1.

Table 4: Descriptive statistics of the regression model 1

<table>
<thead>
<tr>
<th>Model 1</th>
<th>R</th>
<th>R2</th>
<th>SD</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.832a</td>
<td>0.692</td>
<td>0.233</td>
<td>1.729</td>
</tr>
</tbody>
</table>

a. Predictors (independent variables): (Constant), Human factor, Technology factor, Project factor
b. Dependent variable: Do you rate a CRM project in which you participated as successful or unsuccessful?

Table 5: ANOVA – testing the linearity of model 1

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean of squares</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>11.948</td>
<td>3</td>
<td>3.983</td>
<td>73.540</td>
<td>0.000b</td>
</tr>
<tr>
<td>Residuals</td>
<td>5.307</td>
<td>98</td>
<td>0.054</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17.255</td>
<td>101</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent variable: Do you rate a CRM project in which you participated as successful or unsuccessful?
b. Predictors (independent variables): (Constant), Human factor, Technology factor, Project factor

Table 6: Parameters of the regression model

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>p-value</th>
<th>Checking multicollinearity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SD</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-1.331</td>
<td>0.156</td>
<td>-8.526</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Human factor</td>
<td>0.034</td>
<td>0.004</td>
<td>0.689</td>
<td>8.518</td>
<td>0.000</td>
</tr>
<tr>
<td>Project factor</td>
<td>0.017</td>
<td>0.005</td>
<td>0.263</td>
<td>3.143</td>
<td>0.002</td>
</tr>
<tr>
<td>Technological factor</td>
<td>-0.010</td>
<td>0.007</td>
<td>-0.100</td>
<td>-1.353</td>
<td>0.179</td>
</tr>
</tbody>
</table>

a. Dependent variable: Do you rate a CRM project in which you participated as successful or unsuccessful?

Tables 4 – 6 of Model 1 show the elements of regression analysis in which all three umbrella factors have been included as independent variables and their impact on performance as a dependent variable analysed. So it was possible to determine whether all three had an impact on performance and to what extent. Through the review of the analytical results, it was found out that in our case the technological factor had no statistically significant effect on the success of CRM adoption \( (p\text{-value} = 0.179) \), so the technological factor was excluded for further statistical processing and we used only human and project factor.

In the regression analysis, therefore, only two independent variables (human and project factor) and the same dependent variable were used for statistical processing. Model 2 presents this analysis.
Table 7: Descriptive statistics of regression model 2

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>SD</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0.834a</td>
<td>0.695</td>
<td>0.231</td>
<td>1.603</td>
</tr>
</tbody>
</table>

a. Predictors (independent variables): (Constant), Project factor, Human factor
b. Dependent variable: Do you rate the CRM project in which you participated as successful or unsuccessful?

As shown by Model 2 descriptive statistics in Table 7, with only statistically significant explanatory variables present, the multiple regression coefficient $R$ indicates a relatively strong and positive influence of exogenous variables on the dependent variable ($R = 0.834$). The determination coefficient ($R^2$), which reflects the quality of the linear regression model and is reflected in the proportion of explained variance achieved by the independent variables in the model studied, influences the success of CRM implementation at 69.5%. The latter means that as much as 69.5% of the impact of implementation can be explained by our predictors (human and project factor), while the rest of the impact (30.5%) on the dependent variable remains unclear and is influenced by other factors in this proportion.

The Durbin-Watson test determines the presence of autocorrelation within the regression model. The values of the Durbin-Watson test lie somewhere between 0 and 4. If the value of the calculated test is between 1.5 and 2.5, we can arbitrarily assume that the autocorrelation coefficient is 0. Therefore, the value of the coefficient 0 explains to us that there is no autocorrelation and thus satisfies the condition of no autocorrelation underlying the error-free regression model.

The ANOVA test in Table 8 determines whether our regression model is statistically significant. Statistical significance indicates whether our model can be generalized to the entire population which we took the sample from.

Table 8: ANOVA - Linearity testing of model 2

<table>
<thead>
<tr>
<th>Model 2</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean of squares</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>12.486</td>
<td>2</td>
<td>6.243</td>
<td>116.289</td>
<td>0.000b</td>
</tr>
<tr>
<td>Residuals</td>
<td>5.476</td>
<td>102</td>
<td>0.054</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17.962</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent variable: Do you rate the CRM project in which you participated as successful or unsuccessful?
b. Predictors (independent variables): (Constant), Project factor, Human factor

The F statistic and its degree of significance (p-value) for assumption verification is based on the analysis of the null hypothesis, which specifies that none of the independent variables has a statistically significant linear effect on the dependent variable. As it can be seen from Table 8 above, where the statistical significance of the explanatory power of the model is checked, the ratio between the square of the mean values of the regression values and the residuals (as errors of the regression model) is statistically significant (p-value <0.05). With this finding, model 2 fulfills the required condition of linear dependence of the endogenous variable on exogenous ones.

