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Integrating Knowledge and Customer Relationship Management for Collaborative Learning Spaces

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ABSTRACT

Combining the two important areas of knowledge management and customer relationship management has been proposed as a new approach that can create a platform for interactive learning spaces between the organization and customers. These interactive learning spaces not only lead to promoting innovation and increasing value creation, but also play an important role in improving customer experience and creating sustainable loyalty. The aim of the research was to combine knowledge management and customer relationship management to create interactive learning spaces. Therefore, this research was conducted qualitatively and with the content analysis technique. Based on the semi-structured interview tool, the initial codes were identified in the Maxqda software. The statistical population includes senior and executive managers of Saipa Automobile Company; senior marketing and public relations managers and experts, and academic experts with relevant scientific backgrounds, who were selected using theoretical sampling. In the present study, the opinions of 12 people were collected through 12 semi-structured interviews until theoretical saturation was reached. The two dimensions of customer knowledge and customer relationship management were identified based on three main components. **©authors**

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Introduction

In recent decades, extensive developments in the field of information technology, the globalization of markets, increased competition, and constant changes in customer needs have led organizations to increasingly recognize the importance of knowledge capital and sustainable interactions with customers (Guerola-Navarro et al, 2024). Simply providing a quality product or service can no longer guarantee the survival of an organization, but the organization's ability to continuously learn, effectively manage knowledge, and create interactive and learning relationships with customers has become increasingly important (Youssef et al, 2018; Lee, 2014). In the meantime, the combination of the two important areas of knowledge management and customer relationship management has been proposed as a new approach that can create interactive learning spaces between the organization and customers (Haris, 2025). These interactive learning spaces not only lead to the promotion of innovation and increased value creation, but also play an important role in improving customer experience and creating lasting loyalty (Shabankareh et al., 2023). On the other hand, traditional approaches to knowledge management have mainly focused on internal organizational processes and have paid less attention to the role of customers in the creation and exchange of knowledge (Michael et al, 2022). While today's customers are not only passive consumers of organizational knowledge and information, but also actively participate in the organizational learning process as co-creators of knowledge (Wei et al, 2019). Given the rapid growth of digital technologies, especially artificial intelligence, big data, the Internet of Things and social media, new capacities have been provided for interaction between organizations and customers. These capacities allow for the collection and analysis of diverse data, identification of customer behavioral patterns, and the creation of synchronous and asynchronous learning platforms. However, the main challenge is how to integrate knowledge management and customer relationship management in a systematic and interactive framework (Morgan et al, 2021). In fact, organizations often have advanced tools and technologies at their disposal, but they lack conceptual and operational models that can exploit these tools to create interactive learning spaces. In fact, organizations often have advanced tools and technologies at their disposal, but they lack conceptual and operational models that can exploit these tools to create interactive learning spaces. Although digital platforms, analytics systems, and collaborative technologies are widely available, many organizations still struggle to translate these capabilities into meaningful learning processes. Without a clear framework that connects technological functions to learning objectives, these tools remain underutilized and fail to contribute to organizational knowledge development. As a result, technology becomes an isolated resource rather than an integrated driver of continuous learning and improvement.

Moreover, the absence of well-designed models limits the organization’s ability to encourage engagement, reflection, and knowledge sharing among employees. Interactive learning spaces require intentional structures—such as feedback loops, knowledge flows, and adaptive learning pathways—that guide individuals in using technological tools to enhance their skills and performance. When these structures are missing, learning becomes fragmented, inconsistent, and heavily dependent on individual initiative. Therefore, developing comprehensive conceptual and operational models is essential for transforming technological potential into effective learning ecosystems that support innovation, agility, and long-term organizational growth (Khan et al, 2021).

The research literature shows that many organizations view knowledge management as an internal process and make less use of customers' knowledge capacities (Daixing et al, 2022). On the other hand, customer relationship management has become more of a sales and

marketing tool than a platform for shared learning. This duality has caused the potential capacity of combining these two areas to be neglected. For example, when customers provide feedback on digital platforms, this data is often stored and analyzed only in the marketing department, whereas if this data is injected into the organization's knowledge management cycle, it can become a valuable source for organizational learning and innovation creation (Abbas, 2024). Therefore, the lack of an integrated approach to simultaneously exploit knowledge management and customer relationship management has created a serious gap in management research and practice (Omar et al, 2022).

