Examining The Relationship Between Customer Knowledge Management and Marketing Agility: An Applied Study on The Household Appliance Industry in Egypt

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دراسة العلاقة بين إدارة معرفة العملاء والرشاقة التسويقية: دراسة تطبيقية على صناعة الأجهزة المنزلية في مصر

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ABSTRACT

Purpose—In today's dynamic business environment, Marketing Agility has become a prerequisite for organizations' survival and success, particularly in dynamic and highly competitive industries such as household appliances.

This research examines the relationship between Customer Knowledge Management and Marketing Agility within the household appliance industry in Egypt. It seeks to provide insights into how effective customer knowledge management—knowledge acquisition, utilization, and dissemination— strengthens a corporation's ability to respond swiftly and effectively to dynamic market conditions.

Design/Methodology/Approach—Based on the quantitative approach, this research employs a survey strategy to collect quantifiable data from 274 marketing personnel working in marketing departments of household appliance corporations in Egypt. Data analysis is performed using SPSS (version 23.0) software.

Findings—The findings reveal a significant and strongly positive relationship between Customer Knowledge Management and Marketing Agility, with Customer Knowledge Acquisition exerting the most substantial impact on Marketing Agility.

Originality/Value— This research provides valuable insights that contribute to academic research and managerial practices by emphasizing the importance of Customer Knowledge Management as a strategic enabler of agile marketing within the context of the household appliance industry in Egypt.

Keywords—Customer Knowledge Management, Marketing Agility, Household Appliance Industry, Egypt.

Paper type—Research paper

مستخلص البحث

هدف البحث—في بيئة الأعمال الديناميكية اليوم، أصبحت المرونة التسويقية شرطًا أساسيًا لبقاء المنظمات ونجاحها، لا سيما في الصناعات الديناميكية ذات التنافسية العالية مثل صناعة الأجهزة المنزلية. يهدف هذا البحث إلى دراسة العلاقة بين إدارة معرفة العملاء الرشاقة التسويقية في صناعة الأجهزة المنزلية في مصر. كما يسعي إلي توفير رؤي حول كيفية تعزيز الادارة الفعالة لمعرفة العملاء، بما في ذلك اكتساب المعرفة والاستفادة منها ونشرها، قدرة الشركات على الاستجابة السريعة لظروف السوق الديناميكية.

منهجية البحث—يعتمد هذا البحث على المنهج الكمي، حيث يستخدم أسلوب المسح لجمع البيانات من ٢٧٤ من موظفي التسويق العاملين في أقسام التسويق بشركات الأجهزة المنزلية في مصر. يتم تحليل البيانات باستخدام برنامج SPSS (الإصدار ٢٣,٠).

نتائج البحث—كشفت النتائج عن وجود علاقة إيجابية معنوية وقوية بين إدارة معرفة العملاء والرشاقة التسويقية، حيث وجد أن "اكتساب معرفة العملاء" هو البعد الأكثر تأثيرا علي الرشاقة التسويقية.

المساهمة البحثية—تساهم هذه النتائج في كل من المجال الأكاديمي والممارسات العملية من خلال التأكيد على أهمية إدارة معرفة العملاء كمُمكّن استراتيجي للتسويق المرن في سياق صناعة الأجهزة المنزلية في مصر.

الكلمات المفتاحية—إدارة معرفة العملاء، الرشاقة التسويقية، صناعة الأجهزة المنزلية، مصر.

نوع الورقة—ورقة بحثية.

Introduction

In the current fast-paced and unpredictable business environment, corporations are encountering a growing number of challenges that compel them to essentially reconsider their marketing models, strategies, tactics, operations, and offerings (Gligor and Bozkurt, 2021; Moi and Cabiddu, 2021a; Sachdeva and Kumar, 2022). Some of these challenges include the increasing rate of globalization, the intensity of market competition, the ever-changing customer needs and preferences, shifts in consumer purchasing behavior and engagement, the prompt advancement of technology, the digitalization of businesses, the proliferation of new communication channels, the vast amount of customer data available, the advent of disruptive business models, and the

rigidity of traditional marketing decision-making processes (Asseraf et al., 2019; Zhou et al., 2019; Gomes et al., 2020; Hughes and Chandy, 2021; Kalaignanam et al., 2021; Türkmen and Akman, 2022; Saragih et al., 2023). To overcome all of these challenges, recent scholarly research (see Hughes and Chandy, 2021; Kalaignanam et al., 2021; Khraim and Afaishat, 2021) has highlighted the need for companies to embrace a new, nimble, flexible, and highly effective marketing approach and acknowledged that marketing needs to be agile.

Marketing agility (MA) has been identified as a vital strategic catalyst, empowering marketers to proactively sense and respond rapidly to constantly altering market circumstances while maintaining performance and honing competitiveness (Zhou et al., 2019; Khan, 2020; Moi and Cabiddu, 2021a; Sachdeva and Kumar, 2022). As per Kalaignanam et al. (2021), Khraim and Afaishat (2021), and Weng et al. (2024), MA is a critical factor for achieving marketing excellence. Likewise, Asseraf et al. (2019), Osei et al. (2019), Khan (2020), Moi and Cabiddu (2021a), Khan et al. (2022), and Abd Al Rassol et al. (2023) asserted that it plays a crucial role in boosting marketing performance, which, in turn, has a positive impact on overall corporate performance. Accordingly, enterprises that prioritize and cultivate agility in their marketing strategies are likely to experience improved organizational outcomes.

Customer Knowledge Management (CKM), acknowledged as a strategic enabler of MA, encompasses the systematic acquisition, storage, exchange, and application of customer knowledge (Muniz et al., 2021; Bidgoli et al., 2023) to strengthen informed marketing decision-making and facilitate rapid responsiveness. Despite its theoretical significance, empirical research examining the relationship between CKM and MA remains limited, particularly within the Egyptian household appliance industry. This gap underscores the need for further exploration to understand how the effective management of customer knowledge—knowledge acquisition, utilization, and dissemination— contributes to reinforcing firms' ability to respond swiftly to dynamic market conditions.

Literature Review

Marketing Agility (MA)

According to Moi and Cabiddu (2021b), MA is an inventive marketing management paradigm based on an array of practices designed to address the rigidities or inflexibility often associated with traditional marketing approaches (see Table 2.1). These practices comprise swift reconfiguration of the marketing mix (4Ps) in response to market fluctuations, shorter product development cycles, increased customer engagement, systematic and continual improvement processes, transparency maintenance, and cooperation and coordination between different organizational roles and departments (Moi et al., 2018; Khraim and Afaishat, 2021; Moi and Cabiddu, 2021a; Sachdeva and Kumar, 2022; Saragih et al., 2023). By implementing these critical and interrelated practices, corporations, particularly their marketing departments, can deal with dynamic market conditions in a manner that is flexible, cost-efficient, and more effective, as underlined by Khraim and Afaishat (2021).

MA is frequently characterized as a dynamic meta-capability (Zhou et al., 2019; Khan, 2020; Khan et al., 2022; Alghamdi and Agag, 2024; Weng et al., 2024), and it captures sensing and responding components of dynamic capabilities (Zhou et al., 2019; Alghamdi and Agag, 2024). Concerning sensing capability "outside-in," it reflects a firm's ability to vigilantly monitor and constantly scan the external environment to detect and comprehend emerging market events and trends (Khan, 2020; Moi and Cabiddu, 2021a; Khan et al., 2022; Tarn and Wang, 2023; Weng et al., 2024). As for responsiveness capability 'inside-out,' Moi and Cabiddu (2021a) clarified that it denotes a corporation's ability to swiftly and effectively respond to previously sensed market changes using an adaptable and flexible approach.

