



EMPOWERED TO INNOVATE: HOW LEADERSHIP AND CUSTOMER KNOWLEDGE SHAPE COMPETITIVE ADVANTAGE IN SMES

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Abstract

Purpose: The present study examines the potential connections between empowered leadership, customer knowledge management, ambidextrous innovation, and competitive advantage. Customer knowledge management and empowered leadership play important mediating roles in such associations in SMEs, where human, technological and financial resources are limited.

Design/methodology/approach: Using a convenient random sampling technique, a sample of 290 professionals in Pakistan's manufacturing sector was selected and data were collected via a structured questionnaire. The subsequent analysis employed structural equation modelling (SEM) with Analysis of Moment Structure (AMOS).

Findings: The study's findings enhance the existing body of knowledge with empirical evidence that customer knowledge management acts as a mediator in the connection between empowered leadership and ambidextrous innovation. Further, ambidextrous innovation mediates the relationship between customer knowledge management and competitive advantage.

Originality/value: This study fills existing gaps in present-day research by offering a nuanced perspective on how empowered leadership enrich the ambidextrous innovation via customer knowledge management. It also explore the ambidextrous innovation as a mediator between customer knowledge management and competitive advantage in Pakistan's manufacturing sector.

Keywords: Empowered Leadership, Customer Knowledge Management, Ambidextrous Innovation, Competitive Intensity, Resource-Based View

1. Introduction

Small and Medium-Sized Enterprises (SMEs) are essential in developing nations because they stimulate economic growth through their capacity to generate revenue, encourage innovation, improve competitiveness, and contribute to overall economic resilience. In Pakistan, SMEs constitute over 90% of the total enterprises. These SMEs play a significant role in the country's economy, contributing approximately 40% to its gross domestic product (GDP). Further, the government has a five-year SME Development Plan from 2020 to 2025 to increase SMEs' GDP contribution to 50% (Rector & Director, 2022). However, most SMEs in Pakistan require assistance due to a lack of knowledge, human resources, and financial resources compared to larger or more established businesses in the country. This suggests that to enhance their



performance, Pakistani SMEs should learn more about their customers and adopt more effective types of leadership.

Modern leadership style has shifted from traditional top-down management styles to a more empowered approach (e.g., Empowering Leadership). Empowering leadership involves giving more autonomy and control to employees, allowing them to make decisions and take ownership of their work, resulting in a more collaborative and innovative workplace culture (Ahwaseel, 2023). Empowered leaders do not dominate their teams by dictating every action; instead, they function as facilitators and coaches, offering their teams the skills, resources, and direction they need to thrive (Kim & Beehr, 2023). Empowered leaders believe in their workforce's inherent competence and potential. They understand that when people feel appreciated, trusted, and engaged, they are more inclined to take the lead, provide novel ideas, and push initiatives ahead with enthusiasm and commitment. Further, the strategy of empowered leadership boosts employees' morale and loyalty and helps cultivate an organization's culture that supports development, innovation, and adaptability (Northouse, 2013). Therefore, modern enterprises prioritize empowered leadership to enhance their overall performance, increase employee morale, and improve bottom-line results (Afzal et al., 2026). In other words, empowered leadership positively influences customer knowledge management by fostering a culture of collaboration and knowledge sharing. When leaders empower their teams, employees are more likely to gather and disseminate customer insights and knowledge. Recent studies have explored the link between empowered leadership and knowledge management (Offergelt et al., 2019). However, these studies have yet to explore the effect of empowered leadership on managing specific types of knowledge, such as customer knowledge.

Knowledge is one of a company's most valuable assets; thus, businesses must handle both internal knowledge and knowledge acquired from consumers (Chaithanapat & Rakthin, 2021). Ghahtarani et al. (2020) suggested that firms can better understand customers' needs, wants, and behaviours through customer knowledge management (CKM). CKM refers to the adaptive capacity to create, disseminate, and safeguard knowledge regarding a company's customers (North & Kumta, 2018). However, a number of studies have indicated that organizations that use knowledge management practices have the potential to enhance their innovation capacity and overall performance (Chaithanapat et al., 2022a; Momeni & Mousavi, 2020). Additionally, researchers need to investigate the consequences of CKM. Varadarajan (2020) and Migdadi (2021) have proposed that further research is required on the outcome variables of CKM, including competitive advantage and the mediating role of innovation. Further exploration of the moderating variable between CKM and business performance was also recommended in the study conducted by Chaithanapat et al. (2022a). Ambidextrous innovation is another critical resource for a firm's performance. Over the last decade, fierce competition and technological advancements have significantly influenced the corporate industry, resulting in a greater demand for ambidextrous innovation. Ambidextrous innovation enables organizations to effectively balance the need for exploration and exploitation to pursue sustainable growth and competitiveness. Several research studies have highlighted the significance of ambidextrous innovation and its effects on business success (Shehzad et al., 2023b; Mahmood & Mubarik, 2020; Limaj & Bernroider, 2019).

Ambidextrous innovation, the ability to successfully manage both exploratory and exploitative innovation, can provide competitive advantages for businesses of any size. As a result, the impact of ambidextrous innovation on firm performance has been a classic subject of study. Therefore, we emphasize the role of ambidextrous innovation in our research model for small and medium-sized enterprises in Pakistan. This research investigates the effect of empowered leadership, customer knowledge management, and ambidextrous innovation on a firm competitive advantage by using competitive intensity as a moderator in the Pakistani SME perspective. Thus, our study addresses several study gaps by examining the concepts of empowered leadership, customer knowledge management, ambidextrous innovation, and firm competitive advantage within developing nations, where literature is limited (Shehzad et al., 2023b; Chaithanapat et al., 2022a; Ávila, 2022). The study's most important contributions come from examining the mediating roles for two variables (customer knowledge management and ambidextrous innovation), which show that customer



knowledge management mediates the relationship between empowered leadership and ambidextrous innovation and that ambidextrous innovation mediates the relationship between customer knowledge management and firm competitive advantage. The subsequent portions of the study are structured into five sections: theoretical background, hypothesis formulation, methodology, findings, and discussion.