From a theoretical perspective, interactive learning spaces are formed based on two-way interaction and collaborative learning (Agrawal, 2021). In these spaces, the boundary between the producer and consumer of knowledge is blurred and customers and organizations participate in the value creation process as a network (Mahmoodi et al, 2023).

However, creating such spaces requires designing mechanisms that leverage both knowledge management capabilities (such as identifying, storing, sharing, and applying knowledge) and customer relationship management capabilities (such as segmentation, personalization, and interaction management) (Bashokouh et al, 2023). So far, in the scientific literature, these two areas have been studied more separately, and less research has combined them in the direction of interactive learning. This highlights the need for comprehensive research in this field (Chaithanapat et al, 2022). From a practical perspective, organizations are also facing great pressures from global competition, increasing customer expectations, and rapid environmental changes. In such circumstances, having up-to-date knowledge and the ability to interact effectively with customers has become a key competitive advantage (Hosseini et al, 2022). Especially in knowledge-based and service-oriented industries, the success of organizations depends to a large extent on their ability to learn together with customers. For example, large technology companies such as Google, Amazon, or Microsoft, by combining knowledge management and customer relationship management, have been able to create platforms where customers are not only users of products, but also partners in their learning and development (Nguyen et al, 2022). These successful experiences show that research on the integration of knowledge management and customer relationship management can also be valuable and helpful for Iranian organizations (Mahmoud et al, 2021: Rahimi et al, 2023).

Also, recent studies in the field of digital marketing and organizational learning show that customers are interested in actively participating in organizational processes, especially when they feel that their knowledge and experience are valued (Tang et al, 2020).

This is a unique opportunity for organizations to increase customer trust and loyalty by designing interactive learning spaces. But the key question is: what factors make these interactive learning spaces successful or unsuccessful? And how can a model be designed that makes the integration of knowledge management and customer relationship management possible in practice? From a methodological perspective, existing studies have focused more on case studies of organizations and have provided less comprehensive models for combining these two areas. Therefore, conducting research that can provide a native and practical model for the integration of knowledge management and customer relationship management by using theoretical frameworks and scientific tools seems necessary. Such a model can help organizations to create sustainable and learning relationships with customers in addition to increasing internal productivity (Ourzik, 2022).

Finally, it can be stated that the combination of knowledge management and customer relationship management in order to create interactive learning spaces is not only a scientific necessity to fill existing research gaps, but also a practical requirement for organizations that seek survival and sustainable growth in today's turbulent and competitive environment. This is especially important for Iranian organizations that face numerous challenges such as resource constraints, rapid market changes, and the need for continuous innovation. Therefore, the present study seeks to provide a theoretical and practical framework for the design and implementation of interactive learning spaces based on the combination of

knowledge management and customer relationship management by explaining and analyzing this issue in depth.

On the other hand, customer relationship management has often been limited to one-sided marketing approaches or customer data collection, while today there is a need for a dynamic and interactive approach; an approach in which customers are seen as partners in learning and innovation. The gap in the scientific literature is precisely at this point: how can knowledge management and customer relationship management be integrated in such a way that organizations are able to design and implement interactive learning spaces?

Literature Review

In today's world, organizations are faced with a huge volume of data and information, the management of which is considered a vital resource for gaining competitive advantage (Sondhi et al, 2024). Knowledge management is defined as a set of processes and tools that aim to identify, store, share and apply knowledge within the organization. This knowledge can include employee experiences, market information, technical knowledge and even customer feedback. From a theoretical perspective, knowledge management is based on the premise that by creating platforms for collecting and processing knowledge, organizations will be able to experience smarter decision-making, continuous innovation and improved organizational performance. As a result, knowledge management not only helps to maintain and expand intellectual capital, but also provides the necessary platform for organizational interaction and learning (Alparslan, 2024). Therefore, CRM is directly related to organizational learning processes and creating innovation and can help organizations create more dynamic interactive environments (Bergh et al, 2024).

The combination of knowledge management and customer relationship management forms the foundation for creating interactive learning spaces. Interactive learning environments are spaces where the boundary between knowledge producers and consumers is blurred and all stakeholders, including employees and customers, participate in the creation and exchange of knowledge (Syahnur et al, 2023).