MA empowers corporations to engage in active market research, making them more aware of current and potential market demands, as per Zhou et al. (2019) and Khan (2020). Khraim and Afaishat (2021) and Moi and Cabiddu (2021a, 2022) clarified that it reinforces companies' ability to manage market-related changes, provide superior

value to customers, and establish a sustainable competitive advantage. Khraim and Afaishat (2021) added that it plays a central role in creating, stimulating, and accelerating market demand. Further, MA gives marketing personnel enough authority to make swift, bold, and decentralized decisions to respond promptly to changing market conditions without being bogged down by hierarchical decision-making processes, as Taghizadeh and Shokri (2015) and Gomes et al. (2020) indicated. Moreover, it significantly contributes to developing new product advantages regarding innovative technologies, shorter product development cycles, faster delivery times to market, and increased volume and variety of products and services introduced annually (Asseraf et al., 2019).

Recent literature on MA has shown a remarkable focus on its conceptualization. Numerous researchers (see Table 1) have extensively explored this subject, each providing a distinct perspective based on their research.

Table 1 Definitions of Marketing Agility

Source	Definition
Tarn and Wang (2023)	Marketing agility denotes an organization's ability to detect competitive opportunities within the marketplace and rapidly respond by mobilizing requisite marketing resources, including specific assets, knowledge, and internal and external relationships to meet customer needs.
Alghamdi and Agag (2024)	Marketing agility is about a company's ability to detect, understand, and anticipate market changes and adjust its marketing strategies quickly to execute timely and adaptive responses.
Moi et al. (2018)	Agile marketing refers to an organization's capacity to flexibly acquire and manage market knowledge to execute marketing activities aligned with altering market circumstances.
Zhou et al. (2019)	Marketing agility pertains to a firm's ability to proactively predict and sense marketing opportunities and respond to them speedily and flexibly to meet customer demands.
Moi and Cabiddu (2022)	Marketing agility indicates how well an enterprise can promptly sense and respond to customer-centric opportunities for innovation and competitive moves.
Kalaignanam et al. (2021)	Marketing agility is the degree to which an organization swiftly iterates between sensemaking of market dynamics and implementing marketing decisions to adapt

Source	Definition
	to changing market conditions.
Asseraf et al. (2019)	International marketing agility (IMA) refers to the ability of a global corporation to respond swiftly to changing conditions in its foreign markets.
Gomes et al. (2020)	IMA can be described as a process initiated by an agile logic (characterized by a nontraditional and open mental approach) and supported by agile learning (the capability to seek out and analyze data), leading to agile actions (the ability to commit, coordinate, and adapt promptly and flexibly to constantly evolving circumstances).

Source: Developed by the Researcher

As shown in Table 1, MA is increasingly acknowledged as a pivotal organizational capability that empowers corporations, especially their marketing departments, to deal with swift and intricate changes occurring in the industries in which they operate. However, agility is often domain-specific within a company (Zhou et al., 2019). To illustrate, firms can manifest high levels of agility in particular areas, such as customer-based operations or product development (Jun et al., 2024), while potentially being less agile in others. By cultivating domain-specific agility, enterprises can reinforce their overall agility and devise strategies to excel where agility provides the most competitive advantage.

Working from the literature review that has sought to conceptualize MA, this study defines MA as the ability of a corporation to proactively sense and respond rapidly to market dynamics while engaging in continuous learning and experimentation to drive innovation and iterative adaptation.

MA encompasses multiple dimensions corporations can prioritize to be more responsive and adaptable under ever-changing market circumstances (Hashem and Atieh, 2024). Abd Al Rassol et al. (2023), Abbas and Ali (2024), Abdullah and Wahhab (2024), Barghouthi (2024), Jun et al. (2024), and Oltra et al. (2025) adopted MA classifications proposed by Zhou et al. (2019) and Khan (2020). These classifications comprise four key aspects: proactiveness, as pinpointed by Zhou et al. (2019), and proactive market sensing, as defined by Khan (2020), alongside responsiveness, speed, and flexibility. Expanding on this framework, Khraim and Afaishat (2021) identified five facets of MA: alertness, accessibility,

decisiveness, swiftness, and flexibility. Besides, Hashem and Atieh (2024) pinpointed six dimensions of MA: data-driven decision-making, customer-centricity, speed, collaboration, flexibility, and experimentation.

Accordingly, and in alignment with the overall purpose of this research, four key aspects are identified for classifying MA: proactive market sensing, responsiveness, speed, and learning & experimentation. The first three dimensions—proactive market sensing, responsiveness, and speed—are derived from the widely recognized categorization Khan (2020) proposed, reflecting core facets of an agile marketing approach. The fourth aspect, learning and experimentation, is adopted from Hashem and Atieh's (2024) categorization, acknowledging the pivotal role of continuous learning and adaptive experimentation in sustaining MA.

Proactive market sensing is a firm's ability to vigilantly and continuously scan the external environment to detect, interpret, and understand emerging market events and trends, spot initial signs of potential threats, and anticipate future market developments to facilitate informed strategic marketing decision-making. Responsiveness refers to a company's ability to efficiently and effectively respond to sensed market changes using a flexible and adaptable approach. Speed is about the rapidity with which a corporation responds to identified market changes. Learning and experimentation pertain to an organization's ability to continuously learn from its prior successes and failures to inform future decision-making, alongside testing, learning, and refining new and different marketing approaches, technologies, channels, and product/service ideas to drive innovation and iterative adaptation.

Customer Knowledge Management (CKM)

In today's competitive business landscape, customers play a pivotal role in many corporate operations, particularly in marketing and sales (Zand et al., 2018), as they are considered one of the most crucial, if not the foremost, sources of external knowledge for companies (Tehrani et al., 2015; Mehdibeigi et al., 2016; Taghizadeh et al., 2018; Haider and Kayani, 2021; Chaithanapat and Rakthin, 2021). In response, an increasing number of corporations

have taken steps toward embracing a new customer-centric knowledge approach (Khosravi and Hussin, 2018), which is customer knowledge management (CKM) approach to actively engage customers in their internal operations—such as product development or service enhancement—by taking advantage of their knowledge, ideas, insights, and experience (Taherparvar et al., 2014; Tseng, 2016). Hence, CKM positions the customer as a co-equal partner or the most essential stakeholder in an enterprise's knowledge-creation processes, thereby in value-creation processes (Hakimi et al., 2014; Taghizadeh et al., 2018; Zand et al., 2018).

CKM serves as a strategic approach that enables businesses to acquire customer knowledge—either directly from customers and/or about them—while simultaneously providing relevant and valuable information regarding products, services, suppliers, distributors, and markets (Tehrani et al., 2015; Mehdibeigi et al., 2016; Haider & Kayani, 2021; Bidgoli et al., 2023). According to Muniz et al. (2021) and Bidgoli et al. (2023), CKM is a comprehensive process encompassing the acquisition, storage, exchange, and application of customer knowledge to foster value creation, innovation, and competitive advantages for both customers and organizations. Thus, the fundamental pillar of CKM is the effective management of customer knowledge.

A comprehensive review of the literature on CKM reveals that it is a hybrid approach that integrates Knowledge Management (KM), a knowledge-centric approach, with Customer Relationship Management (CRM), a customer-focused approach. Concerning KM, Rollins and Halinen (2005), Kargaran et al. (2017), and Malakooti Asl et al. (2021) elaborated that CKM leverages KM tools and practices to enhance customer knowledge exchange processes both within an organization and between the organization and its customers. As for CRM, CKM facilitates acquiring and utilizing customer knowledge, thereby supporting the effective management of customer relationships and optimizing various CRM functions, including customer service, customer retention, and relationship profitability (Rollins & Halinen, 2005).

