A framework for constructing customer relationship management strategy map based on multiple criteria decision-making approach

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Abstract: Although Customer Relationship Management (CRM) has drawn remarkable attention from both practitioners and academics as a facilitator of organisational performance, results show unacceptable levels of its success. Therefore, in order to analyse how organisations can leverage the impact of CRM, this study presents a Balanced Scorecard (BSC) approach based on an effective Multiple Criteria Decision-Making (MCDM) model. Moreover, an empirical study of the Internet Service Provider (ISP) firm is presented to illustrate the application of the proposed framework. The results of this study illustrate that organisation capital, human capital and customer retention process play an essential role in the success of CRM. The results of this study can provide a comprehensive insight for managers into developing appropriate CRM strategies. Consequently, they can improve the effectiveness and efficiency of CRM and achieve a competitive advantage.

Keywords: CRM; customer relationship management; performance evaluation; BSC; balanced scorecard; strategy map; MCDM; multiple criteria decision-making; DEMATEL; decision-making trial and evaluation laboratory.

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1   Introduction

In today's highly dynamic and unpredictable world, organisations encounter the enormous challenges of expanding markets, increasing competition and rising customer expectations. Therefore, organisations are seeking for ways to survive and be successful in such an environment. CRM is one of the most useful approaches to accomplishing these goals (Keramati et al., 2010; Keramati and Sangari, 2011). The application of CRM is a major opportunity for organisations to shift from product-centric to customer-centric approach, build long-term profitable relationships with valuable customers, boost their effectiveness and efficiency, and achieve competitive advantage (Öztayşi et al., 2011; Reinartz et al., 2004; Roh et al., 2005). Therefore, numerous companies all over the world have implemented CRM and the number of companies that plan to implement CRM is growing rapidly (Becker et al., 2009; Chang et al., 2010). However, many companies have experienced immense challenges in the course of implementation and consequently they have fallen short of targets which they pursue (Becker et al., 2009). Thus, this has motivated a number of studies to look for factors inhibiting CRM success. Several authors (Rigby et al., 2002; Starkey and Woodcock, 2002) mention that one of the primary reasons for CRM failure is the inability to integrate CRM into the firm's overall strategy. Indeed, organisations should use an appropriate framework that help them not only in translating the CRM concept into a holistic set of factual organisational activities but also in implementing the CRM strategy successfully (Garrido-Moreno and Padilla-Meléndez, 2011; Sin et al., 2005). Such framework should consider the complicity and multidimensional nature of CRM. Otherwise, it has not created the expected results due to the lack of a common understanding (Keramati et al., 2010; Kim and Kim, 2009; Öztayşi et al., 2011). CRM strategy map based on four perspectives of BSC is an appropriate methodology in order to help an organisation to effectively fix and analyse its CRM strategy. BSC is a multi-criteria evaluation concept including four perspectives – financial, customer, internal process and learning and growth – and CRM strategy map presents a holistic visual representation of the casual relationships among these four perspectives (Glykas, 2013). Indeed, a properly constructed strategy map tells the story of a company's strategy via a thorough series of linked criteria weaving through the four perspectives of BSC (Kim et al., 2003; Niven, 2002). Thus, managers will be able to improve the effectiveness and efficiency of CRM performance and achieve a competitive advantage. Despite these advantages, the strategy map approach has some deficiencies that should be taken into account. First, it delineates linear unidirectional linkages among elements which almost begin with the 'learning and growth' perspective and end in the financial aspect. However, due to interdependency and interactions among CRM elements, it needs to delineate non-linear and bilateral connections. Second, often, strategy map is created based on a formal general agreement among top-level management, while it needs to consider more stepwise and logical procedure for analysing the complex interrelationships among the constructs in order to help organisations to become more successful and achieve competitive advantages (Glykas, 2013). Therefore, in this study DEMATEL is applied to address these shortcomings.

In this study, at first, we discuss some key constructs of CRM on the basis of strategy-related BSC perspective; afterwards, due to interactive relationships among the constructs, DEMATEL approach is applied to find interrelationships among them and to provide insights for managers into how they affect and reinforce each other. The suggested framework will be illustrated through a case study in an Iranian ISP company.