As already defined in the introduction to the analysis, the condition for a correct regression model is that no multicollinearity exists. Multicollinearity means that the independent variables are highly correlated with each other. In the first step of the interpretation of the parameters of our regression model 2 below, the existence of
multicollinearity has been checked, which is given in the last column in Table 9. The values in this column tell us how much the percentage of the variance is unique. The greater the tolerance, the lower the multicollinearity of the independent variables. Variance values shouldn’t be below 0.20. If the variance is below this value, it means that less than 20% of the variance is unique, which increases the standard error of the regression model. In this case, the variance for both independent variables is above 50%. It is to be concluded that the calculations of the regression model are correct and the model is representative.

Table 9: Parameters of the regression model 2

<table>
<thead>
<tr>
<th>Model 2</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>p-value</th>
<th>Checking multicollinearity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SD</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-1.409</td>
<td>0.148</td>
<td>-9.548</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Human factor</td>
<td>0.032</td>
<td>0.04</td>
<td>0.661</td>
<td>8.601</td>
<td>0.000 0.507</td>
</tr>
<tr>
<td>Project factor</td>
<td>0.015</td>
<td>0.05</td>
<td>0.224</td>
<td>2.923</td>
<td>0.004 0.507</td>
</tr>
</tbody>
</table>

a. Dependent variable: Do you rate the CRM project in which you participated as successful or unsuccessful?

A preliminary ANOVA test of Model 2 in Table 8 explains the statistical significance of the overall regression model. The p-value in Table 9 explains the statistical significance of each independent variable. If the variable is not statistically significant, it doesn’t explain the dependent variable and can’t be included in the model. A condition for a statistically significant variable is that the p-value is below 0.05. In this case, the p-values of the two independent variables correspond to the aforementioned criterion, meaning that both variables are statistically significant for our model.

The $B$ value explains the power of the influence of the independent variables on the dependent. If $B$ is negative, it has a negative effect on the dependent variable, but if it is positive, it has a positive effect on the dependent variable. Specifically, the $B$ value tells us how much the dependent variable changes if we change the independent one by 1 unit. In our case, if we change the human factor $B$ value by 1 unit, the chance of successful CRM adoption increases by 0.032. However, in the case of a technology factor, as the value of $B$ is increased by 1 unit, the chance of successful implementation of CRM is increased by 0.015. In our case, both $B$ values are positive for the independent variables, which means that they are negatively affected, which causes the increase of the dependent variable.

The $Beta$ value determines how strongly each independent variable affects the dependent one. The higher the $Beta$ value, the greater the impact of the independent variable on the dependent one. If $Beta$ is negative, it has a negative effect on the dependent variable. It is measured in standard deviation units. Our example shows that the human factor as an independent variable has a much stronger influence on the dependent variable than the project factor. This impact can be specifically defined in such a way that a change of one standard deviation in an independent human factor variable would mean a change of 0.661 standard deviations in the possibility of successful implementation of CRM.

Based on the previous findings, it can be concluded that presented regression model meets all the required criteria. It has been
proved that in this case the human and project factor have a statistically significant effect on the success of CRM implementation in the company, while the technological factor has no statistically significant influence.

An estimated function of the influence of the most important umbrella factors for the success of CRM implementation in a company can be formulated based on the above stated findings as follows:

\[
CRM \text{ implementation success} = -1.409 + 0.032 \times \text{human factor} + 0.015 \times \text{project factor}
\]

It can be seen in the estimated function that if the average human factor score, other conditions remaining unchanged, increases by 1 point, then the success of CRM implementation will increase by 0.032 points. Regarding the project factor, however, it can be stated that if the other conditions remain unchanged and the average project factor score is increased by 1 point, the success of CRM implementation would increase by 0.015.

4. DISCUSSION

We noticed that in cases of successful CRM implementation into the company, the highest rated factors are almost entirely bound to soft building blocks or human factor. In contrast, we found that the questions that received the lowest scores in failed cases reflected to some extent the success factors from successful adoptions. Based on the low scores of these statements in the case of failed implementation, we can logically conclude that for this group of companies these contents were obviously neglected and thus, on the other hand, have a significant impact on the success of the CRM implementation. Again, a detailed overview of these influential factors shows that the vast majority of them belong to the group of the human influencing factor.

The results demonstrate in a simplified way that one could have a successful CRM adoption without the fulfilment of all the theoretically identified influencing factors. The aforementioned fact provides an explanation for the need of continuing research in order to reveal factors that are the most important ones for a successful implementation. Because of the great diversity of companies that want to implement a CRM business strategy, knowing the key factors for successful CRM implementation is really vital in terms of appropriate allocation of always limited resources.