In these environments, organizations can transform knowledge collected from customers into operational and strategic information by using knowledge management and transfer this knowledge to customers in a personalized and targeted manner using CRM. In other words, the integration of KM and CRM allows learning and interaction to be carried out in a two-way and continuous manner, and not only the quality of services and products is improved, but also customer loyalty and satisfaction are increased (Ijomah et al, 2024). Knowledge management, by providing mechanisms for storing, sharing, and applying this knowledge, and CRM, by creating digital platforms for customer interactions, play a complementary role in realizing this type of learning. In other words, these two areas interact with each other so that the tacit and explicit knowledge of the organization and customers is continuously improved and used in the form of organizational decisions and innovations (Majchrzak et al, 2023).

In addition to the internal dimension, interactive environments based on the combination of KM and CRM also enhance the ability to analyze and predict customer behavior. Customer data, including purchasing behavior, feedback, hidden needs, and preferences, can be entered into the knowledge management cycle and provide valuable insights for decision-making with advanced analytics. These insights not only help improve internal processes, but also enable personalized services and an optimal customer experience. As a result, interactive learning environments, relying on this integration, enable organizations to maintain flexibility, innovation, and competitive advantage in dynamic markets (Wang et al, 2024).

Therefore, the integration of knowledge management and CRM should be implemented in appropriate organizational and cultural contexts to achieve its benefits sustainably (Wang, 2024). Finally, theoretical foundations show that the combination of knowledge management and customer relationship management provides an integrated approach to

designing interactive learning environments in which knowledge is continuously created, shared and applied, and customers are at the heart of this process (Massa et al, 2023). This approach not only helps to improve the performance and innovation of the organization, but also enhances the customer experience and enables the creation of long-term, sustainable and trust-based relationships. Based on the existing theoretical foundations, it can be concluded that the study and development of hybrid KM and CRM models for creating interactive learning environments is a scientific and practical necessity in today's digital age.

Neshat (2024) stated in the article "Investigating the Effect of Customer Relationship Management on Customer Retention Based on the Mediating Role of Service Quality (Case Study: Torab Company)" that Customer Relationship Management is described as an approach to managing a company's interaction with current and potential customers through creating a reliable partnership. Today, with the customer relationship management method and the tools used, businesses better understand how to meet the needs and target audiences.

The results obtained from the research showed that customer relationship management has an effective and significant effect on customer retention and service quality. Customer retention also has an effect on service quality. In addition, based on the results obtained from the research model, service quality as a mediating variable has a significant effect on customer retention. The results obtained from the research show that service quality as a mediating variable will increase the effect of customer relationship management on customer retention. Sharifi (2022) stated in his thesis "Development of a Customer Knowledge Management Model to Create Organizational Value in B2C E-Commerce, Case Study: Selected Online Stores" that with the rapid growth of information technology, especially in the field of e-commerce, customer-oriented companies need to create new values and gain a sustainable competitive advantage more than ever before to maintain their position in the labor market.

According to the research findings, the conceptual framework presented around the classification of dimensions and components of customer knowledge management and organizational value creation in e-commerce is an achievement of the qualitative part. It is worth noting that "technical efficiency" and "corporate social responsibility" as components of organizational value creation in e-commerce were identified as new components in the qualitative section.

According to the findings of the quantitative section, it was determined that there is a positive and significant relationship between the dimensions of customer knowledge management and organizational value creation, and the dimensions of knowledge for the customer, knowledge from the customer, and knowledge about the customer have the greatest and least impact on organizational value creation in B2C e-commerce, respectively. The results of data analysis also showed that the dimensions of customer knowledge management also had a significant impact on the dimensions of organizational value creation. Pashaei (2019) stated in his thesis "Designing and Explaining the Success Model of Customer Relationship Management in the Sports Venue Services Sector" that in today's competitive world, the customer plays a key and important role in maintaining the position and survival of organizations. In terms of research design, the present study is a mixed study combining several quantitative and qualitative methods, model design, and tool development. The meta-analysis method in this study is important because it provides an opportunity to review the path taken by other researchers.

According to the results, the influential and influential constructs (customer orientation, knowledge management acquisition, knowledge management influence, customer relationship management technology, structure, customer experience, management, communication, competitive advantage, satisfaction, reduction of customer complaints, loyalty) are significant on the success of customer relationship management in sports venues. Therefore, it can be claimed that the customer relationship management success model in the service sector of Iranian sports venues with 14 constructs is in a suitable condition and is meaningful, and the reduction of customer complaints can play a role as a mediator in this

model to increase loyalty and affect this relationship. This makes it necessary to pay attention to it in order to remove obstacles and improve the quality of sports venue services with customer relationship management. Improving the weaknesses identified in this study can lead to user satisfaction, return and ultimately increase their loyalty. Therefore, service organizations should focus all their activities and capabilities on customer satisfaction, because customers are the only source of return on investment.