Such framework can give a clue to follow the reasons for the success or failure of a system (Kim and Kim, 2009) and also can show companies how and through which mechanisms CRM builds value for them. Altogether, the main objective of this study is to propose a conceptual framework in a real-life business environment encompassing two theoretical frameworks – the complex and multidimensional of CRM performance measurement (in this case, BSC) and a systematic approach to find relationships among CRM criteria (in this case, DEMATEL). Further, a secondary goal is to improve the stock knowledge of both BSC and MCDM in CRM context by applying the proposed framework to a particular industry (ISP) and environment (Iran), which, so far, the literature has scarcely studied.

The remainder of this paper is structured as follows. Section 2 discusses the theoretical background on CRM and BSC. Research framework is discussed in Section 3. Section 4 presents the results of the empirical study and finally Section 5 concludes and provides some managerial implications.

2 Theoretical background

BSC is a broadly adopted strategic management system first introduced in the early 1990s by Kaplan and Norton (Jassbi et al., 2011; Wu, 2012). In contrast to traditional evaluation systems which include only financial measures, BSC provides a broad view for managers to make decisions with its range of four perspectives (Chen et al., 2011; Kaplan and Norton, 1996a; Wu, 2012; Wu et al., 2009). The four perspectives of the scorecard – financial, customer, internal processes, and learning and growth – offer a balance between long- and short-term strategies, financial and non-financial measures, lagging and leading indices and internal and external aspects which provides managers with a coherent set of Key Performance Indicators (KPIs) needed to sufficiently plan and control a company, so it can achieve its objectives (Kaplan and Norton, 1996b). The core of BSC is the foundation of a strategy map which focuses on causal relationships among different perspectives of BSC (Glykas, 2013). The causal relationships can tell a story about the firms' aspirations so firms have a clue to follow the reasons for the success or failure of a system (Kim and Kim, 2009). Going through the literature, we found that there is only a handful of research that addresses the CRM strategy map or related issues.

Kim and Kim (2009) proposed a CRM strategy map to discern and evaluate a firm's CRM practice. This model is established by mixing the theoretical causal model, which is obtained through in-depth interviews with a number of firms in a variety of industries, with the theoretical model, which is obtained through an extensive literature review. However, the CRM strategy map presented in this study has linear unidirectional hierarchical relationships which begin with the 'learning and growth' perspective and end with the financial aspect, and ignore the bilateral and complex relations which may exist between them. Kim et al. (2003) used BSC to evaluate the effectiveness of CRM. This evaluation model consists of four customer-centric perspectives: customer knowledge, customer interaction, customer value and customer satisfaction perspectives. These four perspectives were identified by analysing cause-and-effect relationships of the CRM process. Authors claimed that their studies help managers to understand CRM strategy more appropriately. Meng et al. (2008) proposed a model of CRM strategy map which involves four perspectives: relationship value, customer value, customer interactive and customer knowledge. However, these studies provide neither delineate non-linear and

bilateral connections nor adequate perspectives to construct CRM strategy map. For example, the learning and growth perspective only includes customer knowledge, which is not enough to implement CRM successfully. Brewton and Schiemann (2003) proposed a hierarchical framework of the strategic business map emphasising the significance of links between an organisation's strategy and its CRM strategy. But they did not provide any clear perspective for their framework. Also, this study did not provide delineate non-linear and bilateral relationships, too.

3   Research framework

Motivated by the literature discussed above, this paper uses the BSC approach and presents a framework to draw a CRM strategy map. At first, criteria based on four perspective of BSC are collected from the extensive literature and expert opinions; then, in order to obtain the complex dependence and interactive relationships among these perspectives the DEMATEL method is adopted. Applications of the DEMATEL not only can clarify the structure and interrelationships between criteria, but also can be used as a way to identify the key elements influencing the performance (Wu, 2008). Finally, based on these relationships a CRM strategy map is illustrated. The details of these phases are introduced briefly in this section.

3.1   Key performance indicators

Choosing appropriate criteria plays a crucial role in realising CRM benefits for the organisations. The criteria should reflect the company's objectives and should be connected directly to the evaluation of the company's success (Pollock, 2007). If organisations use the CRM criteria improperly and inadequately, they can face the risk of extending core rigidities, causing long-term failure (Boulding et al., 2005).

In this study, first, a list of factors on the basis of strategy-related BSC perspective was collected from the extensive literature review. Then, a questionnaire including an integer score ranging from 1 to 10 was designed for each performance index to specify the degree of significance of each of the measurement factors. Afterwards, key constructs of CRM was found by asking experts comprising 15 professionals from industry and academia to answer the questionnaire. Factors with average scores of at least 6 points are chosen. Table 1 shows these criteria.