2. Theoretical Background

2.1 Empowering Leadership

Empowering leadership is a conceptual framework that deviates from conventional authoritarian leadership approaches. According to Ahwaseel (2023), empowering leadership prioritizes the enhancement of individual autonomy, self-efficacy, and intrinsic motivation through participatory decision-making, power sharing, and a supportive work environment. Joo et al. (2023) state that empowering leadership motivates followers to develop expertise and knowledge to solve problems effectively and promotes an environment where individuals can freely express their innovative ideas. Moreover, empowering leadership depends on three key factors: psychological empowerment, trust in leadership, and a supportive organizational culture (Joo et al., 2023; Lee et al., 2018). Psychological empowerment refers to how much control employees feel over their work and its impact on the organization. Trust in leadership is about the degree to which employees believe their leaders are honest, competent, and have their best interests in mind. Finally, a supportive organizational culture enables employees to thrive by providing the resources, support, and opportunities they need to succeed. Several research studies have emphasized the positive impact of empowered leadership on various organizational outcomes, such as employee creativity (Zhang & Bartol, 2010), collaborative culture (Cheong et al., 2019), and organizational commitment (Kim & Beehr, 2023). Therefore, a comprehensive understanding of empowering leadership is of utmost importance for leaders and researchers as organizations increasingly recognize the need to cultivate a motivated and empowered workforce.

2.2 Customer Knowledge Management

The customers' knowledge is derived from an in-depth association formed by the firm's engagements. This association incorporates various aspects of the consumers' values, experiences, and perceptions to create a complete awareness of the customer (Chaithanapat & Rakthin, 2021). Wu et al. (2013) categorised customer knowledge into three types: "1). knowledge about customers, 2). knowledge for customers, 3) and knowledge from customers." Sharifi et al. (2022) argue that an organization's customers are a valuable source of knowledge. Further, organizations can gain insight into customers' issues, needs, and wants by directly interacting with them via Customer Knowledge Management (CKM). This process may provide an actual knowledge that helps to understand the customer behaviour. Businesses use CKM to communicate with customers and understand their needs, wants, and issues, which helps explain their behaviour. Bohlooli et al. (2022) stated that the effectiveness of CKM relies heavily on an organization's capacity to nurture and manage relationships with customers to obtain, exchange, and leverage knowledge that benefits both the customers and the organization. In addition, Seifollahi (2023) explains that a business has the potential to acquire valuable insights and knowledge from its customers. This knowledge can then be effectively disseminated through customer interactions, allowing for a more informed and satisfactory customer experience. Thus, CKM involves the formulation of novel platforms and methods that facilitate the exchange of knowledge between organizations and their customers (Chaithanapat et al., 2022a). This study employs a definition of CKM as defined by Chaithanapat et al. (2022a) and Bohlooli et al. (2022).

2.3 Ambidextrous Innovation

The idea of ambidextrous innovation, which encompasses both exploitation and exploration, was initially introduced by March (1991). O'Reilly III and Tushman (2011) propose a conceptual framework that defines an ambidextrous approach as an organization's capacity to effectively engage in exploitation activities in established markets and exploration activities in emerging markets. Many scholars support the concept that organizations should integrate exploitative and exploratory innovations to ensure their viability and effectiveness in both the short and long-run perspectives (Soto-Acosta et al., 2018; Cantarello et al., 2012). Therefore, the present study examines the importance of exploitative innovation and exploratory innovation in the context of firms' strategic orientation towards survival and competitiveness.



Exploitative innovation is primarily concerned with short-term objectives, aiming to enhance firms' immediate survival and competitive advantage (van Lieshout et al., 2021). On the other hand, exploratory innovation is characterized by a long-term perspective, aiming to ensure firms' sustained survival and competitiveness in the dynamic business environment. The distinction between exploitative and exploratory innovation lies in their respective orientations toward time horizons and strategic goals (Chang et al., 2019). Exploitative innovation is driven by the need to exploit existing resources, capabilities, and market opportunities to maximize short-term gains. It involves incremental improvements, optimizations, and refinements of existing products, processes, and business models (Soto-Acosta et al., 2018). This approach allows firms to capitalize on their current strengths and exploit market demand effectively. In contrast, exploratory innovation is characterized by a proactive and forward-thinking mind-set. It involves the exploration of new technologies, markets, and business models to create novel opportunities. Our research is grounded according to the premise of March (1991) that exploratory and exploitative innovations are not contradictory in nature but rather complement each other and should coexist.

2.4 Competitive Advantage

Competitive advantage refers to the capacity of a company to surpass its competitors within a specific market or industry, thereby establishing a superior market position and achieving increased profitability (Lee et al., 2022). The significance of competitive advantage in emerging countries is heightened by these nations' dynamic and frequently challenging business environments (Makhloufi et al., 2021). Firms operating within emerging markets encounter unique circumstances, distinguishing them from their competitors in more established economies (Lee et al., 2022). Competitive advantage can be accomplished by utilizing various strategic approaches, such as product differentiation, innovation, local responsiveness, and cost leadership. Cost leadership entails implementing strategies to achieve a competitive advantage by offering products or services at lower costs than competitors (Darmawan & Grenier, 2021). By streamlining operations, optimizing efficiencies, and leveraging economies of scale, businesses can effectively reduce production costs and offer more affordable solutions to customers.

On the other hand, product differentiation involves the creation of unique and distinctive offerings that set a business apart from its competitors (Yuki & Kubo, 2023). Various research studies have extensively discussed the importance of competitive advantage in the context of business strategy and performance (Yuki & Kubo, 2023; Nahar et al., 2021; Makhloufi et al., 2021). Competitive advantage is a central concept that influences an organization's ability to survive and thrive in a competitive marketplace. Furthermore, the growth of emerging economies as significant players in the global market has keen interest in understanding how companies in these markets can establish and sustain a competitive edge. This research aims to review and explore the various dimensions of competitive advantage in emerging countries, analysing the pivotal factors, obstacles, prospects, and evolving patterns that characterize this dynamic setting.