Various kinds of knowledge are involved in a company's interactions with its customers—from, about, and for (Malakooti Asl et al., 2021). "Knowledge from customer" is mostly obtained directly from customers who have had prior experiences with a firm's products and/or services (Shannak et al., 2012; Del Vecchio et al., 2018). It has an implicit nature, as it is ingrained in the customer's real experience with a firm (Taherparvar et al., 2014; Taghizadeh et al., 2018; Chaithanapat and Rakthin, 2021; Muniz et al., 2021; Maleksadati et al., 2023). "Knowledge about customers" is explicit and can be acquired either directly from the customers themselves or indirectly from other parties—such as sales agents—who deal with customers on behalf of a firm (Behnam et al., 2021). As for "knowledge for customers," it includes all the data and information that corporations seek to provide or make available to customers to fulfill their knowledge needs regarding products, services, prices, promotions, discounts, and suggestions for directing their preferences and choices (Shannak et al., 2012; Taherparvar et al., 2014; Taghizadeh et al., 2018; Maleksadati et al., 2023).

Building upon this established classification framework, this research categorizes CKM into three dimensions: customer knowledge acquisition, utilization, and dissemination. Customer knowledge acquisition refers to a firm ability to acquire valuable customer knowledge—either from or about customers. Customer knowledge utilization is about a company's ability to systematically analyze, interpret, and apply acquired customer knowledge. Customer knowledge dissemination is a corporation's ability to supply relevant, accurate, and up-to-date information about its products and services to customers through various communication channels.

Research Problem

The household appliance sector in Egypt is distinguished by its dynamic and highly competitive nature, characterized by rapid technological advancements, frequent fluctuations in market trends, and the continuous evolution of consumer needs and preferences. This sector also experiences intense competition among both domestic and foreign corporations, with each continuously striving to differentiate its offerings through

inventive features, pricing strategies, and brand positioning. Further, the household appliance industry is significantly influenced by economic factors, environmental considerations, and shifting demographic trends, all of which contribute to changes in consumer purchasing behavior and demand patterns.

Furthermore, the household appliance sector is characterized by ongoing innovation, with companies regularly striving to develop cutting-edge technologies—smart appliances and energy-efficient solutions—to meet the growing demand for convenience, sustainability, and performance. It is further distinguished by notable price sensitivity, as consumers increasingly seek value for money in a market flooded with numerous options. So, the core issue of this study is "the ability of marketing departments within household appliance corporations in Egypt to respond swiftly and flexibly to dynamic market conditions."

1. Is there a significant relationship between Customer Knowledge Management and Marketing Agility?
2. To what degree does Customer Knowledge Management affect Marketing Agility?

Research Objectives

The primary objective of this research is to examine the relationship between Customer Knowledge Management and Marketing Agility within the context of the household appliance industry. This overarching aim is pursued through the following specific objectives:

1. To determine the significance of the relationship between Customer Knowledge Management and Marketing Agility.
2. To identify the degree to which Customer Knowledge Management affects Marketing Agility

Research Hypotheses

H1: There is a significant relationship between Customer Knowledge Management and Marketing Agility.

(H1a): There is a significant relationship between Customer Knowledge Acquisition and Marketing Agility.

(H1b): There is a significant relationship between Customer Knowledge Utilization and Marketing Agility.

(H1c): There is a significant relationship between Customer Knowledge Dissemination and Marketing Agility.

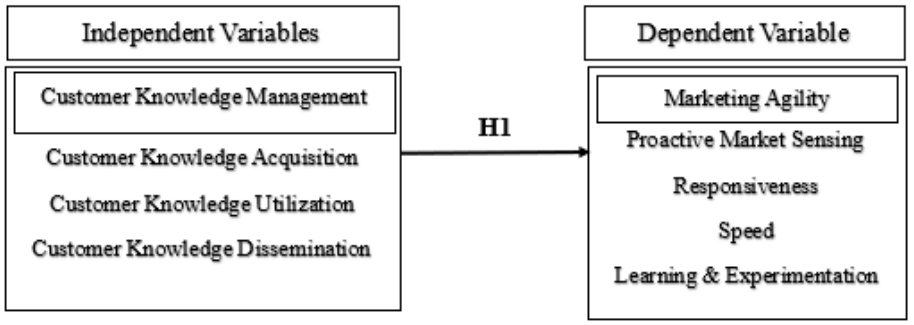

Figure 1 Research conceptual framework

Research Methodology

Based on the quantitative approach, this research employs a survey strategy to collect quantifiable data. This strategy typically aligns with the deductive approach and entails using structured questionnaires, as data collection tools, administered to a selected sample from a larger population (Saunders et al., 2007). It facilitates the efficient collection of substantial amounts of data, thereby enabling the researcher to derive informed conclusions and make generalizations applicable to the broader population.

Data Collection (Research Population and Sampling)

Research Population: Comprises marketing personnel, or those responsible for marketing operations and activities within the marketing departments of 950 household appliance corporations in Egypt. This research concentrates specifically on both Egyptian and international household appliance companies that operate within the Egyptian market and have operational and marketing facilities in Egypt. These firms vary in size, market share, and the scope of their product portfolios.

Sampling Unit: Consists of 274 marketing personnel employed within the marketing departments of Egyptian and international household appliance corporations

operating within the Egyptian market. These individuals occupy various roles within the marketing departments, which vary based on the company's business size and organizational structure.

Sampling Technique: The non-probability convenience sampling technique is used owing to its practicality, cost-effectiveness, and time efficiency. This technique allows the researcher to easily access respondents who are readily available and willing to participate, thereby facilitating efficient data collection within the constraints of time and resources.

Research Measurement

Drawing upon a comprehensive review of existing literature, a questionnaire was designed by integrating statements from previous studies that effectively capture the key dimensions of Customer Knowledge Management and Marketing Agility. While some statements were adopted directly, others were refined and adapted to better align with the context and practical realities of the research field. All variables were assessed using a Likert-type scale designed to measure frequency, wherein respondents were asked to indicate the relative frequency of the specified/ measured marketing practices. The scale ranges from 1 ("Never"), 2 ("Rarely"), 3 ("Sometimes"), 4 ("Often"), to 5 ("Always").

Concerning CKM dimensions, "Customer Knowledge Acquisition" was measured using a ten-item scale adapted from Taherparvar et al. (2014), Tseng (2016), and Bratianu et al. (2023). "Customer Knowledge Utilization" was assessed through a seven-item scale adapted from Hakimi et al. (2014), Taherparvar et al. (2014), Tseng (2016), and Bratianu et al. (2023). Meanwhile, "Customer Knowledge Dissemination" was measured using a four-item scale adapted from Taherparvar et al. (2014) and Tseng (2016).

As for MA dimensions, "Proactive market sensing" was measured using a four-item scale adapted from Zhou et al. (2019) and Khan (2020). "Responsiveness" was assessed through a ten-item scale adapted from Shalender (2014), Alamro et al.

(2018), Yousaf and Majid (2018), Zhou et al. (2019), Khan (2020), and Kurniawan et al (2021). "Speed" was measured using a seven-item scale adapted from Taghizadeh and Shokri (2015), Zhou et al. (2019), and Khan (2020). Finally, "Learning and Experimentation" was evaluated using a two-item scale adapted from Tarn and Wang (2023) and Hashem and Atieh (2024).

Data Analysis and Hypothesis Testing

- **Descriptive Statistics**

Descriptive statistics constitutes a fundamental part of data analysis and aims to describe and summarize the dataset's main features using statistical measures, charts, graphics, or tables (Jesussek and Volk-Jesussek, 2024).

