

Assimilating Customer Knowledge and Market Orientation into a Single Coherent Perspective: A Literature Analysis

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Abstract: Over the past decade and during the early millennium, customer knowledge had received fair share of interest among the marketing academia. Having its origins deeply rooted from the Knowledge Management (KM) concept its deployment went beyond conventional themes such as human resources, organizational learning and management information systems. From the traditional KM perspective, organizational theorists believed that collective knowledge held by the employees about their work processes gave them specific advantage in getting them to improvise their tasks output. By adapting the same view into the marketing perspective, knowledge utilized by the employees about their customers is expected to help them in gaining longer relationships and better satisfaction from the customers. Therefore, customer knowledge is seen as customer-relationship specific information that is generated, shared and being acted upon. Such notions portrayed close resemblances with the market orientation concept which is widely used to illustrate market capabilities among firms. Since, the extant literature seldom delves into customer knowledge and market orientation concepts, this study intends to classify the various related constructs and models into a two-by-two matrix. The Customer Knowledge-Market Orientation (CK-MO) matrix is classified into customer knowledge process (input versus output) and contextual level (organizational versus individual). Based on the matrix, it is concluded that both customer knowledge and market orientation concepts are highly relevant and share common similarities. Thus, both concepts are ought to be integrated into a single holistic CK-MO view by researchers who wish to venture deeper into these fields. By using the term 'integration', this study does not intend to combine both concepts into a single construct but rather treat them as complementing concepts. The CK-MO matrix may also benefits practitioners in terms of weighing the benefits and risks posed by each models presented in the grid.

Key words: Market orientation, customer knowledge, marketing, knowledge management, traditional

INTRODUCTION

Knowledge could be seen as information that has been anchored to and interpreted based on personal experiences, skills and competences (Simon, 1991). The knowledge management literature draws a systematic connection between data, information and knowledge (Davenport and Prusak, 1998) in which the latter can be classified as either in the form of tacit or explicit knowledge (Nonaka, 2008; Nonaka and Teece, 2001). Widely recognized as indispensable capability that empowers firms from the perspectives of human resource, organizational learning and strategic management, the concept of knowledge management has evolved to yield benefits in the aspects of sales, marketing and consumer behavior.

The trend among firms is slowly moving from the focus on managing internal knowledge into managing external knowledge. Reliance on external knowledge can be beneficial because the firm may spend lesser time as compared to the dependency on internal knowledge which development process can be time-consuming (Wilde, 2011). The employees are no longer considered as the sole source in generating a firm's knowledge capabilities. Since, external knowledge comes from customers, competitors and suppliers, the internalization of such external knowledge may potentially increase firm's market competitiveness (Tseng, 2009; Yenyurt *et al.*, 2005). Customer knowledge refers to customer relationship-specific knowledge that is translated and disseminated in an organization which either can be explicit (structured information) or tacit customer

knowledge (knowledge in minds of employees and customers) (Rollins and Halinen, 2005). In this regard, the term ‘customer’s is not only limited to revenue contributing customers but also includes suppliers, regulators and the market.

The primary justification that unifies the concepts of knowledge and marketing is that knowledge does not only encompass organizational learning (internal) but also learning from the market (external). This includes firms adapting their offerings to suit the market’s needs and wants which is nevertheless preceded by getting to know what their customers really want in the first place. As the firm comprises of segmented groups that are functionally separated (management silos) complexities and misinterpretation of customer knowledge may occur without a proper information dissemination process. In the end, it is the firm’s revised product or service outcomes matter most in the eyes of the customers. The above explained phenomenon is actually reflected in a theoretical model which sits at the cornerstone of the marketing literature which is market orientation.

Market orientation is defined as “the ability of a firm to generate knowledge about markets and use this knowledge in its business processes for the creation of superior customer value” (Raaij and Stoelhorst, 2008). They reckoned that the market orientation theory helps to explain why some companies manage to outperform others.

MATERIALS AND METHODS

A unified view of customer knowledge and market orientation: The theoretical underpinnings of customer knowledge stem from the fact that knowledge can be internalized and externalized among individuals in a systematic way (Nonaka and Teece, 2001). In the case of knowledge management, employees are the main learner and communicator while organizational capabilities are regarded as the ‘knowledge’ that is subjected to change according to the individual employee’s learning and communication process. In brief, it is an intra-organizational knowledge creation mechanism that binds discrete memories into a structured repository that is accessible to internal employees.

Customer knowledge pushes this boundary by involving external organizational units as part of the knowledge that is being learnt and communicated within the firm. These units are customers which may not be limited to revenue contributing buyers or service/product recipients. In general, the term ‘customer’ may also

include the market, suppliers, stakeholders and regulators. Hence, customer knowledge follows the route of traditional KM which depends on the similar types of resources (people, information, process and technology) but having different emphasis in terms of information orientation. The term ‘information’ is more oriented on customers as opposed to KM’s traditional emphasis on employees and firms.