2.5 Competitive Intensity

Competitive intensity refers to the level of competition that enterprises experience within a particular industry (Sakiyama et al., 2023). Porter (1980) suggests that competition intensity can be determined by factors such as price wars, advertising campaigns, product diversity, service provision, and additional services. According to Dzikowska and Malik (2023), competitive intensity arises from rivalry among organizational units, marketing warfare, competitive moves, and offerings inside a specific market. Companies today face more significant uncertainty because of increased competition in the market (Sharfaei et al., 2023). This study defines competitive intensity as the level of competition that enterprises encounter within the industry, comprising factors such as intense rivalry, aggressive advertising strategies, price-based competitions, and various competitive strategies (Anning-Dorson, 2018; Tariq et al., 2023).

2.6 Hypothesis Development

2.6.1 Empowered Leadership and Customer Knowledge Management. According to Goswami and Agrawal (2023), leadership is vital to the knowledge-creation process of organizations. Leadership in an organization fosters a shared vision, boosts employee performance, and promotes ongoing learning (Haider et al., 2022). Prior research studies have posited that the implementation of empowering leadership practices





2.6.3 Empowered Leadership and Ambidextrous Innovation. Wang et al. (2022) claimed that empowering leadership is crucial in accomplishing innovation through efficient knowledge management. Studying the relationship between empowered leadership, innovation, and knowledge management in the Indian organizational context, Rao Jada et al. (2019) found that empowered leadership directly affects the organization's innovation capability. In a study on the impact of empowering leadership, knowledge management, and innovation performance in service-based firms of the UAE, Abukhait et al. (2019) found that empowering leadership has a positive effect on innovation performance. Similarly, Muhammed and Zaim (2020) studied the relationship between empowered leadership and knowledge management and innovation performance and found a significant positive effect of empowered leadership on innovation performance. Therefore, it is anticipated that leadership styles that foster a culture of continuous learning within firms will have a significant influence on the quality of innovation produced by these firms. Thus, the purpose of this study is to test the following hypothesis on the effect of Empowering Leadership on Ambidextrous Innovation in the context of SMEs.

Hypothesis 3. *Empowering Leadership (EL) significantly affects Ambidextrous Innovation (AI) in SME firms.*

2.6.4 Mediating Effect of Customer Knowledge Management. In their recent study, Lam et al. (2021) sought to investigate the potential mediating role of knowledge management capabilities in the relationship between leadership styles and innovation capability, recognizing the importance of effective leadership and knowledge management in fostering organizational innovation. Empowering leadership has a significant effect on knowledge management activities to encourage a firm's innovation, specifically in technology-intensive enterprises that are necessary to explore and exploit knowledge to survive in the market (Naqshbandi et al., 2019). In addition, the knowledge management practices were investigated by Abualoush et al. (2018) as a potential mediator of the connection between empowering leadership and innovation output. Their study highlights how knowledge management practices and empowered leadership work together to promote organizational innovation performance. Even though numerous empirical research has been conducted to explore the mediating effect of knowledge management on the association between empowering leadership and innovation, the investigation of CKM as a mediator is still lacking. Therefore, the present study investigates the mediating role of customer knowledge management in the relationship between empowered leadership and ambidextrous innovation. Hypothesis proposed by this study is as follows:

Hypothesis 4. *Customer knowledge management (CKM) plays a mediating role in the relationship between empowering leadership (EL) and ambidextrous innovation (AI) in SME firms.*

2.6.5 Ambidextrous Innovation and Competitive Advantage. SMEs frequently encounter limitations in terms of resources despite being recognized for their unique capacity for innovation. Modern SMEs have created a comprehensive framework that evaluates the synergistic influence of network alliance, marketing, innovation, and learning capacities on the organization's performance, enhancing its competitive advantage (Mady et al., 2023). Further, these network alliances and learning capacities also increase the openness of the organization towards a change of environment linked with the innovativeness of the firm (Sijabat et al., 2020). Innovative enterprises have become increasingly flexible and agile in order to respond to changes in the market effectively (Alam et al., 2023). According to Shehzad et al. (2023b), this aim of adaptive capability is achieved through two types of innovation: radical or exploratory innovations and incremental or exploitative breakthroughs. Firm innovation, as shown in the availability of human resources to sustain an innovative culture, was positively connected with its competitive position (Bibi et al., 2020). Shehzad et al. (2023b) state that this innovation process involves a delicate balance between exploratory innovation, which consists of exploring new and untested ideas, and exploitative innovation, which involves refining and improving existing ideas. In their recent study, Li et al. (2020) found that "a successful company with a competitive advantage is a company that can strike a balance between exploitative innovation and exploratory innovation." Based on empirical investigations on established manufacturing firms, implementing both exploratory and exploitative innovations may significantly enhance the competitive advantage (Li et al., 2020; Shehzad et al., 2023b; Bibi et al., 2020).



This highlights the need to explore more research on ambidextrous innovation and diverse strategies to achieve a competitive advantage in the market (Ashrafi & Zareravasan, 2022). In light of these previous research studies, our study proposes the following hypothesis:

Hypothesis 5a. *Ambidextrous Innovation (AI) has a significant positive effect on firm Competitive Advantage (CA) in SME firms.*

2.6.6 Customer Knowledge Management and Competitive Advantage. The relationship between knowledge management and competitive advantage has been a significant study area for decades (Chaithanapat & Rakthin, 2021). Chaithanapat et al. (2022a) stated that knowledge is a critical factor in enhancing a company's capacity to innovate, transform, and maintain a competitive advantage. Scholars argue that knowledge from outside the business, specifically from customers, helps create customer-centric strategies, strengthening loyalty and brand value (Nadube & Ngbaawii, 2023; Naim, 2022). The study by Martins et al. (2019) highlights the importance of knowledge flows within organizations, facilitating creativity and strategic alignment. Subsequent research has provided a comprehensive understanding of the many aspects of knowledge management, which include the collecting of customer data, the participation of customers in innovation processes, and the distribution of consumer insights throughout different organizational units. By actively involving customers (i.e., Co-Creation) in the value-creation process, organizations can tap into their unique insights, preferences, and needs, ultimately leading to the design of offerings that are tailored to their specific requirements (Bu et al., 2022). Solakis et al. (2022) claimed that one of the key benefits of co-creating value with customers is enhancing the competitive advantage. Muukkonen (2020) stated that customer-specific knowledge is essential for competitive advantage. By researching this field, businesses may learn more about their customers' needs and wants, which can increase their performance. For that reason, the present study investigates the effects of customer knowledge management on the firm competitive advantage. A hypothesis proposed by this study is as follows:

Hypothesis 6. *Customer Knowledge Management (CKM) has a significant positive effect on firm Competitive Advantage (CA) in SME firms.*

2.6.7 Mediating Effects of Ambidextrous Innovation. Previous research has indicated that knowledge management can increase company performance through its indirect impact on ambidextrous innovative capabilities (Shehzad et al., 2023a; Sadeghi et al., 2023). Ambidextrous Innovation capability is effective when a firm has good knowledge about customers (Scuotto et al., 2020). Quality of customer knowledge provides an organization with a clear view of the existing and future market trends. Zhang et al. (2022) studied "Big Data Capability and Sustainable Competitive Advantage: The Mediating Role of Ambidextrous Innovation Strategy" among 229 Chinese manufacturing firms. This study "investigate how big data capability is achieved through exploitative, explorative and ambidextrous innovation strategies, and will also explore how they can, in turn, build firms' sustainable competitive advantage". The study found a significant correlation between big data and ambidextrous innovation. Additionally, ambidextrous innovation played a significant mediating role in enhancing firm competitive performance.

According to Sadeghi et al. (2023), firms can enhance their performance, including innovation quality and marketing outcomes, by integrating knowledge management and ambidextrous innovation strategy. In addition to demonstrating a significant impact of knowledge management on company performance, the study conducted by Riaz et al. (2023) also established the significant indirect influence of knowledge management on firm performance by employing ambidextrous innovation capability. Based on a comprehensive literature review, we found several studies exist on the relationship between knowledge management, ambidextrous innovation, and firm performance. However, there is no single study on customer knowledge management, ambidextrous innovation, and firm competitive advantage. This gap motivates us to research on this line. Therefore, our hypothesis is:

Hypothesis 7. *Ambidextrous Innovation (AI) mediates the relationships between customer knowledge management (CKM) and Competitive Advantage (CA).*

2.6.8 The Moderating Role of Competitive Intensity. According to Chaithanapat et al. (2022b), high levels of competition in the market can diminish the availability of knowledge resources necessary for



maintaining the quality of innovation, particularly for small and medium-sized enterprises (SMEs). Consequently, the effective functioning of CKM may be disturbed when there is a significant increase in competitive intensity. In a highly competitive market, customers can easily switch to competitors' products or services (Mugo, 2020). This challenges the interaction between CKM and ambidextrous innovation, making it harder for SMEs to establish long-term customer relationships. Even though a study by Kmiecik and Michna (2018) found that competitive intensity moderates the relationship between knowledge management and innovativeness, however, no research has explored its effect on CKM and ambidextrous innovation. CKM can positively influence ambidextrous innovation, which refers to a company's ability to explore new opportunities and exploit existing resources simultaneously. Furthermore, the presence of intense competition within a given market can potentially yield favourable outcomes in terms of the interaction between CKM and ambidextrous innovation. The findings of this study indicate that the existence of a high level of competitive intensity within a market may enhance the advantages of utilizing CKM in fostering ambidextrous innovation. In light of the argument as mentioned above, we propose the following hypothesis:

Hypothesis 8. *A higher level of competitive intensity (CI) moderate the relationship between customer knowledge management (CKM) on ambidextrous innovation (AI).*

3. Methodology

3.1 Sample and Data Collection

A quantitative research methodology is considered to be appropriate when the primary purpose of the research is to investigate the significant relationship between variables (Creswell et al., 2003). This study involves a deductive approach, which aims to test the hypotheses derived from existing theories. By using this method, the study is able to provide an in-depth analysis of the research problem and establish a solid theoretical foundation (Buchanan & Bryman, 2007). In order to evaluate the hypothesis, data was collected through surveys to measure the latent construct in the research model. The population of interest for this study consists of manufacturing enterprises accredited under ISO 14001 by the "Securities and Exchange Commission of Pakistan" (SECP). The manufacturing sector was chosen because of its size and importance to Pakistan's economy; it is the country's second-largest economic driver, following the agriculture sector. Moreover, it is one of the most influential industries that continues to strive to gain a competitive advantage. During this era of economic transition and competitiveness, manufacturing firms must gain CA for their long-term survival in the market (Arsawan et al., 2022). Therefore, the research sample for this study comprised Pakistani manufacturing firms. Data was collected from a total of 290 enterprises located in five major industrial cities in Pakistan, specifically Lahore, Karachi, Islamabad, Gujranwala, and Faisalabad, over the period comprising from August to December 2024.

For this study, we utilized the non-probabilistic convenience sampling method to collect data by selecting individuals in managerial positions. These participants were chosen due to their responsibility in making strategic decisions, which makes them the most appropriate candidates for this research. They had better access to relevant information and contributed significantly to cross-departmental knowledge exchange (Shahzad et al., 2020). In accordance with previous research, a total of 420 questionnaires were sent to employees after official authorization. We extended an invitation to them to participate in the collection of data, given their knowledge of the organization's policies and practices. The data was collected through several methods, such as online questionnaires and self-administered procedures. There were no spelling, grammar, or punctuation errors in the original text. We received a total of 325 responses, out of which 35 were identified as incomplete or requiring additional information. After discarding inadequate questionnaires, 290 valid responses were obtained, resulting in a response rate of 69.04%. In addition, data is also collected for use as the control variable (i.e., organization ownership, organization age, and organization size) of 288 sample enterprises (Summarised in Table 1).