Descriptive statistical analysis encompasses measures of central tendency—like mean, median, and mode—and measures of dispersion, including the range, standard deviation, and variance (Field, 2009). This part displays the descriptive statistical analysis results, specifically the mean and standard deviation for the research's key and sub-variables.

Table 2: Descriptive Statistical Analysis Results for Key and Sub-Variables

Key and Sub-Variables	Mean	Standard Deviation
Customer Knowledge Acquisition	3.680	1.141
Customer Knowledge Utilization	3.493	1.159
Customer Knowledge Dissemination	4.035	0.911
Customer Knowledge Management	**3.736**	**0.797**
Proactive Market Sensing	3.984	1.050
Responsiveness	3.924	0.724
Speed	3.593	0.916
Learning and Experimentation	3.733	1.049
Marketing Agility	**3.809**	**0.679**

Source: Statistical Results

Table 2 presents mean scores ranging from 3.49 to 4.03, indicating a relatively moderate to high frequency of the measured practices. Also, the standard deviation values suggest that most variables exhibit moderate variability, implying that while

respondents provided consistent answers to certain questionnaire items, other items elicited more diverse responses.

- **Reliability**

To evaluate the internal consistency of the study measures, a Cronbach's Alpha test is conducted. Cronbach Alpha values typically range from 0.60 to 0.95, with values within this range deemed acceptable (Field, 2009). Further, scale items with a corrected item-total correlation below 0.30 should be removed to maintain the scale's internal consistency.

First, reliability analysis results for the CKM scale, which encompasses three constructs: Customer Knowledge Acquisition, Customer Knowledge Utilization, and Customer Knowledge Dissemination.

Table 3: Reliability Analysis Results of the "Customer Knowledge Acquisition" Construct

Item	Corrected Item-Total Correlation	Cronbach's Alpha
Gaining a deep understanding of customer needs	0.786	0.832
Quality of current products and services	0.811	
Quality of competitors' products and services	0.765	
Desired specifications of upcoming products and services	0.760	
Storing all of the valuable customer insights acquired	0.790	
System for recording customers' purchasing transactions	0.702	
Obtaining customer data from external/ third-party companies	0.622	
Collecting Customers' backgrounds during purchasing transactions	0.665	
Tracking customers' referrals	0.700	
Encouraging customers to inform their specific requirements, feedback, and complaints	0.714	

Source: Statistical Results

Table 4: Reliability Analysis Results of the "Customer Knowledge Utilization" Construct

Item	Corrected Item-Total Correlation	Cronbach's Alpha
Analyzing customer data recorded within the database system	0.735	0.817
Analyzing valuable customer insights stored in the knowledge base	0.771	
Collaborating with external experts to analyze customer knowledge	0.705	
Regular meetings with other key departments	0.713	
Introducing new product and service offerings	0.800	
Improving the quality and efficiency of marketing operations	0.768	
Customer relationship management	0.729	

Source: Statistical Results

Table 5: Reliability Analysis Results of the "Customer Knowledge Dissemination" Construct

Item	Corrected Item-Total Correlation	Cronbach's Alpha
Various platforms and communication channels	0.575	0.755
Providing customers with detailed information about new and current products and services	0.563	
Qualified marketing team that addresses customers' inquiries	0.639	
Skilled service personnel that provide comprehensive training to customers	0.433	

Source: Statistical Results

Tables 3, 4, and 5 illustrate that the Cronbach Alpha values for all CKM constructs ranged from 0.76 to 0.83, indicating acceptable reliability and a relatively high level of internal consistency among the questionnaire items. Also, none of the items showed a corrected item-total correlation below 0.30, confirming that each item contributes meaningfully to its respective construct.

Second, the reliability analysis results for the MA scale, which consists of four constructs: Proactive Market Sensing, Responsiveness, Speed, and Learning & Experimentation.

Table 6: Reliability Analysis Results of the "Proactive Market Sensing" Construct

Item	Corrected Item-Total Correlation	Cronbach's Alpha
Quite alert to changing market conditions	0.662	0.831
Continuous scanning of the external environment to detect emerging market trends and events	0.686	
Spot the first indicators of potential market threats	0.619	
Anticipate new market trends and events before they become fully apparent	0.671	

Source: Statistical Results

Table 7: Reliability Analysis Results of the "Responsiveness" Construct

Item	Corrected Item-Total Correlation	Cronbach's Alpha
Developing an effective marketing plan	0.579	0.881
Adapting in case of unexpected changes	0.776	
Modifying marketing activities in response to the customer evolving needs	0.729	
Responding to changes in demand volume	0.656	
Regular assessment of product and service development efforts	0.657	
Annual rate of introducing new products and services	0.393	
The variety of new products and services offered annually	0.449	
Adjusting products' prices according to industry changes	0.728	
Expanding into new sales regions	0.633	
Creating advertising campaigns to influence consumers' tastes	0.505	

Source: Statistical Results

Table 8: Reliability Analysis Results of the "Speed" Construct

Item	Corrected Item-Total Correlation	Cronbach's Alpha
Rapid adjustment of the marketing mix	0.732	
Prompt modification of marketing activities if they do not yield the desired results	0.707	

Item	Corrected Item-Total Correlation	Cronbach's Alpha
Streamlining marketing operations to respond quickly	0.633	0.862
Delivering products to the market quickly and on time	0.534	
Responding to customers' changing requirements faster than competitors	0.693	
If a major competitor launches an intensive marketing campaign	0.550	
Making quick decisions on how to respond to changes in competitors' prices	0.571	

Source: Statistical Results

Table 9: Reliability Analysis Results of the "Learning and Experimentation" Construct

Item	Corrected Item-Total Correlation	Cronbach's Alpha
A culture of continuous learning	0.531	0.693
Testing and learning new and different marketing approaches, technologies, and channels	0.531	

Source: Statistical Results

Tables 6 to 9 inform that Cronbach Alpha values for all MA's constructs are between 0.69 and 0.88, which means that the four constructs exhibit acceptable reliability and relatively high internal consistency among the questionnaire items. Also, all items achieved a corrected item-total correlation greater than 0.30, which affirms that each item contributes meaningfully to its respective construct.

- **Validity**

Exploratory Factor Analysis (EFA) is conducted to explore the underlying structure of observed variables (i.e., questionnaire items).

EFA of the CKM Scale:

Table 10: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**0.877**
Bartlett's Test of Sphericity	Approx. Chi-Square	3796.624
	df	210
	Sig.	**.000**

Source: Statistical Results

Table 10 demonstrates a KMO value of 0.88, which indicates sampling adequacy for factor analysis. Further, the significant result of Bartlett's test (p-value < 0.05) confirms the presence of sufficient correlations among the observed variables, thereby the dataset is suitable for factor analysis.

Table 11: Total Variance Explained

Component	Initial Eigenvalues	Rotation Sums of Squared Loadings	
	Total	% of Variance	Cumulative %
1	8.563	28.309	28.309
2	3.084	23.953	52.263
3	1.837	11.947	**64.210**

Source: Statistical Results

The results in Table 11 suggest that three meaningful components were extracted, each with an eigenvalue greater than 1. Together, these components account for 64.21% of the total variance in the dataset. This level of explained variance (above 60%) is considered enough for factor analysis.