Ghorbani (2022) stated in his thesis "Designing a Model for Selecting Social Customer Relationship Management Strategies" that since social customer relationship management is considered an emerging phenomenon, most companies are still in the early stages of adopting it. Hence, In order to solve such a problem, a quantitative model based on a fuzzy inference system for selecting a social customer relationship management strategy is presented.

Integrating Knowledge Management (KM) and Customer Relationship Management (CRM) within an educational environment creates powerful opportunities for developing collaborative learning spaces. In such settings, "customers" can be interpreted as students, faculty, staff, and even external stakeholders who interact with the institution. By leveraging CRM systems to track needs, preferences, and feedback, educational institutions can gain deep insights into how learners engage with content, services, and learning activities. When this information is combined with KM practices—such as organizing educational resources, capturing best teaching practices, and sharing expertise—schools and universities can design more responsive and personalized learning experiences.

Furthermore, the integration of KM and CRM helps create dynamic, interactive learning spaces where collaboration becomes a central component of the educational process. KM supports the development of repositories, digital libraries, and knowledge-sharing platforms, while CRM provides real-time data on learner interactions and satisfaction. Together, these tools help educators identify learning gaps, support peer-to-peer collaboration, and design activities that foster active engagement. As students and instructors contribute knowledge, discuss challenges, and co-create solutions, a more vibrant and participatory learning ecosystem emerges—one that adapts to changing needs and nurtures collective growth.

Ultimately, the fusion of KM and CRM in education promotes a culture of continuous learning and improvement. Educational institutions can use integrated data to refine curricula, enhance teaching strategies, and tailor support services. Collaborative learning spaces built on this integration encourage openness, transparency, and shared responsibility for learning outcomes. Over time, these environments strengthen relationships between learners and educators, increase satisfaction and motivation, and enhance institutional effectiveness. By transforming KM and CRM systems into drivers of cooperation and innovation, educational organizations can build smarter, more connected learning environments that prepare individuals for success in an evolving world.

Method

This research, which seeks to present a customer relationship management model with a knowledge management approach, is considered an applied research. Given that the qualitative research method was used in the present study; in order to examine and present a model for customer relationship management, the data-driven theory method attributed to the systematic method of Brown and Clark was used. Content analysis, as a qualitative method, is used to identify, analyze, and interpret meaningful patterns (themes) in the data. In this research, data can include scientific articles, organizational reports, interviews with managers and experts in the field of knowledge management and CRM, as well as customer feedback.

The methodological process begins with the collection of qualitative data, and then the researcher, by carefully studying and rereading the data, marks the meaningful parts and

performs the initial coding. This is the basic stage in which raw information is transformed into analyzable elements and allows the discovery of patterns and relationships between concepts. After the initial coding phase, the researcher enters the theme identification phase. In this phase, similar or related codes are grouped together and potential themes are formed. For example, in this study, codes related to "knowledge sharing with customers," "two-way interactions," or "digital technologies for collaborative learning" could be transformed into larger themes such as "interactive learning" or "knowledge co-creation." This process requires critical analysis and reflection to ensure that the themes selected accurately reflect the data and not the researcher's subjective perceptions.

Finally, the third stage of the methodology involves revising and finalizing the themes. In this phase, the researcher matches the potential themes with the original data, analyzes the relationships between them, and forms the final conceptual framework. This phase ensures that the themes are not only meaningful and reliable, but also have the ability to answer the research question. In addition, to increase the validity of the research, complementary methods such as peer review, participant feedback, or data synthesis from different sources can be used. In this way, thematic analysis in this study not only helps to identify key patterns, but also provides a clear and structured path for combining knowledge management and customer relationship management in creating interactive learning spaces.

Population and statistical sample: The statistical population includes senior and executive managers of Saipa Automobile Company; senior managers and experts in marketing and public relations, and academic experts and scholars with relevant scientific backgrounds, who were selected using theoretical sampling. In the present study, the opinions of 12 people were collected through 12 semi-structured interviews until theoretical saturation was reached. Table 1 shows the range, number, and diversity of the interviewees by job and social status.