**Table 1***Demographic Characteristics of Respondents*

Characteristics	Classifications	Frequency	Percent %
Ownership	Government Owned	132	45.52
	Private	158	54.48
	Total	290	100.00
Organization Age	< 5 Years	55	18.97
	6-10 Years	67	23.10
	11-20 Years	77	26.55
	> 21 Years	91	31.38
	Total	290	100.00
Organization Size	< 20	84	28.97
	21-50	74	25.52
	51-100	76	26.21
	> 100	56	19.31
	Total	290	100.00

3.2 Measurement

The questionnaire finally used in this study was developed following a three-step process recommended by Christmann (2000). First, we constructed scales for all of the variables after carefully reviewing the previous literature in the relevant field. Second, we consulted two scholars and, with their assistance, enhanced the clarity and comprehensibility of the measuring scale. Thirdly, the completed questionnaire consisted of six sections based on the methods to understand the concepts better. The first part describes the study objective and explains the variables being examined. Further, the second section consisted of the participant's demographic information. In the third part, twelve items from Ahearne et al. (2005) were adopted to measure "Empowering Leadership." These items investigate the aspects of the leader-employee interaction inside organizations, specifically focusing on how leaders may enhance trust and confidence among their staff members. CKM was evaluated in the fourth section using fourteen items adapted from Taherparvar et al. (2014) to measure three aspects of CKM: "knowledge about customers, knowledge of customers, and knowledge from customers."

In the fifth part, the study used twelve-item scales to measure the AI, in which six items were used to assess exploratory innovation, and six were used to analyze exploitative innovation from the studies of Limaj and Bernroider (2019). The variable competitive advantage in the sixth part has four items, further consisting of two indicators -- "taking advantage of opportunities and neutralizing threats." adapted from Sigalas et al. (2013). In the sixth and final section, six items were included to measure competitive intensity, adapted from Grewal, Jaworski and Kohli (1993) research. The questionnaire items were developed to measure different dimensions of "intense competition," such as intense competition, promotion war, price competition, and innovative competitive strategies. The measurement of these dimensions was based on self-report data. A pilot test was conducted to assess the validity and reliability of the selected items. The constructs included in the pilot survey were found to be internally consistent, with values ranging from 0.74 to 0.87, which met the 0.7 thresholds recommended by Hair et al. (2016). This encouraged the author to start an in-depth study.

4. Data Analysis

The presented hypotheses were examined using SPSS 24 and AMOS 24. The data collection and screening step included checking missing values, identifying multivariate outliers, assessing normality. The results presented in Table 2 show both the descriptive statistics and correlations. Our findings indicate that none of the control variables had a significant relationship with the dependent variables. Petersitzke (2009) found that including control variables, which have no significant association with the dependent variable, may affect the coefficients of significant components in the regression model. As a result, the final model does not include any demographic factors.



Table 2

Descriptive Statistics and Correlation

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. Ownership	NA	NA	1							
2. Org. Age	NA	NA	.035	1						
3. Org. Size	NA	NA	.036	.023	1					
4. EL	3.72	0.85	.020	.010	.023	1				
5. CKM	2.48	0.87	.039	.056	.011	.598**	1			
6. AI	3.06	0.88	.071	.035	.002	.461**	.417**	1		
7. CI	3.62	0.86	.032	.050	.042	.363**	.269**	.452**	1	
8. CA	3.67	0.83	.019	.018	.035	.482**	.386**	.487**	.657**	1

Note. ** = $p < 0.01$ level, * = $p < 0.05$ level. EL = Empowering Leadership, CKM = Customer Knowledge Management, AI = Ambidextrous Innovation, CI = Competitive Intensity, CA = Competitive Advantage, Org. = Organization.

4.1 Confirmatory Factor Analysis (CFA)

In order to assess the adequacy of the model fit, we applied several model fit indices: "CMIN/df, the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root-mean-square error of approximation (RMSEA) (Byrne, 2005)." According to previous research (Hair et al., 2013), a good model fit is defined as CFI and TLI scores above 0.90 and an RMSEA value less than 0.08. The results of our first model, which was applied to all items of five variables, showed low fit statistics (CMIN/df = 2.057, CFI = 0.863, TLI = 0.856, and RMSEA = 0.059).

In order to examine the second model, seven items with low factor loading were removed, including three items from customer knowledge management and four from ambidextrous innovation. The statistics of the model fit of the data achieved good levels, with the CMIN/df value being 1.720, the CFI value being 0.925, the TLI value being 0.920, and the RMSEA value being 0.049. The constructs' factor loadings, reliability, and validity are shown in Table 3.

Table 3

Confirmatory Factor Analysis, Reliability and Validity

Construct	Items	Loading	(CR)	(AVE)	(MSV)
Empowering Leadership	EL4	.628	0.929	0.544	0.301
	EL3	.755			
	EL2	.819			
	EL1	.822			
	EL5	.781			
	EL6	.775			
	EL7	.778			
	EL8	.606			
	EL9	.688			
	EL10	.662			
	EL11	.761			
	EL12	.628			
Customer Knowledge Management	KC4	.897	0.939	0.530	0.304
	KC3	.868			
	KC2	.535			
	KC1	.607			
	KAC4	.806			
	KAC3	.665			
	KAC2	.612			
	KFC4	.655			



Construct	Items	Loading	(CR)	(AVE)	(MSV)
Ambidextrous Innovation	KFC3	.829	0.915	0.546	0.302
	KFC2	.741			
	KFC1	.872			
	EXPLI1	.757			
	EXPLI2	.742			
	EXPLI3	.751			
	EXPLI4	.666			
	EXPLO1	.541			
	EXPLO2	.759			
	EXPLO3	.822			
	EXPLO4	.773			
	EXPLO5	.802			
	EXPLO6	.657			
Competitive Intensity	CI1	.766	0.851	0.623	0.456
	CI2	.733			
	CI3	.775			
	CI5	.791			
	CI6	.723			
	CI1	.721			
	CI1	.721			
Competitive Advantage	CA1	.777	0.868	0.623	0.464
	CA2	.829			
	CA3	.815			
	CA4	.732			

4.2 Common Method Variance (CMV)

Podsakoff et al. (2003) found that if data is collected from just one source, the validity of the findings may be compromised due to the presence of common method variance (CMV). The current research examined the effectiveness of Harman's single-factor test in assessing CMV. The findings demonstrated that all the elements may be classified into five distinct factors, with the first factor accounting for a mere 19.67% of the variability. Thus, Harman's single-factor test confirmed that common method variance (CMV) did not affect the analysis.