Table 12: Rotated Component Matrix

Observed Variables	Components		
	1	2	3
Gaining a deep understanding of customer needs	0.786		
Quality of current products and services	0.816		
Quality of competitors' products and services	0.730		
Desired specifications of upcoming products and services	0.738		
Storing all of the valuable customer insights acquired	0.733		
System for recording customers' purchasing transactions	0.752		
Obtaining customer data from external/ third-party companies	0.603		
Collecting Customers' backgrounds during purchasing transactions	0.780		
Tracking customers' referrals	0.777		
Encouraging customers to inform their specific requirements, feedback, and complaints	0.725		
Analyzing customer data recorded within the database system		0.760	

Observed Variables	Components		
	1	2	3
Analyzing valuable customer insights stored in the knowledge base		0.837	
Collaborating with external experts to analyze customer knowledge		0.741	
Regular meetings with other key departments		0.761	
Introducing new product and service offerings		0.843	
Improving the quality and efficiency of marketing operations		0.795	
Customer relationship management		0.798	
Various platforms and communication channels			0.759
Providing customers with detailed information about new and current products and services			0.760
Qualified marketing team that addresses customers' inquiries			0.805
Skilled service personnel that provide comprehensive training to customers			0.629

Source: Statistical Results

Table 12 presents the factor loadings of 21 observed variables distributed across three distinct components, each reflecting a specific dimension of CKM. "Component 1" represents the "Customer Knowledge Acquisition" dimension. "Component 2" corresponds to the "Customer Knowledge Utilization" dimension. Finally, "Component 3" is associated with the "Customer Knowledge Dissemination" dimension.

***EFA* of the MA Scale:**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.790
Bartlett's Test of Sphericity	Approx. Chi-Square	3720.014
	df	253
	Sig.	**.000**

Table 13: KMO and Bartlett's Test

Source: Statistical Results

Table 13 shows a KMO value of 0.79, signifying the sampling adequacy for factor analysis. Moreover, the significant result of Bartlett's Test (p-value < 0.05) affirms the existence of adequate correlations among the observed variables, ensuring the suitability of the dataset for factor analysis.

Table 14: Total Variance Explained

Component	Initial Eigenvalues	Rotation Sums of Squared Loadings	
	Total	% of Variance	Cumulative %
1	7.946	21.457	21.457
2	2.433	15.733	37.190
3	1.921	12.876	50.066
4	1.621	10.459	**60.525**

Source: Statistical Results

Table 14 demonstrates that four meaningful components were extracted, each with an eigenvalue greater than 1. These components collectively account for 60.53% of the total variance in the dataset. This proportion of explained variance is sufficient for factor analysis.

Table 15: Rotated Component Matrix

Observed Variables	Components			
	1	2	3	4
Quite alert to changing market conditions			0.703	
Continuous scanning of the external environment to detect emerging market trends and events			0.848	
Spot the first indicators of potential market threats			0.771	
Anticipate new market trends and events before they become fully apparent			0.745	
Developing an effective marketing plan	0.603			
Adapting in case of unexpected changes	0.787			
Modifying marketing activities in response to the customer evolving needs	0.809			
Responding to changes in demand volume	0.677			
Regular assessment of product and service development efforts	0.704			
Annual rate of introducing new products and services	0.606			
The variety of new products and services offered annually	0.459			

Observed Variables	Components			
	1	2	3	4
Adjusting products' prices according to industry changes	0.777			
Expanding into new sales regions	0.713			
Creating advertising campaigns to influence consumers' tastes	0.584			
Rapid adjustment of the marketing mix		0.795		
Prompt modification of marketing activities if they do not yield the desired results		0.645		
Streamlining marketing operations to respond quickly		0.698		
Delivering products to the market quickly and on time		0.568		
Responding to customers' changing requirements faster than competitors		0.686		
If a major competitor launches an intensive marketing campaign		0.496		
Making quick decisions on how to respond to changes in competitors' prices		0.741		
A culture of continuous learning				0.573
Testing and learning new and different marketing approaches, technologies, and channels				0.727

Source: Statistical Results

Table 15 displays the factor loadings for 23 observed variables, disseminated across four distinct components. Each component reflects a unique facet of MA. "Component 1" represents the "Responsiveness" dimension. "Component 2" reflects the "Speed" dimension. "Component 3" is associated with the "Proactive Market Sensing" dimension. Finally, "Component 4" exemplifies the "Experimentation & Learning" dimension.

- **Correlation Analysis**

Correlation analysis is a statistical method employed to quantify the relationship between two variables (Jesussek and Volk-Jesussek, 2024). The table below presents a correlation matrix, where each cell represents the strength and direction of the relationship between two variables. This relationship is typically measured using Pearson's correlation coefficient, a widely utilized metric for assessing the linear correlation between variables (Jesussek and Volk-Jesussek, 2024).

Table 16: Correlations Matrix among Research Variables

	CKU	CKD	CKM	MA1	MA2	MA3	MA4	MA
CKA	.729**	.539**	.912**	.755**	.541**	.742**	.694**	.793**
CKU	1	.485**	.888**	.603**	.397**	.600**	.539**	.624**
CKD		1	.743**	.538**	.336**	.493**	.535**	.559**
CKM			1	.750**	.507**	.729**	.695**	.782**
MA1				1	.640**	.736**	.761**	.916**
MA2					1	.635**	.617**	.788**
MA3						1	.697**	.877**
MA4							1	.899**
****. Correlation is significant at the 0.01 level (2-tailed).**								

Source: Statistical Results

Table 16 reveals that all correlations between the research variables are statistically significant, as indicated by the double asterisk (**) denoting a p-value of 0.01 ($p < 0.05$). Consequently, the null hypotheses (H0) are rejected, and the alternative hypotheses (H1) are accepted, as outlined below:

There is a statistically significant relationship between "Customer Knowledge Management" and "Marketing Agility."

a. There is a statistically significant relationship between "Customer Knowledge Acquisition" and "Marketing Agility."
b. There is a statistically significant relationship between "Customer Knowledge Utilization" and "Marketing Agility."

c. There is a statistically significant relationship between "Customer Knowledge Dissemination" and "Marketing Agility."

Also, Table 16 (correlation matrix) illustrates the strength and direction of the relationship between the variables, as previously mentioned. Accordingly, the following conclusions can be drawn:

There is a strong positive relationship between "Customer Knowledge Management" and "Marketing Agility," with a correlation coefficient of r = 0.782.

a. There is a strong positive relationship between "Customer Knowledge Acquisition" and "Marketing Agility," with a correlation coefficient of r = 0.793.

b. There is an intermediate positive relationship between "Customer Knowledge Utilization" and "Marketing Agility," with a correlation coefficient of r = 0.624.

c. There is an intermediate positive relationship between "Customer Knowledge Dissemination" and "Marketing Agility," with a correlation coefficient of r = 0.559.

- **Regression Analysis**

Regression is a statistical technique that allows modeling relationships between a dependent variable and one or more independent variables (Jesussek and Volk-Jesussek, 2024). In this research, simple and multiple linear regression analyses were conducted to assess whether the independent variable, Customer Knowledge Management, and its different dimensions are statistically significant predictors of the dependent variable, Marketing Agility.

1. **The relationship between the independent variable—Customer Knowledge Management—and Marketing Agility.**

Table 17: Model Summary

Model Fit				
R Square	**Adjusted R Square**	**F**	**Degree of Freedom**	**Sig.**
0.611	0.610	411.868	262	.000

Source: Statistical Results

As shown in Table 17, the R-squared value is 0.611, which signifies that 61.1% of the variation in MA is explained by CKM. Besides that, the model as a whole is statistically significant, with an F-statistic of 411.868 and a p-value of 0.000.