For over the past decade, literature has not seen much of the customer knowledge concepts being discussed quantitatively; majority of the works are based on content reviews, case studies and interview. Table 1 highlights the evolution of customer knowledge into various concepts and models.

While previous studies on customer knowledge were done epistemologically, recent trend has seen that customer knowledge have been studied as a form of gradational conduct. Within the area of knowledge management, Nonaka (2008) SECI (Socialization, Externalization, Combination and Internalization) model was used as the foundation for Tseng (2010)’s Knowledge Management Process (KMP) measure that comprises of eight items. Meanwhile, process-based view of customer knowledge surfaces through the validation of the Relational Information Processing (RIP) measure by Jayachandran *et al.* (2005). It deals with the reciprocity, capture, integration, access and use of customer knowledge in a two-way interaction between the firm and its customers. The study provided ample breakthrough for other researchers to further advanced studies on customer knowledge quantitatively.

Lately, there have been a handful of instruments that directly measure customer knowledge, namely Customer Knowledge Processing or CKP (Salojarvi and Sainio, 2010) and customer knowledge flows (Zahari *et al.*, 2013). As such quantitative findings are regarded as scarce in the extant literature, the latest empirical findings by Salojarvi and Sainio (2010) and Zahari *et al.* (2013) may suggest the emergence of customer knowledge as a managerial process and conduct that can be objectively measured and analyzed. Such similar perspective is shown by market orientation concept that is proposed by Kohli and Jaworski (1990) who defined it as the organization wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments and organization wide responsiveness.

Although, market orientation exists to explain different paradigms such as culture (Narver and Slater, 1990) and customer oriented effort (Deshpande *et al.*, 1993), it is Kohli and Jaworski (1990)’s concept of market

Table 1: Historical literature on customer knowledge

Researcher (year)	Construct/Concept	Methods	Summary
Garcia-Murillo and Annabi (2002)	Customer knowledge	Conceptual model based on content analysis	Postulated that individualized customer interactions provide more tacit and richer content compared to transactional data stored in databases. Proposed a three-step process which points to the customer as someone holding knowledge and seeking new information. Classified as knowledge revealing, levelling and sorting
Gebert <i>et al.</i> (2002)	Customer knowledge flows	Qualitative study of nine stakeholders involved in customer-oriented projects	Highlighted three customer knowledge flows in CRM: knowledge for about and from customers
Salomann <i>et al.</i> (2005)	Customer knowledge management	Interview of 3 large companies	Good practices in each of the three customer assimilated flows from three case studies are assimilated to form a managerial framework consisting of strategy, processes, systems and change management
Rollins and Halinen (2005)	Customer knowledge management competence	Theoretical analyses of CKM competence	Five areas of CKM competence: interfunctional cooperation, organizational systems, cooperation with customers, supportive IT systems and supportive organizational culture
Salojärvi and Sainio (2010)	Customer Knowledge Processing (CKP)	Quantitative	Established psychometric properties of CKP: acquisition, dissemination and utilization of customer knowledge
Belkahla and Triki (2011)	Customer Knowledge-Enabled Innovation (CKEI)	Qualitative-Interview of 14 managers from tunisian banks	Proposed a pool of 60 raw items which measures the organization's extent of value co-creation with their customers
Zahari <i>et al.</i> (2013)	Customer knowledge flows	Instruments developed based on works by Belkahla and Triki (2011)	Empirically explored the dimensions of CKM: knowledge for customers, knowledge about customers and knowledge from customers

orientation which shows the closest similarity to the firm's conduct pertaining to customer knowledge. Recently, Wagner and Eggert (2016) iterated that marketing orientation comprises both upstream and downstream activities where the knowledge that is disseminated in the firm should not only concern customers but also suppliers. The definition of customer knowledge that involves suppliers is consistent with the ideas by Rollins *et al.* (2011), Shammari (2009) and Tseng (2009).

Salojarvi and Sainio (2010) developed their CKP measure based from the researcher by Kohli *et al.* (1993). The recent classification of customer knowledge construct into process-based dimensions (Salojarvi and Sainio, 2010) is not distant from Kohli and Jaworski (1990)'s original interpretation of market orientation. Specifically, the process of customer knowledge management which involves generating, disseminating and utilizing customer knowledge (Rollins and Halinen, 2005; Salojarvi and Sainio, 2010) is a reflection of market orientation's corresponding factors which are intelligence generation, intelligence dissemination and responsiveness (Kohli and Jaworski, 1990). As the MARKOR model progresses and evolves over time, the context of market orientation is transported from organizational to individual units. Individual market orientation or I-MARKOR construct is established by

Schlosser and McNaughton (2009) to investigate individual and behavioral aspects of market orientation and customer knowledge among employees.