4.3 Hypotheses Testing

4.3.1 Testing Direct Effects. The hypotheses of the study were examined using structural equation modeling (SEM). Like prior research in human resource management (Ringle et al., 2020), we used SEM to examine hypotheses, both directly and indirectly. The main advantage of evaluating hypotheses in SEM is that it can address the presence of measurement error within a measurement model. The first hypothesis of the research posited that "H1: Empowering leadership (EL) has a significant impact on customer knowledge management (CKM) in small and medium-sized enterprises (SMEs)." The association between the EL and the CKM is supported by the results shown in Table 4. The results indicated that EL positively influenced CKM, with a beta coefficient (β) of 0.551 and a p-value of 0.000, supporting hypothesis H1. The second hypothesis of the research posited that "H2: Customer Knowledge Management (CKM) has a significant impact on Ambidextrous Innovation (AI) in small and medium-sized enterprises (SMEs)." The findings in Table 4 confirm the association between the independent variable CKM and the dependent variable AI, with a positive influence (H2: $\beta = 0.122$; $p = 0.042$). Hypothesis 3 of the study identified that "H3: Empowering Leadership (EL) significantly affects Ambidextrous Innovation (AI) in SME firms." Results in Table 4 supported this relationship by showing that the independent variable EL positively impacts the dependent variable AI (H3: $\beta = 0.156$; $p = 0.033$).



Hypothesis 5 of the research posited that "H5: Ambidextrous Innovation (AI) exerts a substantial positive impact on firm Competitive Advantage (CA) in small and medium-sized enterprises (SMEs)." The findings in Table 4 provide evidence for the association between the independent variable AI and the dependent variable CA. Specifically, the results indicate that AI positively influences CA (H5: $\beta = 0.362$; $p = 0.000$). The sixth hypothesis of the research is, "H6: Customer Knowledge Management (CKM) has a significant positive effect on firm Competitive Advantage (CA) in small and medium-sized enterprises' (SME) firms." This association was shown by the findings presented in Table 4, which demonstrated that the independent variable CKM positively influenced the dependent variable CA (H6: $\beta = 0.227$; $p = 0.000$).

Table 4

Standardized Route Coefficients for the Structural Models

Hypothesis	Relationships	β	p	R ²
H1	Empowering Leadership → Customer Knowledge Management	0.551	0.000	0.304
H2	Customer Knowledge Management → Ambidextrous Innovation	0.122	0.042	0.323
H3	Empowering Leadership → Ambidextrous Innovation	0.156	0.033	0.323
H5	Ambidextrous Innovation → Competitive Advantage	0.362	0.000	0.217
H6	Customer Knowledge Management → Competitive Advantage	0.227	0.000	0.217

4.3.2 Testing Indirect Effects. In addition, we conducted a mediation analysis to examine the total, direct, and indirect effects. Iacobucci (2012) stated that it is necessary to specify both the direct and indirect paths simultaneously to estimate either effect while controlling for the other. To test the mediation, we used 5,000 bootstrap resamples, as Preacher and Hayes (2008) recommended, to compute the significance of the indirect effects in SEM. The structural regression (SR) models were tested using AMOS.

The results of the bootstrapping analysis support hypothesis H4, which states that customer knowledge management (CKM) acts as a mediator between empowering leadership (EL) and ambidextrous innovation (AI) in small and medium-sized enterprises (SMEs). Specifically, the analysis revealed that the indirect effect of EL on AI through exploitative CKM was statistically significant (H4: $\beta = 0.067$; $p = 0.045$). Thus, the data from Table 5 partly supported hypothesis H4 since the direct impact was shown to be significant.

Table 5

SR Model Results for Mediation with 5000 Bootstrapping (H4)

	Ambidextrous Innovation (AI)				
	B	S.E	Lower	Upper	P
H4: Empowering Leadership (EL)					
Total Effect	0.22	0.079	0.74	0.391	0.003
Direct Effect	0.155	0.090	0.010	0.348	0.043
Indirect Effect via <i>knowledge management</i>	0.067	0.42	0.010	0.154	0.045

For hypothesis H7, "Ambidextrous Innovation (AI) mediates the relationships between customer knowledge management (CKM) and Competitive Advantage (CA)," the bootstrapping results showed that the indirect effect of CKM on CA via AI was significant (H4a: $\beta = 0.038$; $p = 0.040$). Therefore, hypothesis H7 was partially supported by the results as the direct effect was significant, as shown in Table 6.

Table 6

SR Model Results for Mediation with 5000 Bootstrapping (H7)

Effect	DV: Competitive Advantage				
	B	S.E	Lower	Upper	p
H7: Customer Knowledge Management					
Total Effect	0.232	0.58	0.124	0.356	0.000
Direct Effect	0.194	0.066	0.066	0.327	0.004



Indirect Effect via Ambidextrous Innovation	0.038	0.26	0.003	0.102	0.040
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4.3.3 Testing Moderating Effects. Hypothesis H8, "A higher level of competitive intensity (CI) moderates the relationship between customer knowledge management (CKM) on ambidextrous innovation (AI)." In this study, competitive intensity (CI) was included as moderator in the theoretical model. Various writers have suggested several methods to measure the impact of interactions between two latent variables (Bollen & Paxton, 1998; Marcoulides & Schumacker, 2001). However, the product indicator—first suggested by Kenny and Judd (1984) describes a technique for estimating structural equation models containing a latent product term and employing indicators' products to determine the latent product variable. It is the most popular and consequential method for estimating interaction effects. Hence, the moderating hypotheses H8 were examined using structural equation modelling (SEM) using the product indicator technique, which entails taking the product of the latent independent variable and latent moderator variable in order to identify and quantify the magnitude of interaction effects. For example, the moderating effect of CI was analysed using product terms i.e., CKM x CI (by taking the product of CKM (independent variables) and CI (moderator) to see its interaction impact on dependent variable i.e., ambidextrous innovation (AI). Results of the hypotheses H8 is presented in Table 7.