3.2   DEMATEL

The DEMATEL method has been developed to build and analyse the structural model involving causal relationships in a complex system. It can be used to understand which elements are central to the problem, in addition to discovering which factors or sub-factors influence each other or themselves. This is useful to develop a complete decision model. By using DEMATEL, the priority and relationships of factors can be obtained by comparing them to one another two at a time, using an integer score ranging from 0 to 4. The essentials of the DEMATEL method are described below.

Step 1 Find the average matrix. Respondents were asked to evaluate the direct influence that they believe each KPI exerts on each of the others according to an integer score

ranging from 1 to 4, representing 'No influence (0)', 'Low influence (1)', 'Medium influence (2)', 'High influence (3)' and 'Very high influence (4)'. A higher score from a respondent means that criterion *i* has a great effect on criterion *j*. An average matrix *A* is then obtained through the mean of the same elements in the different direct matrices of the respondents.

Step 2. Compute the initial normalised direct-relation matrix. The normalised initial direct-relation matrix *D* can be obtained by normalising the average matrix *A* as follows:

Let

$$s = \max\left(\max_{1 \le i \le n} \sum_{j=1}^{n} a_{ij}, \max_{1 \le j \le n} \sum_{i=1}^{n} a_{ij} \right) \tag{1}$$

$$D = \frac{A}{s} \tag{2}$$

Step 3. Derive the full direct/indirect influence matrix. The total relation matrix *T*, which shows the direct and indirect effects of factors on each other, is defined as

$$T = D + D^2 + \ldots + D^m = D + D^2 + \ldots + D^m = D\left(I + D + D^2 + \ldots + D^{m-1}\right)$$
$$= D\left[\left(I + D + D^2 + \ldots + D^{m-1}\right)(1-D)\right](1-D)^{-1} = D(1-D)^{-1}, \qquad \text{as } m \to \infty \tag{3}$$

where *I* is the identity matrix.

Step 4. Analyse the results of influences and relationships as the following:

$$D = \left[d_i\right]_{n \times 1} = \left(\sum_{j=1}^{n} t_{ij}\right) \tag{4}$$

$$R = \left[r_j\right]_{1 \times n}' = \left(\sum_{i=1}^{n} t_{ij}\right)_{1 \times n}' \tag{5}$$

where the superscript '' denotes transpose.

Using *D* and *R*, we can create a causal diagram. In this diagram, with respect to the total relation matrix *T*, the sum of rows and the sum of columns are separately meant as vectors *D* and *R*. The horizontal axis vector (*D* + *R*), named Prominence, gives us an index showing the total effects both given and received by factor *i*. In other words, (*D* + *R*)$_i$ reveals the degree of importance (total sum of effects given and received) that factor *i* plays in the system. Similarly, the vertical axis vector (*D* – *R*), named Relation, may divide factors into a causal group and an effect group. Based on the above statements, if (*D* – *R*) is positive (causal group), then the factor is a net causer dispatching the effects to the other factors. By contrast, if (*D* – *R*) is negative (effect group), the factor is a net receiver receiving the influences from the others. Thus, the higher values of (*D* – *R*) show that the factors have more effects on the others. Put differently, the lower values of (*D* – *R*) mean that they take more effects from the others. Therefore, the causal diagram can be obtained by mapping the data set of (*D* – *R*, *D* – *R*), providing valuable insight for making decisions (Tzeng et al., 2007; Wu, 2008; Ou Yang et al., 2009; Chen et al., 2011; Wu et al., 2011; Yang and Tzeng, 2011; Chiu et al., 2013; Wang and Tzeng, 2012; Wu, 2012).

Step 5. Set up a threshold value to obtain the digraph. In order to illustrate the structural relation among the factors while keeping the complexity of the whole system to a manageable level, it is essential to set a threshold value *p* to eliminate some insignificant effects in matrix *T*. Only some criteria, whose effects in matrix *T* are greater than the threshold value, should be chosen and shown in an inner dependence matrix (Tzeng et al., 2007; Ou Yang et al., 2009; Yang and Tzeng, 2011; Wu, 2012). In this paper, the threshold value has been decided by experts.