Authors already found out the importance of human factor, when researching a case in a service company (Piskar & Faganel, 2009). Our findings are supported by Mendoza et al. (2007) who state that human factors are some of the most important factors for the CRM implementation. Campbell (2003) reached the same conclusion, while researching companies in financial industry in Canada.

An effective combination of all the building blocks - information, employees, long-term customer relationships - makes an important contribution to the successful implementation of the CRM philosophy in every company. The role and importance of each building block varies greatly between companies depending on the established corporate culture. In any case, the mission of all three building blocks is to achieve the highest goal of CRM, which is reflected in the long-standing loyalty of customers. In addition to the CRM philosophy, the fact that employee loyalty to the company is one of the biggest motivators of customer loyalty cannot be ignored (Costantini, 2011).
5. CONCLUSION

Companies invest huge amounts of money in the implementation of CRM systems. At a time when the primary goal of companies is to raise value for stakeholders, it is essential to measure the success of these initiatives. It is extremely difficult to evaluate the costs and benefits of investment-oriented processes and information technology. It is also very difficult to measure CRM initiatives that seek to increase customer retention. Finding out the direct link between customer retention, CRM initiative, investment and stakeholder value requires a lot of simplification (Grabner-Kraeuter & Moedritscher, 2002). A skilled decision maker must have the ability to browse relevant information and to avert being misled by the huge amount of irrelevant available information in existing databases (Walker et al. 2019). Successful management of the human side of change is a prerequisite for successful implementation of CRM (Costantini, 2011; Arzenšek & Musek Lešnik, 2016). Measuring the effectiveness of CRM represents a real challenge, as it is difficult to define the general links between CRM activities and the company’s economic performance. This difficulty stems from the main flows of relations between functional areas of marketing, sales, servicing, CRM processes, systems ... An additional difficulty lies in the fact that CRM’s benefits are of a qualitative nature. For this reason, it is even more difficult to prove their impact on financial results (Reichhold, Kolbe & Brenner, 2004).

According to the study results we can sum up that CRM adoption doesn’t influence company’s profit immediately after the introduction. A huge initial investment is required in software, hardware and training, and no immediate reduction in costs or improving profits. The benefits of CRM must always be measured in the long term. The CRM project can bring about durable relationships with a company’s customers and provide continuing benefits because of increased gamblers satisfaction and retention. In spite of these inevitable facts, companies must nevertheless be in the process of implementing CRM, which can be set up in detail. They must find a way to measure the effects of CRM internally and monitor the results on a regular basis. Maybe casinos will have to split the CMO’s job into two parts: acquisition and retention, because of different knowledge and skills which are needed for the job. CRM might expand to CEM – customer experience management, which implies immediate responses to customers’ negative reactions. It should not be forgotten that measuring performance and competitiveness from online and offline providers are some of the reasons that will influence further development of CRM philosophy and practices, and push gambling companies to employ and upgrade these solutions. Deloitte’s (2015) study on digital CRM suggests that: relevant real-time interaction importance will increase; customers will choose the communication channel; proactive 1:1 customer service based on customer insights will become a factor of differentiation; the efficiency in using gathered data will be more important than acquiring all the data, and regulatory barriers in collecting data are to be faced. Predictions made by Goasduff (2019) show that the global CRM market will continue to grow at a 13.7% Compound Annual Growth Rate (CAGR) through 2021.
active monitoring of desired results greatly improves the efficiency and profitability of CRM.

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ČIMBENICI PRIHVАĆANJA
UPRAVLJANJA ODNOSIMA S KUPCIMA
U INDUSTRIJI IGARA NA SРЕĆU

Sažetak. Cilj ovog rada je vrednovati ključne kritične čimbenike uspjeha i analizirati koristi, koje bi industrija igara na sreću mogla dobiti od uvođenja upravljanja odnosima s kupcima (Customer Relationship Management – CRM), i to iz perspektive pojedinaca, koji su uključeni u proces prihvaćanja CRM-a. Ukupno je anketirano 109 menadžera kasina iz cijelog svijeta, na temu značaja čimbenika prihvaćanja CRM-a. Na temelju provedene multiple regresije i ANOVA analize, procjenjuje se funkcija najznačajnijih općih čimbenika za uspješnost prihvaćanja CRM-a, i to - ljudskih, projektnih i tehno-loških. Najpozitivnije procijenjeni čimbenici u uspješnim slučajevima prihvaćanja CRM-a su gotovo isključivo povezani s elementom ljudi. Za same se sustave CRM-a procjenjuje da će se dalje razvijati u smjeru upravljanja individualnim doživljajima kupca, kao i da će postajati sve inteligentniji, integrirani i vođeni podacima.

Ključne riječi: upravljanje odnosima s kupcima, upravljanje doživljajima, industrija igara na sreću, konkurencija između kazina, prihvaćanje, kritični čimbenici uspjeha