Due to the fact that the emergence of the customer knowledge concept is rather recent as compared to market orientation, there are very limited studies that demonstrate convergence or divergence validities of both concepts. Despite the fact, Chien highlighted the existence of convergent validity between knowledge management and market orientation constructs, the correlation between the two was very high (0.92) and thus concluded that firms with high levels of market-orientation will most likely perform very well in terms of the implementation of knowledge management strategies. In spite of the finding, Chien did not rule out the possibility of knowledge management practices becoming the antecedent of market orientation. The suggested inference was supported in subsequent study by Wang *et al.* (2009) who found that knowledge management orientation is a predictor of market orientation. Nevertheless, certain studies indicate a contradicting reverse relationship between the two variables. For instance, market orientation was found to have positive effect on customer knowledge development (Chang and Yeh, 2009).

A workforce unit that does not adopt a 'customer knowledge-friendly culture' may find it very difficult to produce the desired market oriented behaviors. For instance, a case study done by Borjesson and Dahlsten

Table 2: Studies on both customer knowledge and market orientation

Researchers (year)	Methods	Summary
Börjesson and Dahlsten (2004)	Case study among 300 managers across 27 task forces at volvo cars	The lack of change initiative, cross-functional customer knowledge generation and customer interaction are identified as the barriers towards market orientation development
Chien (2006)	Mixed method involving 5 practitioners (focus group) and 398 managers from 51 Taiwanese hotels (survey)	Market orientation has a positive effect on the implementation of KM strategies. Market orientation scale is re-validated for use in hospitality context
Wang <i>et al.</i> (2009)	Quantitative survey involving 213 UK-based firms	Market orientation fully mediates the relationship between knowledge management orientation and firm performance
Chang and Yeh (2009)	600 R and D and marketing managers from Taiwan-based industries	Customer knowledge development is found to be positively influenced by market orientation

Table 3: KMP, CKP and MARKOR constructs

Factors	KMP	CKP	MARKOR
Dimensions	Knowledge generation, Knowledge sharing and Knowledge utilization	Customer knowledge acquisition, Customer knowledge dissemination, and Customer knowledge utilization	Intelligence generation, intelligence dissemination and Strategic response
Proponent	Gold and Arvind (2001) and Zheng <i>et al.</i> (2010)	Salojarvi and Sainio (2010)	Kohli and Jaworski (1990)
Key actors	Employees	Employees and customers	Employees, customers and external forces that influence customer's needs
Perspective	Inside the organization	In customer interface and inside the organization	In market interface and inside the organization
Purpose	Through effective acquisition, dissemination and application of knowledge, the performance of a business can be improved	Gaining knowledge from customers, sharing it within the organization and utilizing it to create value for customers	By externally collecting and internally exchanging information pertaining to current and future customer needs and competitors, a firm can provide effective response to customers

(2004) among Volvo Car's front-line managers found that most of them are lacking in terms of gathering, sharing and responding to customer knowledge. Such reluctance among them to embrace change in the way they treat customer knowledge hinders the pursuit towards market orientation development. An example is that the firm's internal quality considerations have been found to overrun the customer satisfaction feedbacks which happens to be the conventional way of getting the work done. Such failure to inculcate culture at volvo cars may be attributed to the short six month period allocated for the customer knowledge project. Long-term and incremental effort is required in order for market-oriented values and behaviors to be successfully acculturated among the employees (Harris and Ogbonna, 2000).

Based on this evidence, customer knowledge and market orientation is assumed to function in tandem with each other, regardless of either as an antecedent or outcome variable. The nature of market orientation does not appear to be dichotomous (seen as either market oriented or not market oriented) but should be seen as a continuous learning process involving proactive use of customer knowledge by the whole firm (Borjesson and Dahlsten, 2004). Similarly, customer knowledge process is also not dichotomous due to the fact that every profit making firm depends on its knowledge about customers and the knowledge that arises from their interactions.

Despite of its scarcity, the empirical studies on customer knowledge were linked with performance as the

final antecedents (Zahari *et al.*, 2013, Salojarvi and Sainio, 2010). Batto *et al.* (2008) argued that market orientation is a critical knowledge-based capability (aside from CRM, organizational learning and innovation) which a firm needs to master in order to perform. Furthermore, it was found that customer knowledge exchange with partners positively moderates the relationships between market orientation and innovation outcomes (Fang *et al.*, 2012) (Table 2).