Table1   Description and references of KPIs for CRM

Perspectives	KPIs	Elements	References
Financial	(F1) Profitability	Sales probability, assets probability, equity probability	Chen et al. (2011); Garrido-Moreno and Padilla-Meléndez (2011); Keramati et al. (2010); Kim and Kim (2009); Reinartz et al. (2004); Roh et al. (2005); Tseng (2010); Wu (2012); Wu et al. (2009); Wu and Lu (2012)
	(F2) Cost savings	Cost reduction, cost avoidance	Garrido-Moreno and Padilla-Meléndez (2011); Payne and Frow (2005); Tseng (2010); Wu et al. (2011); Wu and Lu (2012)
Customer	(C1) Customer satisfaction	Satisfied customer ratio	Chang et al. (2010); Chen et al. (2011); Garrido-Moreno and Padilla-Meléndez (2011); Keramati et al. (2010); Kim and Kim (2009); Kim et al. (2003); Mithas et al. (2005); Öztayşi et al. (2011); Roh et al. (2005); Tseng (2010); Wang et al. (2004); Wu (2012); Wu et al. (2009); Wu et al. (2011); Wu and Lu (2012)
	(C2) Customer loyalty	RFM (recency, frequency, monetary)	Chang et al. (2010); Chen et al. (2011); Garrido-Moreno and Padilla-Meléndez (2011); Kim and Kim (2009); Roh et al. (2005); Öztayşi et al. (2011); Wang et al. (2004)
	(C3) Customer perceived value	Functional value, social value, emotional value, perceived sacrifices	Kim and Kim (2009); Kim et al. (2003); Öztayşi et al. (2011); Payne and Frow (2005); Wang et al. (2004)
Internal process	(P1) Customer acquisition	Segmenting and targeting customers, campaign management, lead management	Kim and Kim (2009); Öztayşi et al. (2011); Ngai et al. (2009); Reinartz et al. (2004)
	(P2) Customer retention	Customer care management, complain management	Chen et al. (2011); Garrido-Moreno and Padilla-Meléndez (2011); Kim and Kim (2009); Öztayşi et al. (2011); Ngai et al. (2009); Reinartz et al. (2004); Wu et al. (2011); Wu and Lu (2012)
	(P3) Customer expansion	Upselling and cross-selling, customer life time value, referral management	Kim and Kim (2009); Öztayşi et al. (2011); Ngai et al. (2009); Reinartz et al. (2004)

Table1   Description and references of KPIs for CRM (continued)

Perspectives	KPIs	Elements	References
Learning and growth	(L1) Organisation capital	Customer-centric culture teamwork, innovation, management attitude, management commitment, setting CRM goals, reward system and training program, knowledge sharing	Becker et al. (2009); Chang et al. (2010); Chen and Popovich (2003); Garrido-Moreno and Padilla-Meléndez (2011); Greve and Albers, 2006; Keramati et al. (2010); Kim and Kim (2009); Öztayşi et al. (2011); Sin et al. (2005); Tseng (2010); Wu (2012); Wu et al. (2009)
	(L2) Human capital	Employee productivity, employee behaviour, employee satisfaction, employees' knowledge and skills	Becker et al. (2009); Chen and Popovich (2003); Chen et al. (2011); Garrido-Moreno and Padilla-Meléndez (2011); Keramati et al. (2010); Kim and Kim (2009); Wu (2012); Wu et al. (2009)
	(L3) Information capital	Databases, information systems, analytical tools, front office and back office	Becker et al. (2009); Chen and Popovich (2003); Garrido-Moreno and Padilla-Meléndez (2011); Greve and Albers, 2006; Keramati et al. (2010); Kim and Kim (2009); Kim et al. (2003); Öztayşi et al. (2011); Payne and Frow (2005); Reinartz et al. (2004); Sin et al. (2005); Zablah et al. (2004)

4   Empirical analysis

Motivated by the literature discussed above, this study conducts an empirical analysis by choosing a major ISP firm located in Iran as an example. ISP firms are suitable for CRM research because of their various characteristics such as having a large customer base, intensive use of various channels, low switching costs and market pressure to differentiate from competition**.** In a firm, a committee of experts (i.e. senior manager, IT manager, sales manager, marketing manager) who have years of experience participates in data collection for each phase.