Table 1. *Range, number, and diversity of the interviewees by job and social status*

Job and social status	Number of interviews
CEO and board members	3
Managers and senior marketing and public relations experts	7
Academic experts	2
Total	**12**

How to select participants

In qualitative research, the people who participate in the research are not called individuals or samples, but rather they are called "participants" or "informants", and there is no precise criterion for determining the sample size or the number of informed and participating people.

However, factors such as the purpose of sampling, the type of sampling, and the study method are effective in determining the sample size. In the present study, purposive sampling was used. In this method, a specific number of samples is not determined in advance, and sampling continues until the model has reached the construction and saturation stage. This type of sampling, in which people are selected because of their first-hand information about a phenomenon or because they have experienced the phenomenon in question or have certain views about it, is called purposive sampling.

Data collection method and tools

Data collection method The first step in collecting information is to identify the informants or study units. The next step is to use a library method, including reviewing documents, documented reports, reputable scientific articles, and reputable websites to review the theoretical foundations and research background on customer relationship management and knowledge management. You will prepare a preliminary list of factors affecting customer relationships, and then collect data by preparing a questionnaire appropriate to your goals and research through the qualitative research interview method. Given that in qualitative research, the set of activities and stages of data collection, data analysis, and report writing

are completely related and intertwined, we often cannot easily and clearly identify which stage we are in. It should be noted that the process of data collection and analysis in this research method is carried out in a zigzag and simultaneous manner.

1. How do you define the role of knowledge management (KM) in enhancing customer relationships within collaborative learning spaces?
2. In your view, what are the key elements of an effective CRM system in a learning environment?

3. What challenges do organizations face when attempting to integrate KM and CRM in collaborative learning spaces?
4. How does combining KM and CRM improve the personalization of learning experiences?
5. Can you describe any processes or technologies that help facilitate this integration?

6. What digital tools or platforms do you consider essential for supporting knowledge sharing and customer (learner) engagement?
7. How does data from CRM systems support evidence-based decision-making in learning space management?

8. How can integrated KM–CRM systems enhance collaborative learning among users?
9. What strategies are effective for motivating users to share knowledge within these What organizational culture is needed to successfully integrate KM and CRM?

10. How do leadership and management influence the success of collaborative learning spaces?

12. What metrics do you use to evaluate the effectiveness of KM–CRM integration?
13. What obstacles typically arise during implementation, and how can they be mitigated?

14. How do you see emerging technologies (e.g., AI, analytics, cloud computing) shaping the future of KM–CRM integration?
15. What improvements or innovations would you recommend for designing more effective collaborative learning spaces?

Data collection continues until the researcher reaches the saturation point in the data and the concepts related to the customer relationship management process with the knowledge management approach that are raised by different interviewees become repetitive and no new content is added to the model.

Honestly, I think knowledge management plays a huge role in strengthening customer relationships, especially in collaborative learning spaces. When people can easily access shared knowledge, it really helps create smoother interactions and a more personalized experience for learners.

From my perspective, a good CRM system in a learning environment should be simple, intuitive, and able to track learner needs and behaviors without being too complicated. It should help the organization understand what learners expect and how they progress over time.

Of course, integrating KM and CRM isn't always easy. The biggest challenge is usually getting different systems to "talk" to each other and making sure people actually use them

consistently. Sometimes there's also resistance from staff who are not comfortable with new technologies.

But when it works, the combination really enhances personalization. By using CRM data, you can identify what each learner needs, and KM tools help you provide the right resources at the right time. It becomes a more adaptive and responsive learning environment.

Honestly, the technologies that help the most are cloud-based platforms, collaborative tools like shared dashboards, and systems that automatically organize content. AI-driven recommendation tools also make a big difference.

In my experience, CRM data is extremely valuable for decision-making. It gives you a clear picture of what's working, what needs improvement, and what trends you should pay attention to. It takes a lot of guesswork out of managing learning spaces.

When KM and CRM work together, they definitely support collaboration. People are more willing to exchange ideas when information flows smoothly and the platform feels unified instead of fragmented.

Motivating users to share knowledge usually comes down to culture. If the environment feels supportive and people see value in sharing, they will participate more naturally. Small incentives or recognition programs help too.

As for organizational culture, openness and trust are essential. Leadership needs to show commitment and encourage experimentation. When leaders actively use these systems themselves, employees follow more easily.

To evaluate the success of integration, I usually look at engagement levels, user satisfaction, and how quickly people can find what they need. Reducing repetitive questions or duplicated work is also a good sign.