The process-based perspective of information relay that involves interaction between the firm and the customers is considered essential to form meaningful customer relationships. Definitely, such interaction requires the presence of customer knowledge and at the same time requires the firm to be market oriented in dealing with customers. Without proper informational relay process, even state-of-the-art databases and systems would not be able to provide useful assistance. The reason why CRM might not be able to deliver customer relationship performance outcomes may be attributable to the lack of relational information process (Jayachandran *et al.*, 2005). The close ties between customer knowledge and market orientation concepts are further amplified by the establishment of empirical constructs that are similarly broken down into several task processes. The process begins with generation followed by dissemination and concluded by responsive actions. The similarities are show in Table 3 which compares MARKOR with Knowledge Management Processing

(KMP) and Customer Knowledge Processing (CKP) constructs. The common theme in the empirical constructs is clearly indicated by each respective dimension. It revolves around a three-step relational information conduct exhibited by the firm's employees. Jayachandran *et al.* (2005) were among the earliest to investigate CRM using relational information process view of customer knowledge with processes that involve reciprocity, capture, integration, access and use of information. However, the five-step process is simplified into a three-step process that consists of acquiring, sharing and using of knowledge. The recent glaring evidence that supports the conceptual integration between market orientation and customer knowledge is the establishment of the customer knowledge processing construct (Salojarvi and Sainio, 2010) which is comprehensively based on Kohli and Jaworski (1990)'s interpretation of market orientation framework.

RESULTS AND DISCUSSION

Classification of Customer Knowledge-Market Orientation (CK-MO)

Approach used in the classification of CK-MO: A clear framework of customer knowledge that is based on the market orientation theory is evidently scarce. The vast interpretation of customer knowledge based on qualitative findings (Garcia-Murillo and Annabi, 2002; Gebert *et al.*, 2002) is contributing to the complexity of defining and categorizing it. Thus, the purpose of Customer Knowledge-Market Orientation (CK-MO) classification is to elucidate and simplify the classification of important studies pertaining to customer knowledge and market orientation. Two main criteria that are supportive for such integration (customer knowledge and market orientation) to be classified are as follows.

Contextual unit (firms versus individual employees):

Customer knowledge and market orientation can be considered as sets of interpersonal conduct that depend on the individual employee (Garcia-Murillo and Annabi, 2002; Schlosser and McNaughton, 2009) as well as collective conduct that depends on the competence of a firm (Rollins and Halinen, 2005; Salojarvi and Sainio, 2010).

Process direction (input versus output): With regard to the perspective of market orientation as a conduct (Kohli and Jaworski, 1990) customer knowledge is actually the central subject of the said conduct. Customer knowledge is distributed through intra-organizational

process that starts with input from multiple knowledge sources and ends with output of value creation (Salojarvi and Sainio, 2010).

The first criteria concerns with contextual unit; whether the level of analysis investigated is either organizational or individual in nature. In the extant literature, market orientation and customer knowledge are widely investigated through various contexts ranging from firms (organization) the employees of the firms (individual) and even the firm's customers (individual). Research configuration in marketing and sales studies may also employ multi-level analysis (individual and higher-level) when establishing the relationships between predictor and criterion variables which advantages include cost efficiency and potential of explaining higher variance (Johnson *et al.*, 2014).

The second criterion, customer knowledge process, reflects the progressive role of customer knowledge from input (source) into output (result). Customer knowledge is stored, retrieved and communicated across various interfaces; namely, customer-to-employee, employee-to-employee, firm-to-employee and also inter-organization. Several articles explicitly describe customer knowledge process which are the relational flow in two-way customer interactions between providers and customers (Gebert *et al.*, 2002; Jayachandran *et al.*, 2005) intra organizational customer knowledge process consistent with market orientation conduct (Salojarvi and Sainio, 2010) and the 'inside-out' versus 'outside-in' approach (De Luca *et al.* 2007).

By referring to the third point, orientation towards knowledge management activities by emphasizing on the output of firm's internal resources and capabilities are described as 'inside-out' while market-oriented activities that focused on the input from the firm's external environment (such as customers, market, competitors) are classified as 'outside-in' (Saeed *et al.*, 2015; Wang *et al.*, 2009). Day's interpretation of inside-out is based on a model consisting of financial management, cost control, technology development, logistics, manufacturing, human resources and environmental health and safety.

Customer knowledge process is an intra organizational practice involving input from multiple knowledge sources and customer value creation as the output (Salojarvi and Sainio, 2010). Input of customer knowledge involves the creation and the acquisition of knowledge about customers by a service provider. Its relevancy with market orientation is justified based on the similar nature of the intelligence acquisition process (Kohli and Jaworski, 1990). This process can also be related to as gaining knowledge from customers

Table 4: Contextual and process-based CK-MO typology

Dimensions C	Customer knowledge process	
	Input of customer knowledge	Output of customer knowledge
Organizational market orientation	Firm-wide market orientation conduct pertaining to acquisition and understanding of customer knowledge	Responsive firm-wide market orientation conduct that includes customer knowledge dissemination and utilization
Individual market orientation	Interpersonal market orientation conduct pertaining to acquisition and understanding of customer knowledge	Responsive interpersonal market orientation conduct that includes customer knowledge dissemination and utilization

(Gebert *et al.*, 2002). However, customer knowledge may come from the firm’s internal knowledge management practices involving the ‘inside-out’ process (Saeed *et al.*, 2015).