4.1   DEMATEL technique for building a network relationship map

In this section, to capture complex casual relationships among perspectives and KPIs and construct a strategy map, the DEMATEL questionnaires about the mutual direct influence (scores ranging from 0 to 4 which represent different influential extents) between each pair of four BSC perspectives and 11 KPIs were given to managers and experts of an ISP company to fill them regarding their own knowledge on the issues.

    After averaging all experts' scores, the normalised direct influence matrix of four perspectives is produced by equations (1) and (2). In the following, the matrix of total relations between the four perspectives and between the KPIs is calculated according to equation (3) as shown in Tables 2 and 3.

Table 2   The matrix of total relations of the four BSC perspectives

Perspectives	F	C	P	L
F	**0.446**	0.436	**0.531**	**0.593**
C	**0.793**	**0.454**	**0.600**	**0.563**
P	**0.920**	**0.909**	**0.573**	**0.694**
L	**1.010**	**0.983**	**0.955**	**0.621**

Note: Numbers in bold are the perspectives which reach the threshold (0.437).

Table 3   The matrix of total relations of the KPIs

Indicators	F1	F2	C1	C2	C3	P1	P2	P3	L1	L2	L3
F1	0.218	0.224	0.214	0.209	0.214	**0.275**	**0.290**	**0.292**	**0.301**	**0.279**	**0.266**
F2	**0.272**	0.155	0.211	0.195	0.209	0.177	0.189	0.184	0.257	0.213	0.214
C1	**0.407**	**0.346**	**0.290**	**0.389**	**0.362**	**0.333**	**0.370**	**0.372**	**0.380**	**0.364**	0.246
C2	**0.397**	**0.348**	**0.358**	**0.283**	**0.357**	**0.328**	**0.371**	**0.373**	**0.374**	**0.359**	0.243
C3	**0.451**	**0.378**	**0.421**	**0.419**	**0.313**	**0.378**	**0.393**	**0.395**	**0.407**	**0.389**	0.261
P1	**0.358**	**0.323**	**0.372**	**0.344**	**0.385**	**0.262**	**0.372**	**0.347**	**0.368**	**0.346**	0.235
P2	**0.437**	**0.383**	**0.443**	**0.442**	**0.445**	**0.369**	**0.332**	**0.438**	**0.427**	**0.395**	0.257
P3	**0.410**	**0.364**	**0.416**	**0.414**	**0.418**	**0.351**	**0.374**	**0.313**	**0.405**	**0.375**	0.260
L1	**0.455**	**0.393**	**0.437**	**0.433**	**0.435**	**0.437**	**0.467**	**0.466**	**0.371**	**0.470**	**0.373**
L2	**0.435**	**0.400**	**0.432**	**0.428**	**0.430**	**0.413**	**0.441**	**0.439**	**0.434**	**0.335**	**0.314**
L3	**0.288**	**0.263**	**0.269**	**0.264**	**0.268**	**0.286**	**0.303**	**0.304**	**0.298**	**0.297**	0.165

Note: (1) Numbers in bold are the KPIs which reach the threshold (0.262)

Also, $(D + R)$ and $(D - R)$ of the four perspectives and KPIs which assign them into cause and effect groups obtained by equations (4) and (5) are given in Tables 4 and 5.

Table 4   Results of $D + R$ and $D - R$ for perspectives

Perspectives	F	C	P	L
$D + R$	5.174	5.190	5.754	6.040
$D - R$	−1.163	−0.371	0.437	1.097

Table 5   Results of $D + R$ and $D - R$ for KPIs

Indicators	F1	F2	C1	C2	C3	P1	P2	P3	L1	L2	L3
$D + R$	6.910	5.853	7.722	7.613	8.041	7.320	8.271	8.023	8.755	8.321	5.840
$D - R$	−1.346	−1.299	−0.005	−0.029	0.368	0.103	0.465	0.180	0.714	0.677	0.172

Regarding results, learning and growth is the most crucial perspective among four perspectives; therefore, it should be a priority for improvement. Afterwards, internal process, customer and financial perspectives are next in the ranking, respectively. Moreover, the $D - R$ values for the financial and customer perspectives are negative, meaning that these perspectives are net receivers and are greatly influenced by other perspectives.