Implementation always comes with challenges—technical issues, lack of training, and sometimes unclear processes. The best way to handle these is through continuous training, clear communication, and involving users early in the process.

Looking ahead, I think AI, analytics, and cloud technologies will make integration much smoother. Systems will become smarter, more automated, and better able to predict what users need before they even ask.

If I could recommend anything, it would be designing more flexible and user-friendly platforms. People want seamless experiences, and the more intuitive the system is, the more likely they'll actually use it and contribute to collaborative learning.

Findings

Data-driven theory coding analysis

Coding is a systematic procedure developed by Brown and Clark to discover categories, characteristics, and dimensions of data. In this study, based on this coding, a model is presented to describe and explain customer relationship management with a knowledge management approach.

Open coding

Open coding is a part of the analysis that is carried out by carefully analyzing the data, naming, and classifying the data. To accurately classify concepts into categories, each concept must be labeled after separation and the raw data must be conceptualized by carefully examining the interview transcripts and background notes. The data collected from the interviewees are coded to more easily identify similarities and differences. Respondents explained the topic in response to questions related to each dimension of the paradigm model.

Axial coding

Axial coding is the second stage of analysis in data-based theorizing. The purpose of this stage is to establish relationships between the categories generated in the open coding stage. This is done based on the paradigm model and helps the theorist to easily carry out the theory-building process. In axial coding, the codes generated in the previous step are rewritten in a new way with the aim of creating relationships between the codes. Axial coding leads to the creation of groups and categories, and all similar codes are placed in their own specific group. For this purpose, all the generated codes were re-examined to ensure that all codes exist.

Selective coding

After all the data have been open and axially coded as mentioned above; it is time to group them. In order to transform the analyses into a theory, the categories must be systematically related to each other. Selective coding is the main stage of theorizing based on the results of the previous two stages of coding. In this way, it systematically relates the central category to other categories and presents those relationships within the framework of a narrative. In grouping the codes, the central codes extracted from the interviews were grouped and then the created groups were compared with each other to identify and extract the main groups and dimensions of each. Of course, at this stage, referring to the theoretical literature of the research helped a lot in making the groups more precise. After analyzing and reviewing the central codes, 6 selected codes were identified as shown in Table 2.

Table 2. *Coding result*

Constructive Content	Original code
1. Employee Knowledge	Knowledge available and acquired in employees and the organization
	Training, unlocking and integrating employee knowledge about customers, research and development processes
	Policies, increasing productivity and cost savings
	Budget and financial resources
	Customer satisfaction and maintaining knowledge in the organization
	Encouraging employees to share their knowledge with colleagues
2. Customer Knowledge	Gaining knowledge directly from customers and also sharing and expanding this knowledge
	Organizational learning
3. Market Knowledge	Knowledge available in the market and gaining knowledge from market news and competitors
	Performance against competitors in innovation and growth to attract customers
4. Customer Engagement	Meeting and talking with customers
	Establishing and maintaining customer relationships
5. Customer Upgradation	Measuring customer satisfaction
	Increasing the share of loyal customers
6. Returning Lost Customers	Compensating for dissatisfaction
	Efforts to improve processes
	Maintaining communication with dissatisfied customers

After identifying and grouping the core codes based on theoretical studies, field notes, and interviews conducted and their relationship with the core phenomenon, the conceptual model of the research was presented as shown in Figure 1. Considering the main goal of this research, which is to achieve a customer relationship management model with a knowledge management approach, this model was extracted and designed based on the results of data analysis and theoretical literature.