Meanwhile, output of customer knowledge refers to the market orientation efforts of a firm or employee in conducting responsive actions towards the customers that are preceded by customer knowledge dissemination and utilization. In market orientation, the specific process involved is the coordination of strategic response (Kohli and Jaworski, 1990). Based on the above explanation, a 2 by 2 matrix that classifies customer knowledge and market orientation is shown in Table 4.

Definition of CK-MO matrix elements: The following are the brief description of the four elements of the CK-MO typology.

Input of customer knowledge at the organizational market orientation level: It is the process of acquiring and gaining customer knowledge whether internally or externally. From the internal perspective, the concept is also consistent with the ‘inside-out’ business strategy of getting tacit knowledge among employees (about their customers) to be explicitly known, exchanged and transformed into firm-wide capabilities (Arnett and Wittmann, 2014; Perez *et al.*, 2016). Meanwhile, external acquisition of customer knowledge or ‘outside-in’ approach involves knowledge and resources that reside outside the firm (Saeed *et al.*, 2015).

Output of customer knowledge at the organizational market orientation level: It involves a firm’s collective effort in getting the right customer knowledge disseminated and utilized among the relevant parties. The results are responsive actions to address customer’s concerns, unmet needs or future requirements. Customer knowledge that is properly shared and notified by employees across the relevant departments will bring positive impact on the firm’s utilization of that knowledge into actions, thus in turn will lead to higher customer satisfaction and profitability (Rollins *et al.*, 2012).

Input of customer knowledge at the individual market orientation level: The market orientation effort depends on employee’s individual capacity in acquiring and absorbing the necessary knowledge from customers. This personalized knowledge will be advantageous to employees when encountering with future interactions with customers, if the knowledge is properly circulated and shared with others within a firm. Besides, a simpler organizational structure and higher participation in cross-functional interactions inside a firm enable employees to better acquire knowledge about their customer’s needs (Zhu, 2014).

Output of customer knowledge at the individual market orientation level: It is the personal conduct of providing and coordinating response directly to customers. Such provision of responsive actions or assistance should be based on decisions that are supported by proper utilization and dissemination of customer knowledge possessed by an individual employee. Customer knowledge needs to be optimally utilized in order to produce the right response. As the number of interactions with customers increases, employees will learn to become adept in developing strategic responses (Schlosser and McNaughton, 2009; Tseng, 2009). Their learning process is further amplified especially when their superiors act as role models in diffusing positive market oriented behaviors (Lam *et al.*, 2010).

Classification of the CK-MO literature

Method: In conducting this literature analysis, online databases were used to search and retrieve full text scholarly articles which contain the word “customer knowledge” and “market orientation” or “marketing”. The selected online indexing databases were scopus, science direct is I-Thomson web of science is I-Thomson conference proceedings citation index, Taylor and Francis, JSTOR, Proquest/ABI inform, emerald insight, wiley, sage and springer. To ensure the choice of literature is credible, only the abovementioned indexed databases or publications are included in the study. Out of these journals, all issues published from 2000-2015 were screened before being added to be analyzed in the

