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Competencies in Artificial Intelligence for Organizational Performance: A viewpoint on B2B Marketing Capabilities

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Abstract: This study examined how artificial intelligence (AI) is changing Business-to-Business (B2B) marketing and improving organizational effectiveness. While global competition pushes AI adoption for a competitive edge, many C-level executives are still undecided about its long-term value. AI has great potential to streamline manual processes and improve B2B operations. The absence of managers' grasp of AI integration's visible benefits makes it difficult to realize significant value from AI investments. The survey lists machine learning, data processing, programming, algorithmic thinking, neural networks, deep learning, and natural language processing as AI talents. These capabilities stress innovative integration of organizational knowledge, institutions, and technology as well as technical skills. In recognition of the complexity of AI capabilities, the research defines an AI competence as technical expertise, a diversified operational framework, and a commitment to continual innovation. AI competences enhance B2B marketing capabilities by allowing data analysis, decision-making, and teamwork. The use of AI in B2B marketing includes data analysis, customization, lead creation, CRM, chatbots, marketing automation, and competitive advantage. Technology acceptance in AI capabilities is influenced by perceived usefulness and simplicity, according to the Technology Acceptance Model (TAM). For B2B marketing capabilities, AI competences must match marketers' ease of use and perceived utility. Adopting AI capabilities may boost B2B marketing effectiveness. The report emphasizes AI's disruptive potential in B2B marketing, affecting organizational performance and competitive advantage. To maximize AI's potential in B2B marketing, it recommends deliberate investments in AI competences and multidisciplinary cooperation.

Keywords: Competencies, Artificial Intelligence, organization, performance, B2B and Marketing Capabilities

Introduction

In recent years, there has been a renewed interest in artificial intelligence (AI) across several fields, driven by the copious amount of data and the improved availability of processing power and storage on digital devices (Enholm et al., 2021). The increasing global competitiveness among firms has accelerated the need to use artificial intelligence (AI) as a means to get a competitive edge over rivals (Ransbotham et al., 2018). According to Kietzmann and Pitt (2020), a significant proportion of executives at the C-level do not see artificial intelligence (AI) as an essential competence that organizations need to develop in order to sustain their long-term competitive advantage. The topic of B2B marketing has gained prominence as an important area of study pertaining to enterprise-to-business interactions (Mikalef et al., 2021). In the intricate corporate environment, it is crucial for business-to-business (B2B) organizations to use intelligent solutions that may increase their marketing skills. This is because B2B operations often encounter significant informational

complexity and need timely decision-making. Artificial intelligence (AI) has the potential to greatly impact conventional operations because to its ability to evaluate large volumes of data and provide full insights into important business partners and customers (Bag et al., 2021). Furthermore, Paschen et al. (2020) argue that the integration of artificial intelligence (AI) applications has the potential to streamline various manual procedures, leading to the alleviation of limitations and the improvement of operational effectiveness within business-to-business (B2B) operations. According to the results of a recent study conducted by Garner, a significant number of business leaders express the conviction that artificial intelligence (AI) would play a crucial role in the future development of their firms (Shin & Kang, 2022).

Despite the considerable potential of artificial intelligence (AI) in enhancing business-to-business (B2B) marketing operations, a notable portion of firms still encounter difficulties in efficiently leveraging their AI investments to provide substantial value (Fountaine et al., 2019). The reason for this, as shown by an increasing body of scholarly literature, is that investments in artificial intelligence need careful development and use to assure alignment with the organization's activities (Collins et al., 2021; Raisch & Krakowski, 2021). In essence, it is of utmost importance that artificial intelligence (AI) be recognized as a core capacity inside an organization, and that appropriate AI applications serve to either facilitate or enhance crucial operational processes (Borges et al., 2020). While prior studies have explored the challenges associated with the integration of artificial intelligence (AI) (Mikalef et al., 2021), there remains a dearth of agreement regarding the most effective approach for organizations to leverage AI as a strategic resource to gain a competitive advantage. The poor grasp of the influence of artificial intelligence (AI) and the possible value-generating processes in the field of business-to-business (B2B) marketing is particularly evident (Huang et al., 2019). To expedite the integration of artificial intelligence (AI) in such operations and mitigate the prevalence of unsuccessful endeavors inside enterprises, it is imperative to elucidate the significance of AI in the business-to-business (B2B) domain and the means via which this significance may be actualized. In a similar manner, current polls performed with professionals in the field reveal that corporations persistently encounter substantial barriers to the implementation and exploitation of artificial intelligence (AI) that beyond mere technical challenges. Moreover, a significant proportion of managers lack a clear understanding of the tangible advantages associated with the integration of artificial intelligence (AI), which therefore hinders its adoption in crucial operational procedures (Bhalerao et al., 2022). Based on a recent survey conducted by McKinsey, the primary areas where firms are using artificial intelligence (AI) are service optimization and business-to-business (B2B) marketing processes. The respondents of the study expressed a high level of importance and value attributed to these specific domains. Nevertheless, the realization of these advantages resulting from investments in artificial intelligence (AI) was not devoid of challenges, with one prominent hurdle being the creation of an AI capacity that consistently meets the requirements of businesses (McKinsey, 2022).