Table 7

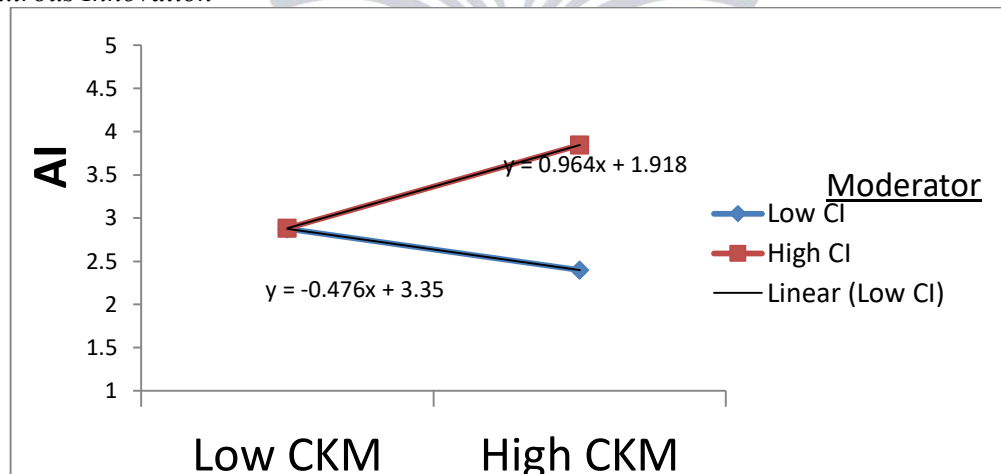
Moderation Effects

Hypothesis	Relationships	β	p	R ²
H8	Competitive Intensity (CI) → Ambidextrous Innovation	0.364	0.000	0.323
	CKM x CI → Ambidextrous Innovation	0.360	0.000	0.323

The results presented in Table 7, show that both the product term (indicators of the interaction terms) i.e., CKM x CI has significant effects on their dependent variables i.e., ambidextrous innovation (H5b: $\beta = 0.117$; $p = 0.036$). Thus, H8 is supported. Furthermore, Figure 2 provides graphic proof supporting the existence of H8. The graph in Figure 2 indicates that the relationship between CKM and AI is influenced by CI, such as the relationship becomes stronger when competitive intensity is high as compared to when it is low.

Figure 2

Moderation Effect of Competitive Intensity on the Relationship between Customer Knowledge Management and Ambidextrous Innovation



5. Discussion

The study's results confirm the significant correlation between leadership and customer knowledge management, which has been previously established by Alani (2019) and Pellegrini et al. (2020) in their empirical studies on knowledge management and leadership. These findings suggest that effective leadership



plays a crucial role in managing customer knowledge and highlights the importance of implementing effective leadership practices in organizations.

Further, the findings of this study highlight the significance of efficient customer knowledge management in promoting ambidextrous innovation within small and medium-sized enterprises. Companies that prioritize the management of customer knowledge are more likely to achieve a balance between exploratory and exploitative innovation, which can lead to sustainable growth and competitive advantage in the long run. The study's findings align with previous research by Chaithanapat and Rakthin (2021) and Fidel et al. (2018) indicating that CKM can boost a company's innovation capabilities. These empirical results indicate the essential role of customers as the primary holders and contributors of novel ideas and knowledge for firms, particularly in SMEs, highlighting the importance of interaction with customers and other consumer-focused activities to drive innovation within organizations.

The positive association between empowering leadership and ambidextrous innovation confirms the findings of Wang et al. (2022) and Waseel et al. (2024b), who figured out that empowering leadership is the most important aspect for companies to improve their innovation performance in the global business environment. This finding highlights the vital role of leaders in creating an innovative and creative culture in organizations. By empowering their employees, leaders can unlock the full potential of their workforce and drive performance to new heights. Based on the findings, it is recommended that small and medium-sized firms (SMEs) that focus on the exploration and exploitation of innovations should give vital importance to promoting empowering leadership as a key component in enhancing innovation performance. Moreover, by empowering employees to take ownership of their work and providing the necessary resources and support, SMEs can effectively balance exploration and exploitation activities and achieve a sustainable competitive advantage.

A positive relationship was found between ambidextrous innovation and competitive advantage. This means that with limited resources, ambidextrous innovation improves SME firms' performance in the competitive market. This research has also identified a positive association between ambidextrous innovation and a firm's competitive standing within the market. The statement aligns with the findings of Sijabat et al. (2020) and Waseel et al. (2024a), which asserts that the use of ambidextrous innovation has a favourable impact on the competitive abilities of shipping firms. This result also addresses the research gap identified by Chaithanapat and Rakthin (2021), who conducted an empirical investigation on the impact of customer knowledge management on innovation quality and marketing performance. However, their study did not explore the connection between innovation capabilities and the competitive performance of the firm. Given the potential significance of ambidextrous innovation in shaping competitive performance, small and medium-sized enterprises (SMEs) need to prioritize cultivating ambidextrous innovation as a means to attain a competitive advantage.

Despite ambidextrous innovation, CKM also positively enhanced the competitive position of the organization. This implies that via the efficient management and utilization of customer knowledge, SMEs can improve their marketing, financial, and operational performance, leading to a competitive advantage. Despite the limited number of studies investigating the relationship between CKM and company performance, the findings of this research align with prior empirical investigations conducted by Adam et al. (2022) and Zaragoza-Sáez et al. (2023). According to Anning-Dorson (2018), "Customer involvement has a favourable impact on customer outcomes (satisfaction and loyalty) as well as company performance (revenues and market share)." Since competitive advantage relates to the extent to which organizations can effectively attain their market-related objectives, like customers (Al Badi, 2018). In this regard, it is evident that CKM has a significant impact on the entire performance of the firm when considering the factors associated with firm performance and competitive advantage.

Additionally, this study is one of the few to test CKM as a mediator empirically. Since CKM is regarded as the external knowledge management related to customers (Gil-Gomez, H., 2020), the findings of this study align with prior work on knowledge management in which CKM functions as a mediator in the relationship between ambidextrous innovation and empowering leadership (Sadeghi et al., 2023; Scuotto et



al., 2020). This indicates that empowering leadership plays a pivotal role in facilitating the positive impact of CKM by SMEs. Furthermore, implementing CKM has a profound impact on promoting ambidextrous innovation, allowing them to effectively balance exploration and exploitation of resources to achieve sustainable growth. In other words, managers and owners of SMEs should prioritize empowering leadership with CKM because the latter is a significant driver for CKM in SMEs and can indirectly impact ambidextrous innovation, which involves exploring new ideas and exploiting existing ones simultaneously.