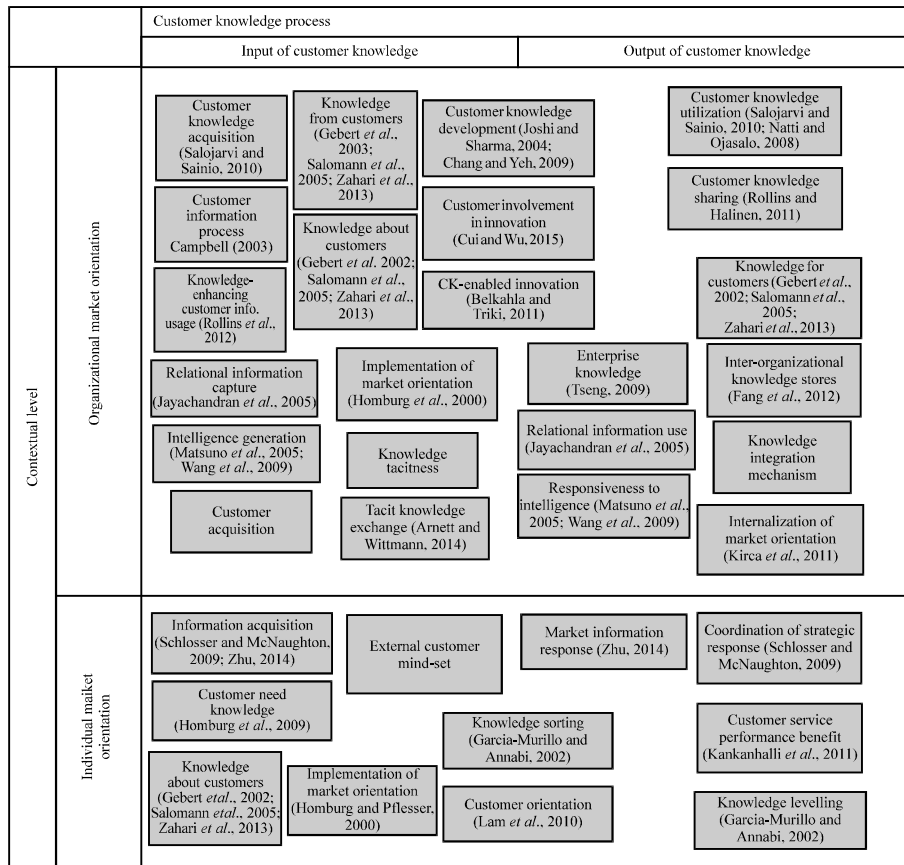


Fig. 1: The Customer Knowledge-Market Orientation (CK-MO) matrix

study. As result of in-depth analysis, a total of 30 studies which establish constructs, concepts or models that encapsulate the essence of customer knowledge and market orientation have been identified and compared.

Structuring of the literature into the CK-MO matrix: In order to classify the constructs and place them in the suggested matrix of the CK-MO matrix, the followings are the steps that have been conducted.

Based on the description of the single grid elements, the constructs and variables which appeared in 30 of the study related to customer knowledge and market orientation are segregated into the respective single grid element (which criteria have been mentioned).

There are certain constructs that correspond to more than a single dimension. In these cases, the constructs shall occupy two grid elements. Such occurrences are indicated by items located in the middle of the two grids that they are representing.

The study are carefully selected and assessed before they are classified into the grid. Only articles that establish concepts, constructs, frameworks or measurements highly relevant to both customer

knowledge and market orientation are included in the analysis. These works can be either empirical or qualitative in nature. Studies which do not meet the above condition have been excluded from the literature analysis.

The items are placed and classified accordingly in the CK-MO matrix which are shows in Fig. 1. For the purpose of simplifying readers in interpreting the graph, an overview of the author's first name, the year of publication and the name of the construct's variable is provided for each single study that is classified in the matrix.

Classification of analyzed studies using the CK-MO matrix: Based on the method highlighted above, the final result is the classification of concepts or constructs amongst research study in a clear two-by-two grid called the CK-MO matrix. Each concept or construct has a specific position in the CK-MO matrix, indicating which contextual (organizational or individual) and customer knowledge process (input or output) dimension it is representing. The CK-MO matrix is depicted in Fig. 1.

CONCLUSION

The CK-MO matrix seeks to benefit the academia by acknowledging the under-researched areas that may need better attention from marketing scholars through a clear overview of customer knowledge and market orientation classification and justifying the integration of customer knowledge and market orientation elements in a single construct. According to Fig. 1, studies pertaining to individual market orientation and customer knowledge are still underwhelmed by organizational-level studies. For over a decade, proponents have argued that little attention has been given on individual employee's behaviors pertaining to market orientation and customer knowledge (Garcia-Murillo and Annabi, 2002; Homburg *et al.*, 2009; Schlosser and McNaughton, 2009; Lam *et al.*, 2010).

SUGGESTIONS

Furthermore, top-down view of market orientation that requires managerial evaluation may undermine the real insight of market orientation that can only be truly assessed at lower levels of the firm (Iyer and Johlke, 2015). Employees, who adopt market orientation as their personal role while treating customer knowledge as valuable asset are expected to act in line with the firm's market oriented goals. Supported by solid IT infrastructure, employees who utilize knowledge repository are expected to deliver individual performance that includes efficiency in serving their customers (Kankanhalli *et al.*, 2011) and customer relationship performance (Jayachandran *et al.*, 2005).

By having a dual-categorization of input and output of customer knowledge, the CK-MO serves to simplify the general understanding of market orientation as either a firm or individual conduct or behavior pertaining to customer knowledge processing. Although, the extant literature offers various iterations of value-added process when describing customer knowledge process among market oriented firms (Jayachandran *et al.*, 2005; Tseng, 2009; Salojarvi and Sainio, 2010) their multifaceted nature hinders direct comparative analysis with other constructs or models. Therefore, the CK-MO is designed to interpret and classify the literature concerning customer knowledge and market orientation in a holistic way (that fits well with different representations of process or conduct).

IMPLICATIONS

The practical implication from this study is that marketing and product development managers should

consider paying attention not only on their firm's market oriented goals such as achieving increased profit, customer satisfaction and loyalty but also on the individual employee market orientation conduct. In order for a firm to understand the real needs of its customers, the relationship building effort starts from the employee-customer interface. The management has to ensure that the employee's market oriented behaviors are aligned with the firm's goals which can possibly be achieved through active interactions with intra-firm cross-functional network (Zhu, 2014) customer-orientation training (Homburg *et al.*, 2009) and proper superior-subordinate mentoring and social learning process (Lam *et al.*, 2010; Alhawari *et al.*, 2011).