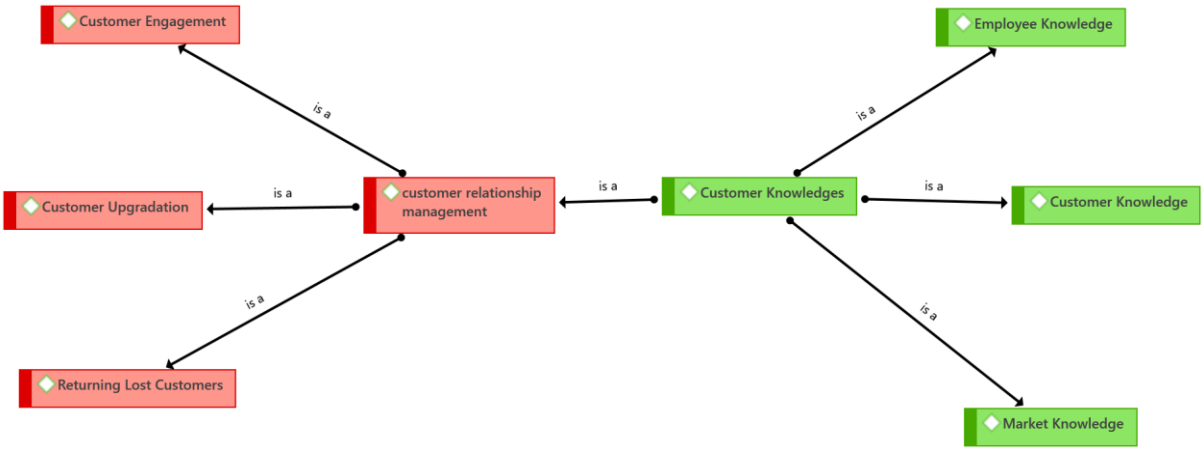

Figure 1. *Combining knowledge management and customer relationship management to create interactive learning spaces*

Four quantitative criteria were used to examine credibility, transferability, confirmability, and dependability: Holsti's coefficient, Scott's Pi, Cohen's Kappa, and Krippendorff's Alpha. The level of agreement among experts, calculated using Holsti's PAO coefficient or the "percentage of observed agreement," was obtained as 0.840, which is a considerable value. Considering the criticisms raised against the Holsti method, Scott's Pi was also calculated, resulting in a value of 0.743. The third index for estimating the validity of qualitative research is Cohen's Kappa. In this study, Cohen's Kappa was found to be 0.798. Finally, Krippendorff's Alpha was used, and its value in this study was estimated to be 0.855.

Discussion

The results of this study show that the combination of knowledge management and customer relationship management (CRM) plays an important role in the formation of interactive learning spaces. Knowledge management, by focusing on the collection, storage, and dissemination of organizational and customer information, allows organizations to transform existing knowledge into a structured form that can be used in decision-making.

On the other hand, customer relationship management, by providing continuous and interactive communication with customers, provides valuable feedback and real-time data on customer needs and behaviors (Wang et al, 2024). The combination of these two areas allows organizations to manage internal and external knowledge in an integrated manner and create a dynamic and learning environment for interactions. This study shows that the creation of interactive learning spaces requires the design of organizational processes that include both internal knowledge and customer feedback (Haris, 2025). Organizations that have the ability to collect customer data and analyze it can develop their strategies in a targeted and evidence-based manner (Ghorbani, 2022). Also, through knowledge management, this data and experiences are transformed into operational and strategic knowledge that can be effective in improving products, services and internal processes.

As a result, the interaction between knowledge management and CRM improves the quality of decision-making and increases innovation in the organization. One of the key findings of the research is that the combination of knowledge management and CRM significantly increases the level of customer interactions. These interactions not only lead to customer satisfaction, but also provide opportunities for organizational learning. When customers provide feedback and opinions, organizations can record this information in the form of organizational knowledge and use it to improve processes and design better experiences. Therefore, the interactive learning environment creates a dynamic and continuous cycle between the customer and the organization that brings long-term added value to both parties.

The research also showed that information technologies and digital systems play a pivotal role in the convergence of knowledge management and CRM. Advanced CRM systems enable

the storage and analysis of customer data, and knowledge management helps organizations transform this information into actionable knowledge by creating databases, learning systems, and analytical tools. From this perspective, the combination of technology, knowledge, and customer engagement provides the necessary infrastructure to create interactive and dynamic learning environments, enabling organizations to respond more quickly to market changes and customer needs.

The analysis of the results shows that organizational culture and leadership also play a decisive role in the success of this combination. Organizations that have an open and learning culture and whose leadership focuses on encouraging innovation, knowledge sharing, and customer interaction can effectively integrate knowledge management and CRM. In these circumstances, employees are encouraged to share their knowledge with others and use customer experiences as learning resources. As a result, an interactive learning environment is formed not only at the process level, but also at the level of employee behavior and attitude.

Conclusion

It can be said that the combination of knowledge management and customer relationship management provides a suitable basis for creating interactive learning spaces that lead to improved organizational performance, increased customer satisfaction and promotion of innovation. These findings show that organizations cannot manage these two areas separately, but rather their convergence creates real value. Therefore, it is recommended that organizations provide the necessary basis for exploiting these capacities by investing in appropriate technologies, training employees and promoting a learning culture and use its benefits for sustainable growth and development.