By the same token, the organisation capital factor has the highest priority among the criteria. Namely, it is a foundation for improving other factors. Human capital, customer retention process, customer expansion process, customer value and customer satisfaction are other some key factors, respectively. In a like manner, the negative values of $D - R$ for customer satisfaction, customer loyalty, cost reduction and profitability imply that these criteria are located in effect group and influenced by other criteria.

Figure 1 shows the casual relationships among perspectives. In this study, in order to eliminate the trivial connections obtained from the DEMATEL analysis, the thresholds are chosen to be 0.437 and 0.262 for the four perspectives and for the 11 criteria, respectively (according to experts' opinion). Therefore, CRM strategy map can be delineated according to the matrix T (matrix of total effects) (Table 3). This network is represented in Figure 1.

Figure 1   Framework of relationship network for CRM
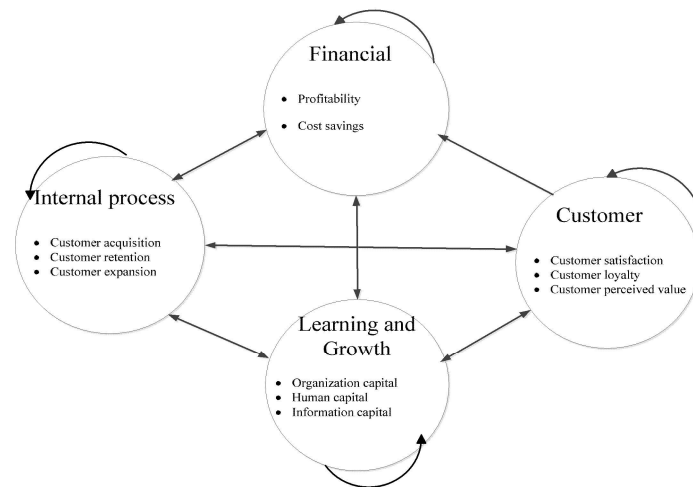
5   Discussion

This study proposes several interesting insights into the study of successful CRM implementation.

Firstly, since CRM is a multidimensional concept, this study uses the BSC approach to provide managers with a whole set of interdependent evaluation indicators needing to navigate the future competitive success of organisations. In choosing these criteria, we attempt to integrate the various perspectives on CRM upon previous relevant studies (e.g. Chen and Popovich, 2003; Kim and Kim, 2009; Payne and Frow, 2005; Sin et al., 2005; Richards and Jones, 2008; Zablah et al., 2004) to create a deeper understanding of CRM. Being simpler, more complete and more comprehensive are some advantages of this approach.

Secondly, in contrast to other studies in the field of CRM which present one-way relationships among elements which almost begin with the 'learning and growth'

perspective and end in financial aspect, in this study, bilateral causal relationships between CRM indicators are extracted by the DEMATEL method which provides detail insights for managers into how they affect and reinforce each other. While the casual relationships which are obtained in this study incorporate connections obtained in previous studies (e.g. Kim and Kim, 2009; Öztayşi et al., 2011), more interdependencies among the criteria are also revealed.

For example, it is found that the customer perspective influences the internal process perspective. The reason for this can be that if a company has more satisfied and loyal customers, internal processes can be done more efficiently and effectively or attract customers and retain more customers by word of mouth, etc. Also, the financial perspective influences the internal process perspective because if a firm earns much more profit, it can invest on the customer acquisition, retention and expansion processes better; for instance, it can run campaign management or a more appropriate loyalty program. The financial perspective influences the learning and growth perspective too. This can mean that if organisations earn more profit from CRM implementation, attitude and commitment of managers towards it may improve or they can have more satisfied employees with more appropriate reward systems; consequently, employees may have more productivity. Therefore, through this casual model with a more comprehensive view, organisations can trace reasons for the success or failure of CRM system better.