REFERENCES

- Alhawari, S., A.N. Talet, E. Mansour and H. Alryalat, 2011. The practice of jordanian business to attain customer knowledge acquisition. *Int. J. Knowl. Manage.*, 7: 49-67.
- Arnett, D.B. and C.M. Wittmann, 2014. Improving marketing success: The role of tacit knowledge exchange between sales and marketing. *J. Bus. Res.*, 67: 324-331.
- Battor, M., M. Zairi and A. Francis, 2008. Knowledge-based capabilities and their impact on performance: A best practice management evaluation. *Bus. Strategy Ser.*, 9: 47-56.
- Belkahl, W. and A. Triki, 2011. Customer knowledge enabled innovation capability: proposing a measurement scale. *J. Knowl. Manage.*, 15: 648-674.
- Borjesson, S. and F. Dahlsten, 2004. Management action in developing market orientation: A report from a customer knowledge project at volvo cars. *J. Change Manage.*, 4: 141-154.
- Campbell, A.J., 2003. Creating customer knowledge competence: Managing customer relationship management programs strategically. *Ind. Marketing Manage.*, 32: 375-383.
- Chang, T.J. and S.P. Yeh, 2009. The effects of market orientation on customer knowledge development: Comparison of R and D and marketing. *J. Inf. Optim. Sci.*, 30: 431-446.
- Cui, A.S. and F. Wu, 2016. Utilizing customer knowledge in innovation: Antecedents and impact of customer involvement on new product performance. *J. Acad. Marketing Sci.*, 44: 516-538.
- Davenport, T.H. and L. Prusak, 1998. Working Knowledge: How Organizations Manage What They Know. Harvard Business Press, Boston, MA., USA., ISBN-13: 9780875846552, Pages: 199.

- De Luca, L.M. and K. Atuahene-Gima, 2007. Market knowledge dimensions and cross-functional collaboration: Examining the different routes to product innovation performance. *J. Market.*, 71: 95-112.
- Deshpande, R., J.U. Farley and J.F.E. Webster, 1993. Corporate culture, customer orientation and innovativeness in Japanese firms: A quadrad analysis. *J. Marketing*, 57: 23-37.
- Fang, S.R., C.H. Chou, S.M. Yang and C.C. Ou, 2012. Enhancing innovation through learning: The roles of market orientation and interorganisational knowledge stores. *Technol. Anal. Strategic Manage.*, 24: 285-298.
- Garcia-Murillo, M. and H. Annabi, 2002. Customer knowledge management. *J. Operat. Res. Soc.*, 53: 875-884.
- Gebert, H., M. Gelb, L. Kolbe and W. Brenner, 2002. Knowledge-enabled customer relationship management: Integrating customer relationship management and knowledge management concepts. *J. Know. Manage.*, 7: 107-123.
- Gold, A.H. and M.A.H.S. Arvind, 2001. Knowledge management: An organizational capabilities perspective. *J. Manage. Inf. Syst.*, 18: 185-214.
- Harris, L.C. and E. Ogbonna, 2000. The responses of front-line employees to market-oriented culture change. *Eur. J. Marketing*, 34: 318-340.
- Homburg, C. and C. Pflesser, 2000. A Multiple-layer model of market-oriented organizational culture: Measurement issues and performance outcomes. *J. Market. Res.*, 37: 449-462.
- Homburg, C., J. Wieseke and T. Bornemann, 2009. Implementing the marketing concept at the employee-customer interface: The role of customer need knowledge. *J. Marketing*, 73: 64-81.
- Iyer, R. and M.C. Johlke, 2015. The role of external customer mind-set among service employees. *J. Ser. Marketing*, 29: 38-48.
- Jayachandran, S., S. Sharma, P. Kaufman and P. Raman, 2005. The role of relational information processes and technology use in customer relationship management. *J. Marketing*, 69: 177-192.
- Johnson, J.S., S.B. Friend and B.J. Horn, 2014. Levels of analysis and sources of data in sales research: A multilevel-multisource review. *J. Pers. Selling Sales Manage.*, 34: 70-86.
- Joshi, A.W. and S. Sharma, 2004. Customer knowledge development: Antecedents and impact on new product performance. *J. Marketing*, 68: 47-59.
- Kankanhalli, A., O.K.D. Lee and K.H. Lim, 2011. Knowledge reuse through electronic repositories: A study in the context of customer service support. *Inf. Manage.*, 48: 106-113.
- Kirca, A.H., W.O. Bearden and G.T.M. Hult, 2011. Forms of market orientation and firm performance: A complementary approach. *AMS. Rev.*, 1: 145-153.
- Kohli, A.K. and B.J. Jaworski, 1990. Market orientation: The construct, research propositions and managerial implications. *J. Market.*, 54: 1-18.
- Kohli, A.K., B.J. Jaworski and A. Kumar, 1993. MARKOR: A measure of market orientation. *J. Market. Res.*, 30: 467-477.
- Lam, S.K., F. Kraus and M. Ahearne, 2010. The diffusion of market orientation throughout the organization: A social learning theory perspective. *J. Marketing*, 74: 61-79.
- Matsuno, K., J.T. Mentzer and J.O. Rentz, 2005. A conceptual and empirical comparison of three market orientation scales. *J. Bus. Res.*, 58: 1-8.
- Narver, J.C. and S.F. Slater, 1990. The effect of a market orientation on business profitability. *J. Market.*, 54: 20-35.
- Natti, S. and J. Ojasalo, 2008. What prevents effective utilisation of customer knowledge in professional B-to-B services? An empirical study. *Serv. Ind. J.*, 28: 1199-1213.
- Nonaka, I. and D.J. Teece, 2001. *Managing Industrial Knowledge: Creation, Transfer and Utilization*. Sage Publications, London, England.
- Nonaka, I., 2008. *The Knowledge-Creating Company*. Harvard Business Review Press, New York, USA.
- Perez, L.A., P. Saporito and S. Gopalakrishnan, 2016. Small and medium-sized enterprises entrepreneurial versus market orientation and the creation of tacit knowledge. *J. Small Bus. Manage.*, 54: 262-278.
- Raaij, V.E.M. and J.W. Stoelhorst, 2008. The implementation of market orientation. *Eur. J. Marketing*, 42: 1265-1293.
- Rollins, M. and A. Halinen, 2005. Customer knowledge management competence: Towards a theoretical framework. *Proceedings of the 38th Hawaii International Conference on System Sciences*, January 3-6, 2005, IEEE Computer Society Washington, DC, USA, pp: 240-240.
- Rollins, M., D.N. Bellenger and W.J. Johnston, 2012. Customer information utilization in business-to-business markets: Muddling through process?. *J. Bus. Res.*, 65: 758-764.
- Rollins, M., S. Pekkarinen and M. Mehtala, 2011. Inter-firm customer knowledge sharing in logistics services: An empirical study. *Int. J. Phys. Distrib. Logist. Manage.*, 41: 956-971.
- Saeed, S., S. Yousafzai, A. Paladino and D.L.M. Luca, 2015. Inside-out and outside-in orientations: A meta-analysis of orientations effects on innovation and firm performance. *Ind. Marketing Manage.*, 47: 121-133.