Finally, this research highlights an additional mediating impact that has been identified in the context of the mediation of ambidextrous innovation in the link between CKM and competitive advantage. According to Zhang (2011), CKM may be seen as a form of external knowledge management linked to consumers. The findings of this study indicate that the relationship between CKM and innovation is partially mediated, which is consistent with the findings of earlier studies conducted by Taghizadeh et al. (2018) and Ferraresi et al. (2012). The findings of this study suggest that when exploring the relationship between CKM and SME performance, i.e., competitive advantage, the concept of ambidextrous innovation plays a crucial role. In particular, the results demonstrate a stronger and more meaningful correlation between these variables when considering ambidexterity. As a result, our research contributes further to the existing knowledge of CKM, Ambidextrous innovation, and competitive advantage.

This study found that competitive intensity positively correlates with CKM and ambidextrous innovation. In other words, a higher level of competitive intensity increases the influence of CKM on ambidextrous innovation. The rationale for this result is that when the level of competition is high, firms rely more on customer knowledge and feedback to innovate and remain competitive. This is because SMEs, in particular, benefit from using customer knowledge management (CKM) to inform their innovation process. The study found that CKM positively correlates with ambidextrous innovation, which is the ability to balance exploration and exploitation of resources. In other words, when SMEs are faced with intense competition, they are more likely to use CKM to drive their ambidextrous innovation efforts, leading to better outcomes and higher competitiveness.

5.1 Practical Implications

The theoretical framework presented in this paper can serve as a valuable reference for future studies in different contexts, including longitudinal research. Moreover, this study addresses the research gap identified by Chaithanapat et al. (2022a), who proposed examining the outcome variables of CKM, such as firm performance, and the mediating influence of innovation capability, such as ambidextrous innovation. Finally, the current research aims to bridge a gap in the existing literature by investigating the relationship among empowering leadership, CKM, innovation capabilities, and firm competitive advantage (firm performance) in developing countries. This area has been overlooked in previous research, with only a few studies conducted by Mai et al. (2022) and Fidel et al. (2018).

The article sheds light on the significant implications that empowering leadership, CKM, and ambidextrous innovation can have on competitive advantage and business performance. It highlights the importance of these factors for managers, industry leaders, and owners to enhance their understanding of how to drive company growth. The study persuades them to adopt empowering leadership practices to promote CKM and achieve better business outcomes. SMEs can differentiate themselves from competitors by fostering strong customer relationships. To achieve this, the managers and owners of SMEs need to have a thorough understanding of their customers' needs, preferences, and feedback. By gaining knowledge about their customers' behaviours, SMEs can tailor their products and services to meet their customers' expectations and build long-lasting relationships. Additionally, SMEs should be proactive in solving customer problems in a timely and effective manner, as this can earn them customers' loyalty and trust. By prioritizing customer satisfaction, SMEs can gain a reputation for being reliable and customer-focused, giving them a significant competitive advantage over other businesses in their industry.

5.2 Limitations and Suggestions for Further Research

Despite the article's contributions, there are certain limitations. The generalizability of the findings may be constrained because the data was obtained from a sample of small and medium-sized enterprises



across several industries in Pakistan. The present investigation adopts a cross-sectional design, as data is gathered at a single point in time. Further, CKM is not analysed with respect to industry type or market share because it may differ significantly across various industries. For instance, according to Chaithanapat and Rakthin (2021), "firms in the service industry can have more CKM than the manufacturing industry since they are closer to the customers; therefore, it is more likely that customers will share their knowledge and experience with them." Moreover, the study suggests that only one moderator - competitive intensity - facilitates the relationships among the variables. However, it is imperative to consider other relevant variables, such as market turbulence, to comprehend the interplay between the variables effectively.

As the present study was carried out in Pakistan, it is recommended that our research model be subjected to testing in different geographical regions for future investigations. It is also recommended to do longitudinal study over multiple time periods in order to investigate the long-term effects of EL, CKM, and AI on business performance. Using a theoretical framework to examine SMEs in specific industries (e.g., support, garment, and hospitality) is recommended.

6. Conclusion

This study examined the relationships among empowered leadership, customer knowledge management, ambidextrous innovation, and competitive advantage in the context of Pakistani manufacturing SMEs. The findings confirm that empowered leadership significantly influences customer knowledge management, which in turn positively affects ambidextrous innovation and competitive advantage. The study also established the mediating role of customer knowledge management in the relationship between empowered leadership and ambidextrous innovation, as well as the mediating role of ambidextrous innovation in the relationship between customer knowledge management and competitive advantage. Furthermore, competitive intensity was found to moderate the relationship between customer knowledge management and ambidextrous innovation.

The theoretical contributions of this study are threefold. First, it extends the application of the resource-based view and knowledge-based view to the SME context in Pakistan, demonstrating how intangible resources such as leadership practices and customer knowledge can generate sustainable competitive advantage. Second, it provides empirical evidence for the mediating mechanisms through which leadership influences innovation outcomes, addressing a gap identified in previous research. Third, it contributes to the growing literature on ambidextrous innovation in developing country contexts, where such research remains limited.

Practical implications for SME managers include the importance of adopting empowering leadership practices to foster a culture of knowledge sharing and innovation. Managers should invest in developing customer knowledge management systems and processes to better understand and serve their customers. Additionally, firms should balance exploratory and exploitative innovation activities to achieve sustainable competitive advantage, particularly in highly competitive environments.

Author Contributions

All authors participated in ideation, development, and writing the manuscript. All authors read and approved the final manuscript.

Conflict of Interest Statement

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Informed Consent

Informed consent was obtained from all participants prior to data collection. Participants were informed about the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any time without any consequences. The confidentiality and anonymity of respondents were guaranteed throughout the research process.

Data Availability



The datasets generated and analysed during the current study are available from the corresponding author upon reasonable request. The authors are committed to transparency and will provide detailed methodological information and analysis protocols upon request.

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