Thirdly, in comparison with the previous structure which has focused only on the generic framework of the four BSC perspectives for CRM performance measurement, this study applies the DEMATEL method to determine the interrelationships among criteria, and attempts to find the crucial central and influential factors. Therefore, the results of this study demonstrate a way for companies to better invest resources in the facets which require enhancement the most. According to results of the DEMATEL method, the learning and growth perspective has the highest value of $D + R$ which means that it has the strongest relationship with other aspects and as a result plays an essential role in the success of CRM implementation. In the internal process, customer and financial perspectives are next in this ranking. On the other hand, regarding the results of $D - R$, the perspectives can be divided in two groups: effect and cause group. Since learning and growth and internal process perspectives have a positive $D - R$ value, they are in the cause group. On the other hand, the financial and customer aspects have a negative $D - R$ value and, as a result, are located in the effect groups. These results indicate that if firms want to have more satisfied and loyal customers and to earn much profit, they should first pay attention to their learning and growth perspective and then the internal process. For example, if an organisation has a customer-centric culture, it should identify CRM goals, set a procedural and continuous employee training program, top management should have commitment to implement CRM, employees should have suitable knowledge, skill and behaviour, etc. Companies can be successful in other perspectives. This is consistent with the findings of Kaplan and Norton (1996b) that higher level goals (customer and financial perspectives) can be improved by focusing on lower level objectives (learning and growth and internal process perspectives). This convergence between DEMATEL and BSC results seems worthwhile.

Fourthly, information capital criterion in learning and growth perspective has a low priority meaning that CRM objectives can be accomplished without enormous investments in technology (Rigby et al., 2002). To put it in another way, several studies indicate that one of the primary reasons for CRM failure is that organisations suppose CRM has to be technology intensive and therefore more advanced CRM technology is

much better, whereas they can implement CRM successfully simply by methods such as setting explicit CRM goals or motivating employees to be informed of customer needs (Becker et al., 2009; Garrido-Moreno and Padilla-Meléndez, 2011; Greve and Albers, 2006; Keramati et al., 2010; Reinartz et al., 2004; Sin et al., 2005).

Finally, the results of this study show that customer-perceived value plays an important role in the success of CRM. This factor has not attracted a lot of attention in previous studies. However, firms should note that customer value is a strategic weapon in creating satisfied and loyal customers (Wang et al., 2004). Nowadays, organisations have equal or immense opportunities to access the same resources containing talents, technology and information, so they should try to distinguish themselves from others and customer value is the most appropriate tool to make all the difference between firms offering similar products and services (McFarlane, 2013).

6   Conclusions and implication

Enhancing the effectiveness of CRM has become a significant issue for both academics and practitioners in recent years. As a matter of fact, organisations cannot improve their performance by simply introducing a CRM system. They must recognise not only the key criteria but also the impact that they have on others (Kim and Kim, 2009). In other words, if managers can identify major factors and interaction among them, they can develop their strategies accordingly, and consequently sustainable competitive advantage in the very intense market competition will be possible for them.

Regarding this significant motivation, this study first discusses some key constructs of CRM on the basis of a strategy-related BSC perspective; afterwards, the DEMATEL method is used to determine the interrelationships among criteria and, consequently, to find the crucial central and influential factors in order to improve the effectiveness of CRM. It is hoped that this research helps both academics and business practitioners by enhancing their understanding about CRM.

According to obtained results, organisation capital, human capital, customer retention process, customer perceived value and customer expansion process are the most critical factors influencing the effectiveness of CRM. Therefore, if organisations want to improve their CRM performance and have better financial outcomes, they shall focus on these key constructs. For example, setting CRM goals, having customer-centric culture, enhancing employees' CRM skills with proper activities (such as training programs), having high degree of teamwork, providing appropriate reward and delegation systems regarding CRM, handling customer complaints effectively and performing customer care programs and so on can help organisations to improve CRM effectiveness.

Furthermore, one of the primary reasons for CRM failure is that organisations suppose CRM has to be technology intensive and therefore a more advanced CRM technology is much better; however, CRM does not begin with technology, but technology is a tool to facilitate CRM efforts. So just investing in CRM technology cannot create value for organisations. Indeed, managers should perceive what CRM objectives they want to follow, what processes they are going to support and what advantageous they want to gain. Afterwards, they can choose the suitable technological CRM resources to afford support for their CRM processes (Keramati et al., 2010).

7   Limitation of the study and implications for future research

First, during the implementation of the DEMATEL model, the respondents had to give the exact values to pair-wise comparisons to determine the relative importance between the criteria. This process was difficult because it was not always easy to choose a crisp number that shows the relative importance of the criteria. To improve the implementation of the DEMATEL model, it is better to use the fuzzy set theory by introducing imprecise/fuzzy data. Furthermore, our results can be generalised in other industries; however, it is important that future studies apply this framework to other industries and compare the results. Another suggestion for future research is that other MCDM techniques (i.e. DEA, ANP, etc.) can be used to conduct a comprehensive performance evaluation of the firms.

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