- Salojarvi, H. and L.M. Sainio, 2010. Customer knowledge processing and key account performance. *Eur. Bus. Rev.*, 22: 339-352.
- Salomann, H., M. Dous, L. Kolbe and W. Brenner, 2005. Rejuvenating customer management: How to make knowledge for, from and about customers work. *Euro. Manage. J.*, 23: 392-403.
- Schlosser, F.K. and R.B. McNaughton, 2009. Using the I-MARKOR scale to identify market-oriented individuals in the financial services sector. *J. Serv. Marketing*, 23: 236-248.
- Shammari, A.M., 2009. *Customer Knowledge Management: People, Process and Technology*. Information Science Reference, Hershey, Pennsylvania,.
- Simon, H.A., 1991. Bounded rationality and organizational learning. *Organ. Sci.*, 2: 125-134.
- Tseng, S.M., 2009. A study on customer, supplier and competitor knowledge using the knowledge chain model. *Int. J. Inf. Manage.*, 29: 488-496.
- Tseng, S.M., 2010. The correlation between organizational culture and knowledge conversion on corporate performance. *J. Knowl. Manage.*, 14: 269-284.
- Wagner, S.M. and A. Eggert, 2016. Co-management of purchasing and marketing: Why, when and how?. *Ind. Marketing Manage.*, 52: 27-36.
- Wang, C.L., G.T.M. Hult, J.D.J. Ketchen and P.K. Ahmed, 2009. Knowledge management orientation, market orientation and firm performance: An integration and empirical examination. *J. Strategic Marketing*, 17: 99-122.
- Wilde, S., 2011. *Customer Knowledge Management*. Heidelberg Springer, Berlin, Germany,.
- Yeniuyurt, S., S.T. Cavusgil and G.T.M. Hult, 2005. A global market advantage framework: The role of global market knowledge competencies. *Int. Bus. Rev.*, 14: 1-19.
- Zahari, A.S.M., A.B. Rahman, A.K. Othman and S. Wahab, 2013. Investigating the relationship between customer knowledge management and knowledge sharing among insurance companies in Malaysia. *Asian Soc. Sci.*, 9: 60-70.
- Zheng, W., B. Yang and G.N. McLean, 2010. Linking organizational culture, structure, strategy and organizational effectiveness: Mediating role of knowledge management. *J. Bus. Res.*, 63: 763-771.
- Zhu, T., 2014. How to execute mindful marketing? The role of intrafirm network. *J. Res. Marketing Entrepreneurship*, 16: 84-98.