Literature Review

Business-to-Business (B2B) Marketing

To succeed in business-to-business, enterprises must build and maintain reliable customer relationships. Therefore, B2B marketing values inter-organizational networks and interactions (Gummesson, 2014). Business-to-business (B2B) marketing involves complex interactions between buyers and sellers that require higher reliability and credibility than B2C marketing, which emphasizes brand establishment and widespread communication (Reed et al., 2004). Business-to-business (B2B) settings frequently give specialized attention, whereas consumer marketing targets a

large client base that may not require it. However, marketing skills are vital for success in both cases. Herhausen et al. (2020) define marketing capabilities (MCs) as organizational capacities that allow a company to execute a variety of activities utilizing available resources to achieve a performance result. Guo et al. (2018) state that marketing abilities help a firm manage and distribute resources for long-term sustainability and a competitive advantage. Thus, MCs are complex combinations of organizational abilities and resources that are unique to a firm and make it tough for rivals to copy (Mariadoss et al., 2011). Here are some key components of B2B marketing:

Target Market: B2B marketers must identify and understand the specific businesses that could benefit from their products or services. This involves market segmentation and a deep understanding of the target businesses' needs, procurement processes, and buying behavior.

Content Marketing: Providing valuable content such as whitepapers, case studies, and industry reports can be a powerful way to attract and engage potential business clients. This content needs to address the specific challenges and needs of the target audience.

Relationship Marketing: B2B transactions often involve building and maintaining long-term relationships. Relationship marketing strategies include personalized communications, loyalty programs, and customer service initiatives.

Sales and Distribution Channels: B2B marketers need to determine the most effective sales channels for reaching their business customers. This may include direct sales teams, distributors, or online platforms.

Digital Marketing: Digital marketing tactics such as SEO, email marketing, social media marketing, and online advertising are crucial for reaching and engaging B2B customers in the digital space.

Pricing Strategies: Pricing in B2B markets can be complex, with considerations such as volume discounts, long-term contracts, and negotiations playing a role.

Brand Positioning: A strong B2B brand can communicate reliability, quality, and expertise. Brand positioning involves differentiating a company's offerings from competitors and establishing a unique value proposition.

Customer Feedback and Adaptation: Continuously gathering and analyzing customer feedback is important for improving offerings and adapting marketing strategies.

Regulatory Compliance: B2B marketers must also be aware of and comply with any industry-specific regulations affecting their marketing practices.

However, external and internal factors affect AI-based marketing adoption. Our definition of B2B marketing skills includes a wide spectrum of talents. Marketing information management, planning, and execution are the complete competences addressed in this study. Marketing information management is an organization's capacity to gather and analyze stakeholder data to create successful marketing strategies (Cavazos-Arroyo & PuenteDiaz, 2019). Effective marketing strategy requires the capacity to forecast and adjust to market developments. This competence helps businesses realize their goals (Chahal & Kaur, 2014; Liu et al., 2015; Santos-Vijande, 2012). Marketing implementation competency involves executing, supervising, and assessing marketing strategies (Chahal and Kaur, 2014).

Recent discussions have focused on how artificial intelligence (AI) affects business-to-business (B2B) marketing (Mikalef et al., 2021). A growing body of research suggests that business-to-business (B2B) marketing companies are rapidly integrating artificial intelligence (AI) into their operations, mostly by automating or augmenting critical processes (Rusthollkarhu et al., 2022). AI enhances customer experience, customisation, planning accuracy, and consumer insights, according

to Dwivedi and Wang (2022). Other major industrial cases reinforce this claim. As a consequence, there is a lot of anecdotal data on the potential uses of AI in business-to-business marketing activities that use diverse technologies. To successfully integrate a variety of AI applications, firms should emphasize AI competency development (Lundin & Kindstrom, 2023; Pattinson et al., 2022). Proponents also argue that integrating artificial intelligence (AI) into business-to-business (B2B) marketing could expand customer outreach through focused applications, encouraging innovative operational strategies and improving existing processes (Raghupathi et al., 2023).