The increasing development of management information systems provides the ability to use customer data in the form of large databases. Generally, many effective marketing insights are hidden under customer characteristics and their purchasing patterns, and knowledge-based marketing management can help to reveal them. Recent emphasis on customer relationship management has made the marketing function an ideal application area for analyzing customer data. Therefore, considering this sense of need and deficiency, the overall goal of the present study was to present a customer relationship management model with a knowledge management approach. No matter how comprehensively conducted, any research, due to some substantive and formal limitations, including subject and time, is not able to address the different dimensions of a subject. This study was no exception to this rule. Therefore, the following suggestions are presented for conducting research in line with the research topic and developing it. It is suggested to compare the structural model of the present study in other companies in order to examine its strengths and weaknesses, in order to take a step towards improving or modifying the model to achieve a model suitable for the local community context. Also, new variables were added to the model to measure the impact of these variables. In addition, the statistical population of respondents can leave different results due to the change in geographical, cultural and political location; therefore, it is suggested that future research be conducted in new statistical populations. Organizations should develop integrated knowledge management and CRM systems so that customer information and internal knowledge are available simultaneously and up-to-date. In this way, employees can make more informed decisions with quick access to data and previous experiences and effectively apply customer feedback in product and service improvement processes. To integrate Knowledge Management (KM) and Customer Relationship Management (CRM) in building collaborative learning spaces, learning theories can serve as a strong conceptual backbone. Kolb’s Experiential Learning Theory helps explain how students learn through a cycle of experience, reflection, conceptualization, and experimentation. KM processes—such as capturing best practices, documenting experiences, and sharing lessons learned—directly support this cycle by making experiential

knowledge available to learners. CRM, in turn, provides insights into learners' needs and behaviors, enabling the design of personalized experiential activities that better align with the different learning styles described by Kolb.

Vygotsky's Social Development Theory emphasizes the importance of social interaction, scaffolding, and the Zone of Proximal Development (ZPD). This theoretical lens highlights why integrating CRM and KM can enhance collaborative learning spaces: CRM systems help educators understand where each learner stands, while KM provides shared resources and expertise that act as scaffolds. By combining these, educational environments can create structured collaborative activities in which learners support one another, guided by instructors or knowledge brokers. The social dialogues encouraged by Vygotsky's theory naturally align with the interactive features of collaborative learning platforms.

Finally, Wenger's Communities of Practice (CoP) framework reinforces the value of shared learning environments where learners develop a sense of belonging, mutual engagement, and shared repertoires of knowledge. Integrating KM and CRM supports the creation of such communities by making knowledge accessible, tracking participation patterns, and enabling ongoing interaction among learners. When CRM identifies learners' interests and engagement levels, and KM provides a platform for sharing resources and practices, a functioning CoP can emerge—one that continuously generates and exchanges knowledge. Through this lens, collaborative learning spaces become not just technological tools but living, evolving communities of learners.

The use of analytical dashboards and business intelligence tools can facilitate this process.

- Holding joint meetings and workshops between CRM teams and knowledge management teams can help exchange experiences and create an interactive learning environment. These meetings enable customer feedback to be converted into operational knowledge more quickly and used in the design of new products and services. Also, these interactions pave the way for the creation of an open and collaborative organizational culture.

-Organizations should foster a culture of continuous learning and knowledge sharing at the employee level. This can include regular training in knowledge management and CRM, creating incentives for sharing work experiences and successes, and using internal organizational social networks. Strengthening this culture creates an environment where learning from interactions with customers and colleagues is continuous.

-Paying attention to new technologies and digital tools, especially data analysis systems, artificial intelligence, and machine learning, can increase the organization's capacity to create interactive learning spaces. These technologies help organizations predict customer behavior patterns, update organizational knowledge, and carry out continuous improvement processes automatically and intelligently.

-Organizations should design processes that quickly feed customer feedback into the organizational learning cycle. These processes can include central databases, rapid reporting systems, and regular feedback sessions with relevant teams. Such a mechanism ensures that any changes in customer needs and expectations are quickly reflected in strategic and operational decisions.

-Encouraging innovation and the use of pilot projects can enhance interactive learning experiences. Organizations can provide opportunities for experimentation and learning by launching small, pilot projects based on customer feedback and existing knowledge. The results of these projects can be added to organizational knowledge and used on a larger scale to improve products, services, and processes.

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The author declares that he has no competing financial interests or known personal relationships that would influence the report presented in this article.

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