Table 18: The Impact of Customer Knowledge Management on Marketing Agility (A Simple Linear Regression Analysis)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant (b_0)	1.097	0.137		8.006	.000
CKM	0.726	0.036	0.782	20.295	.000
a. Dependent Variable: MA					

Source: Statistical Results

Table 18 reveals that CKM is a statistically significant predictor of MA, with a p-value of 0.000. Meanwhile, the standardized coefficient (Beta) for CKM is 0.782, suggesting a strong positive impact of CKM on MA. Further, the unstandardized coefficient (B) for CKM is 0.726, implying that a one-unit increase in CKM leads to a 0.726-unit increase in MA. Thus, the simple linear regression equation can be expressed as follows:

$$\widehat{MA} = b_0 + b_1 CKM$$
$$\widehat{MA} = 1.097 + 0.726 CKM$$

2. **The relationship among Customer Knowledge Management Dimensions—Customer Knowledge Acquisition, Customer Knowledge Utilization, and Customer Knowledge Dissemination—and Marketing Agility.**

Table 19: Model Summary

Model Fit				
R Square	Adjusted R Square	F	Degree of Freedom	Sig.
0.656	0.652	165.018	260	.000

Source: Statistical Results

As illustrated in Table 19, the R-squared value is 0.656, which means that the three dimensions of CKM explain 65.6% of the variance in MA. Additionally, the overall

model is statistically significant, as evidenced by the F-statistic (165.018) with a p-value of 0.000.

Table 20: The Impact of Customer Knowledge Management Dimensions on Marketing Agility (A Multiple Linear Regression Analysis)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant (b_0)	1.245	0.156		8.001	.000
Customer Knowledge Acquisition (CKA)	0.453	0.039	0.653	11.676	.000
Customer Knowledge Utilization (CKU)	0.046	0.040	0.062	1.144	0.254
Customer Knowledge Dissemination (CKD)	0.183	0.045	0.178	4.061	.000
a. Dependent Variable: MA					

Source: Statistical Results

Table 20 demonstrates that CKA and CKD are statistically significant predictors of MA, with p-values of 0.000. In contrast, CKU is not a significant predictor, as its p-value is 0.254 (greater than 0.05). Among the predictors, CKA exhibits the most substantial positive impact on (y), as indicated by its standardized coefficient (Beta = 0.653), followed by CKD (Beta = 0.178).

Furthermore, the unstandardized coefficient (B) for CKA is 0.453, implying that a one-unit increase in CKA leads to a 0.453-unit increase in MA. Similarly, the unstandardized coefficient for CKD is 0.183, meaning that a one-unit increase in CKD results in a 0.183-unit increase in MA. Conversely, for CKU, a one-unit increase leads to just a 0.046-unit change in MA, which is negligible and statistically insignificant. Based on these results, the multiple linear regression equation can be formulated as follows:

$$\widehat{MA} = b_0 + b_1 CKA + b_2 CKU + b_3 CKD$$
$$\widehat{MA} = 1.245 + 0.453 CKA + 0.046 CKU + 0.183 CKD$$

Research Results and Discussion

Based on the statistical analysis results, all research hypotheses were accepted. The coefficients for the direct relationship and differences were statistically significant at a p-value below the threshold of 0.05.

1. **There is a significant relationship between "Customer Knowledge Management" and "Marketing Agility."**

The correlation analysis confirmed a significant (P-value = 0.01) and strongly positive relationship between CKM and MA (r = 0.782), which means that as CKM increases, MA tends to increase as well. The simple linear regression analysis yielded a coefficient of determination (R^2) of 0.611, which implies that 61.1% of the change in MA can be attributed to changes in CKM. Also, the unstandardized coefficient (B) revealed that the actual impact of CKM on MA is 0.726 units when all other variables remain constant.

Collectively, these results establish CKM as a significant predictor of MA and underscore the premise that companies that proficiently acquire, utilize, and disseminate customer knowledge (CK) tend to be more agile in their marketing operations. The data collected from the household appliance corporations under investigation substantiates this by showing that those corporations implement CKM practices at a mean frequency of 3.74. This level of CKM implementation is correspondingly reflected in their MA practices, which are applied slightly more frequently, with a mean value of 3.81.

More explicitly, as a result of the proficient application of CKM practices, those corporations are quite alert to changing market conditions. They continuously scan the external environment to detect emerging market opportunities, spot first indicators of potential threats before they escalate, and anticipate new market trends and events before they become fully apparent. Also, the effective implementation of CKM enables those corporations to develop well-informed marketing plans to seize new market opportunities while addressing emerging threats, modify their marketing activities

based on evolving customer needs, preferences, and feedback, respond to changes in demand volume in different sales regions, respond to changing customer requirements faster than competitors, introduce new products and services annually, deliver their products to the market quickly and on time, and regularly assess their product and service development efforts to ensure that they align with customer expectations.

In comparison to prior research, Mehdibeigi et al. (2016) investigated the impact of CKM on organizational agility and effectiveness within the banking sector, whereas Haider and Kayani (2020) examined the relationship between CKM and project performance through the mediating role of strategic agility in the context of project-based software companies. Although these research studies addressed the relationship between CKM and agility at different levels—organizational and strategic—and across distinct sectors, they all reached the same result: CKM has a positive effect on agility. This finding is consistent with that of the present study, which further validates the positive impact of CKM on agility, specifically at the marketing level and within the context of the household appliance industry.

1. 1 There is a significant relationship between "Customer Knowledge Acquisition" and "Marketing Agility."

1. 2 There is a significant relationship between "Customer Knowledge Utilization" and "Marketing Agility."

1. 3 There is a significant relationship between "Customer Knowledge Dissemination" and "Marketing Agility."

Among CKM dimensions, the correlation analysis confirmed a significant and strongly positive relationship between Customer Knowledge Acquisition (CKA) and MA ($r = 0.793$). Further, multiple linear regression analysis revealed that CKA exerts the most significant impact on MA compared to Customer Knowledge Utilization (CKU) and Customer Knowledge Dissemination (CKD), as evidenced by its respective unstandardized coefficient (B) of 0.453. This can be attributed to CKA serving as the foundation for all subsequent CKM processes.

The findings show that household appliance corporations investigated in the data collection phase actively strive to gain a deep understanding of customer needs and preferences to provide them with exactly what they want. They acquire knowledge from customers regarding their opinions of the quality of current products and services, perceptions of competitors' product and service offerings, and desired specifications for upcoming products and services. Also, they obtain data about customer backgrounds—such as name, age, gender, address, and contact details—during purchasing transactions and/or through third-party companies specializing in creating customer databases, track customer referrals to understand how they engage with their products and services, and encourage customers to inform their specific requirements, feedback, and any complaints they may have throughout their purchasing transactions. All acquired customer knowledge is systematically stored in dedicated knowledge bases and databases to facilitate future analysis and strategic decision-making.

Subsequently, those corporations diligently analyze customer data recorded within their database systems to gain valuable insights into customer needs and assess their satisfaction with the products and services they have received. They further analyze valuable customer insights stored in their knowledge bases to extract practical and actionable ideas. They meet with other key departments to discuss and exchange ideas regarding emerging customer requirements. These ideas are then leveraged to introduce new products and services while refining existing offerings, improve the quality and efficiency of their marketing operations to deliver exceptional services, and develop customer knowledge-driven strategies to strengthen customer relationships and ensure the timely delivery of products and services that exceed customer expectations.

For their responses to be truly effective, those corporations have a wide range of platforms and communication channels to ensure that customers have seamless access to relevant, up-to-date information about their products and services. They supply customers with detailed information about new and current products and services to

help them make well-informed purchasing decisions. They have dedicated and highly qualified marketing teams that promptly and professionally address customer inquiries and issues. Also, their service personnel are highly skilled and fully equipped to deliver comprehensive training to customers to ensure they understand how to make the most of the products and services offered.

Accordingly, without effective CKA, CKU and CKD may lack the necessary input to drive agile marketing responses, as both depend on the accuracy, quality, and relevance of the knowledge acquired.

Research Conclusion

This research examined the relationship between Customer Knowledge Management and Marketing Agility within the household appliance industry in Egypt. The findings revealed that Customer knowledge management significantly contributes to reinforcing marketing agility, enabling corporations to make informed marketing decisions and respond swiftly and effectively to dynamic market conditions and evolving customer needs. Further, the customer knowledge acquisition dimension has the most substantial impact on Marketing Agility.

These results underscore the importance of the effective management of customer knowledge through customer knowledge acquisition, utilization, and dissemination to strengthen marketing's responsiveness and competitiveness in a rapidly changing environment. Future research could extend this research by examining the relationship between marketing agility and other strategic enablers like marketing flexibility, marketing innovation, and marketing technology across other industries and geographical contexts.

Research Contribution

This research contributes to the growing body of knowledge on marketing agility by examining the relationship between it and Customer knowledge management within the context of the household appliance industry in Egypt.

From a practical perspective, the research offers valuable insights for corporations in the household appliance industry, particularly their marketing departments. It highlights the importance of effectively managing customer knowledge to boost informed marketing decision-making processes and rapid responsiveness to dynamic market conditions and changing customer requirements.

References

Abbas, A., & Ali, A. (2024). Marketing Agility's Influence on Market Performance: A Perspective from FinTech Industry. The Asian Bulletin of Big Data Management, 4(02), 33–47. https://doi.org/10.62019/abbdm.v4i02.165

Abd Al Rassol, H. A., Jasim Al-Janabi, M. A., & Gshayyish, A. M. (2023, March 11-12). Marketing agility and its role in marketing performance. Iraqi Academics Syndicate 3rd International Conference on Arts and Humanities Sciences, Baghdad, Iraq. https://ssrn.com/abstract=4390814

Abdullah, A. M., & Wahhab, K. M. (2024). The impact of strategic cohesion in enhancing marketing agility: An analytical study of the opinions of a sample of Employees in Iraqi telecommunications companies. International Journal of Research in Marketing Management and Sales, 6(2), 62–72. https://doi.org/10.33545/26633329.2024.v6.i2a.177

Alamro, A. S., Awwad, A. S., & Anouze, A. L. M. (2018). The integrated impact of new product and market flexibilities on operational performance: The case of the Jordanian manufacturing sector. Journal of Manufacturing Technology Management, 29(7), 1163–1187. https://doi.org/10.1108/JMTM-01-2017-0001

Alghamdi, O. A., & Agag, G. (2024). Competitive advantage: A longitudinal analysis of the roles of data-driven innovation capabilities, marketing agility, and market turbulence. Journal of Retailing and Consumer Services, 76, 103547. https://doi.org/10.1016/j.jretconser.2023.103547

AMOS (2014). Amos 23.0 User's Guide. Chicago: IBM SPSS.

Asseraf, Y., Lages, L. F., & Shoham, A. (2019). Assessing the drivers and impact of international marketing agility. International Marketing Review, 36(2), 289–315. https://doi.org/10.1108/IMR-12-2017-0267

Barghouthi, M. (2024). Marketing agility, innovation capabilities, and customer satisfaction. International Journal on Technology, Innovation and Management (IJTIM), 4(1), 2024. https://doi.org/10.54489/ijtim.v4i1.380

Behnam, M., Pyun, D. Y., Doyle, J. P., & Delshab, V. (2021). The impact of consumer knowledge on profitable consumer loyalty through perceived service quality and psychological involvement in non-profit sport clubs. International Journal of Sports Marketing and Sponsorship, 22(2), 407–427. https://doi.org/10.1108/IJSMS-03-2020-0039

Bidgoli, S. D., Owlia, M. S., & Isaai, M. T. (2023). The impact of customer knowledge on the organizational performance: A system dynamics approach. Kybernetes, 52(4), 1463–1486. https://doi.org/10.1108/K-01-2021-0084

Bratianu, C., Stănescu, D. F., & Mocanu, R. (2023). The mediating role of customer knowledge management on the innovative work behavior and product innovation relationship. Kybernetes, 52(11), 5353–5384. https://doi.org/10.1108/K-09-2021-0818

Chaithanapat, P., & Rakthin, S. (2021). Customer knowledge management in SMEs: Review and research agenda. Knowledge and Process Management, 28(1), 71–89. https://doi.org/10.1002/kpm.1653

Del Vecchio, P., Secundo, G., & Passiante, G. (2018). Analyzing big data through the lens of customer knowledge management: Evidence from a set of regional tourism experiences. Kybernetes, 47(7), 1348–1362. https://doi.org/10.1108/K-07-2017-0273

Field, A. (2009). Discovering statistics using SPSS (3rd ed.). SAGE Publications.

Gligor, D., & Bozkurt, S. (2021). The role of perceived social media agility in customer engagement. Journal of Research in Interactive Marketing, 15(1), 125–146. https://doi.org/10.1108/JRIM-12-2019-0196

Gomes, E., Sousa, C. M. P., & Vendrell-Herrero, F. (2020). International marketing agility: Conceptualization and research agenda. International Marketing Review, 37(2), 261–272. https://doi.org/10.1108/IMR-07-2019-0171

Haider, S. A., & Kayani, U. N. (2021). The impact of customer knowledge management capability on project performance-mediating role of strategic agility. Journal of Knowledge Management, 25(2), 298–312. https://doi.org/10.1108/JKM-01-2020-0026

Hakimi, W. B., Triki, A., & Hammami, S. M. (2014). Developing a customer knowledge-based measure for innovation management. European Journal of Innovation Management, 17(3), 349–374. https://doi.org/10.1108/EJIM-02-2013-0019

Hashem, T. N., & Atieh, K. (2024). Marketing agility in the age of digital transformation industrial sector analysis (Vol. 12, Issue 1, pp. 1321–1337). Online. https://doi.org/10.58262/ks.v12i1.091

Hughes, N., & Chandy, R. (2021). Commentary: Trajectories and twists: Perspectives on marketing agility from emerging markets. Journal of Marketing, 85(1), 59–63. https://doi.org/10.1177/0022242920973037

Jesussek, M., & Volk-Jesussek, H. (2024). Statistics made easy: A clear and simple introduction (5th ed.). DATAtab e.U.

Jun, W. S., Yi, H. T., & Amenuvor, F. E. (2024). The effect of startup marketing agility on new product creativity and new product performance: the moderating effect of technological turbulence. Marketing Intelligence and Planning, 42(8), 1494–1521. https://doi.org/10.1108/MIP-10-2023-0528

Kalaignanam, K., Tuli, K. R., Kushwaha, T., Lee, L., & Gal, D. (2021). Marketing agility: The concept, antecedents, and a research agenda. Journal of Marketing, 85(1), 35–58. https://doi.org/10.1177/0022242920952760

Kargaran, S., Jami Pour, M., & Moeini, H. (2017). Successful customer knowledge management implementation through social media capabilities. VINE Journal of Information and Knowledge Management Systems, 47(3), 353–371. https://doi.org/10.1108/VJIKMS-11-2016-0066

Khan, H. (2020). Is marketing agility important for emerging market firms in advanced markets? International Business Review, 29(5), 101733. https://doi.org/10.1016/j.ibusrev.2020.101733

Khan, H., Mavondo, F., & Zahoor, N. (2022). Integration of outside-in and inside-out entrepreneurial marketing capabilities, marketing agility, and resources for entrepreneurial

firm performance. International Journal of Entrepreneurial Behavior and Research. https://doi.org/10.1108/IJEBR-02-2022-0193

Khosravi, A., & Hussin, A. R. C. (2018). Customer knowledge management antecedent factors: A systematic literature review. Knowledge and Process Management, 25(1), 12–30. https://doi.org/10.1002/kpm.1557

Khraim, H., & Afaishat, T. A. (2021). The impact of marketing agility on crisis management stages at five and four-star hotels in Jordan. Problems and Perspectives in Management, 19(4), 470–481. https://doi.org/10.21511/ppm.19(4).2021.38

Kumar, A., Sindhwani, P., & Trivedi, S. K. (2020). Combined fuzzy theory and Delphi method for instruments designing framework of online marketing flexibility dimensions. International Journal of Services Technology and Management, 26(4), 341–356. https://doi.org/10.1504/IJSTM.2020.107436

Kurniawan, R., Manurung, A. H., Hamsal, M., & Kosasih, W. (2021). Orchestrating internal and external resources to achieve agility and performance: The centrality of market orientation. Benchmarking: An International Journal, 28(2), 517–555. https://doi.org/10.1108/BIJ-05-2020-0229

Malakooti Asl, N., Kaffashan Kakhki, M., & Parirokh, M. (2021). The evaluation of the relationship between customers' knowledge management and their loyalty to academic libraries. Global Knowledge, Memory and Communication, 70(3), 205–224. https://doi.org/10.1108/GKMC-12-2018-0104

Maleksadati, I., Ziaei, S., & Kaffashan Kakhki, M. (2023). What do experts say about the conditions affecting customer knowledge management in academic libraries? An integrated perspective. Aslib Journal of Information Management, 75(2), 342–363. https://doi.org/10.1108/AJIM-01-2022-0034

Mehdibeigi, N., Dehghani, M., & Yaghoubi, N. mohammad. (2016). Customer knowledge management and organization's effectiveness: Explaining the mediator role of organizational agility. Procedia - Social and Behavioral Sciences, 230, 94–103. https://doi.org/10.1016/j.sbspro.2016.09.012

Moi, L., & Cabiddu, F. (2021a). Leading digital transformation through an agile marketing capability: The case of Spotahome. Journal of Management and Governance, 25(4), 1145–1177. https://doi.org/10.1007/s10997-020-09534-w

Moi, L., & Cabiddu, F. (2021b). An agile marketing capability maturity framework. Tourism Management, 86, 104347. https://doi.org/10.1016/j.tourman.2021.104347

Moi, L., & Cabiddu, F. (2022). Navigating a global pandemic crisis through marketing agility: Evidence from Italian B2B firms. Journal of Business and Industrial Marketing, 37(10), 2022–2035. https://doi.org/10.1108/JBIM-01-2021-0034

Moi, L., Cabiddu, F., & Frau, M. (2018). Towards the development of an agile marketing capability. In Cabitza, F., Batini, C., & Magni, M. (Eds.), Organizing for the Digital World: IT for Individuals, Communities, and Societies (Vol. 28, pp. 137–148). Springer International Publishing. https://doi.org/10.1007/978-3-319-90503-7_11

Muniz, E. C. L., Dandolini, G. A., Biz, A. A., & Ribeiro, A. C. (2021). Customer knowledge management and smart tourism destinations: A framework for the smart management of the tourist experience – SMARTUR. Journal of Knowledge Management, 25(5), 1336–1361. https://doi.org/10.1108/JKM-07-2020-0529

Oltra, I., Camarero, C., & San José, R. (2025). Agility in marketing teams: An analysis of factors influencing the entry decision into a trendy social network. Journal of Business Research, 187, 1–18. https://doi.org/10.1016/j.jbusres.2024.115054

Osei, C., Amankwah-Amoah, J., Khan, Z., Omar, M., & Gutu, M. (2019). Developing and deploying marketing agility in an emerging economy: The case of Blue Skies. International Marketing Review, 36(2), 190–212. https://doi.org/10.1108/IMR-12-2017-0261

Rollins, M., & Halinen, A. (2005). Customer knowledge management competence: Towards a theoretical framework. Proceedings of the 38th Hawaii International Conference on System Sciences, Big Island, HI. https://doi.org/10.1109/hicss.2005.180

Sachdeva, P., & Kumar, D. (2022). Strategic marketing: Agile marketing developments. Journal of Positive School Psychology, 6(5), 6575–6589. http://journalppw.com

Shalender, K. (2014). Development of marketing flexibility measurement scale for automobile companies [Doctoral dissertation, Jaypee Institute of Information Technology]. Google scholar.

Shannak, R., Masa'deh, R. E., Al-Zu'bi, Z., Obeidat, B., Alshurideh, M., & Altamony, H. (2012). A theoretical perspective on the relationship between knowledge management systems, customer knowledge management, and firm competitive advantage. European Journal of Social Sciences, 32(4), 520–532. https://www.researchgate.net/publication/260106475

Saunders, M., Lewis, P., & Thornhill, A. (2007). Research methods for business students (4th ed.). Pearson Education.

SPSS (2015). IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp.

Taghizadeh, H., & Shokri, A. (2015). The relationships among agility empowerers from the viewpoint of gaining competitive advantage. In International Journal of Trade and Global Markets 8(3), 253-265.

Taghizadeh, S. K., Rahman, S. A., & Hossain, M. M. (2018). Knowledge from customer, for customer, or about customer: Which triggers innovation capability the most? Journal of Knowledge Management, 22(1), 162–182. https://doi.org/10.1108/JKM-12-2016-0548

Taherparvar, N., Esmaeilpour, R., & Dostar, M. (2014). Customer knowledge management, innovation capability and business performance: A case study of the banking industry. Journal of Knowledge Management, 18(3), 591–610. https://doi.org/10.1108/JKM-11-2013-0446

Tarn, D. D. C., & Wang, J. (2023). Can data analytics raise marketing agility? -A sense-and-respond perspective. Information and Management, 60(2), 103743. https://doi.org/10.1016/j.im.2022.103743

Tehrani, N. S., Javadizadeh, B., & Nadi, M. (2015). The relationship between customer knowledge management, customer relationship with organizational innovation, and customer loyalty (Case study: consumers and manufacturers of protein industry in Isfahan

Province). International Journal of Business and Management Invention, 4(2), 59–67. www.ijbmi.org

Tseng, S. M. (2016). The effect of knowledge management capability and customer knowledge gaps on corporate performance. Journal of Enterprise Information Management, 29(1), 51–71. https://doi.org/10.1108/JEIM-03-2015-0021

Türkmen, H. G., & Akman, Y. (2022). Scope and patterns of marketing agility in tourism enterprises during Covid-19 pandemic restrictions. In Agile Management and VUCA-RR: Opportunities and Threats in Industry 4.0 towards Society 5.0 (pp. 129–143). Emerald Group Publishing Ltd. https://doi.org/10.1108/978-1-80262-325-320220009

Weng, C., Liu, M. J., Ye, D., Huang, J., & Liu, P. C. Y. (2024). Platform success in the international marketplace: Reconfiguring digital resources for marketing agility. International Marketing Review. https://doi.org/10.1108/IMR-08-2023-0199

Yousaf, Z., & Majid, A. (2018). Organizational network and strategic business performance: Does organizational flexibility and entrepreneurial orientation really matter? Journal of Organizational Change Management, 31(2), 268–285. https://doi.org/10.1108/JOCM-12-2016-0298

Zand, J. D., Keramati, A., Shakouri, F., & Noori, H. (2018). Assessing the impact of customer knowledge management on organizational performance. Knowledge and Process Management, 25(4), 268–278. https://doi.org/10.1002/kpm.1585

Zhou, J., Mavondo, F. T., & Saunders, S. G. (2019). The relationship between marketing agility and financial performance under different levels of market turbulence. Industrial Marketing Management, 83, 31–41. https://doi.org/10.1016/j.indmarman.2018.11.008