Artificial intelligence (AI) Competencies

Artificial Intelligence (AI) is a branch within the discipline of computer science that has a significant historical foundation. In contrast to its previous restriction inside the domain of theory, artificial intelligence (AI) has lately undergone a transition towards practical implementation. This shift may be attributed to advancements in the fields of data collection and processing (Haenlein & Kaplan, 2019). Various interpretations have been put out on the technological components that constitute the paradigm of artificial intelligence (AI). One application is the use of a system that emulates human intellect and cognitive functions in order to address intricate and time-consuming difficulties. Another aspect that should be considered is the presence of intelligent computational agents, as discussed by Paschen et al. (2019). AI technologies are developed based on existing data and knowledge in order to carry out activities according to predetermined specifications. This notion is considered foundational in the field (Paschen et al., 2020). This provision emphasizes the importance of AI systems' ability to draw conclusions and gain knowledge via the study of previous experiences using data. Machine learning is a well-defined subfield, and possibly the most prominent, within the broader field of artificial intelligence (Ongsulee, 2017). According to Gomez-Perez et al. (2009), AI systems that are based on machine learning have the potential to adjust their functioning depending on newly acquired data. Hence, a crucial difference between this technology and prior methodologies for enabling or making judgments lies in the inherent flexibility of these algorithms, since they undergo modifications in accordance with novel information. The competencies associated with Artificial intellect (AI) include a broad spectrum of skills and capacities that enable robots to do tasks traditionally requiring human intellect. The aforementioned competences are crucial for the progress, implementation, and improvement of artificial intelligence (AI) systems. The following are an overview of the essential abilities and framework pertaining to artificial intelligence (AI).

Machine Learning (ML): This competency involves creating algorithms and models that enable machines to learn from data and make predictions or decisions. ML is at the core of many AI applications, from image recognition to natural language processing.

Data Processing and Analysis: AI systems rely heavily on data. Competence in collecting, processing, and analyzing large datasets is essential. This includes data cleaning, feature engineering, and statistical analysis to ensure the quality and relevance of input data.

Programming Skills: Proficiency in programming languages like Python, Java, or C++ is fundamental for developing AI applications. AI engineers need to write code to implement algorithms, integrate systems, and troubleshoot issues.

Algorithmic Thinking: Understanding and creating efficient algorithms is a key competency. This involves problem-solving skills to develop algorithms that can solve complex tasks with speed and accuracy.

Neural Networks and Deep Learning: Deep learning is a subset of ML that focuses on neural networks, inspired by the human brain. Competence in designing, training, and optimizing deep neural networks is crucial for advanced AI applications, such as image and speech recognition.

Natural Language Processing (NLP): NLP enables machines to understand, interpret, and generate human language. Competence in NLP is vital for applications like chatbots, language translation, and sentiment analysis.

Research and Development: Capability to conduct research on new AI techniques and stay up-to-date with the latest developments in the field.

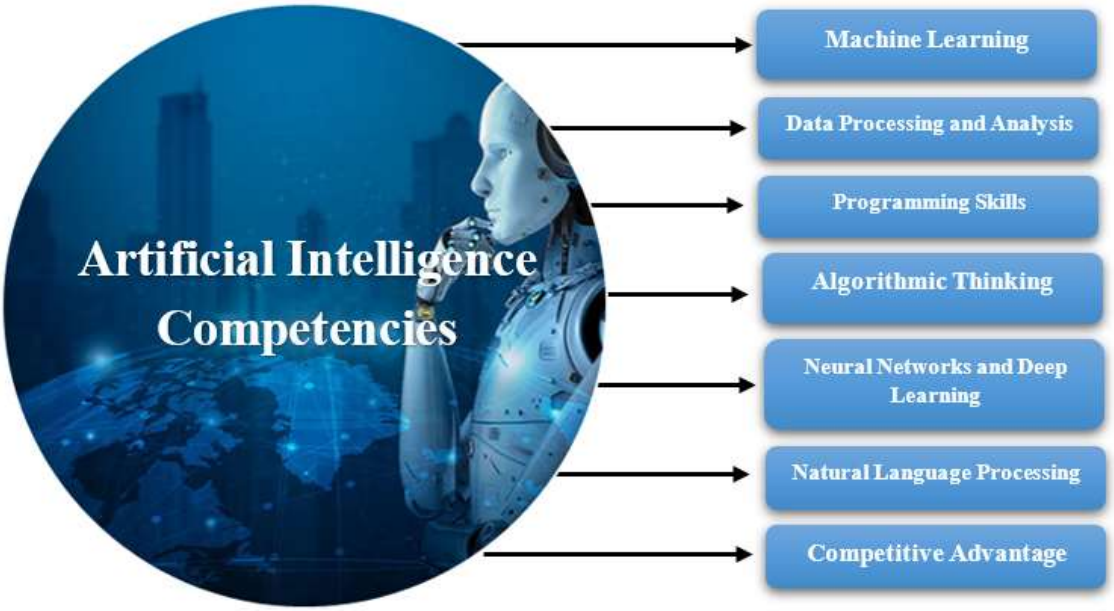

Figure 1: AI Competency Framework

Nevertheless, in spite of the considerable progress made in artificial intelligence (AI) technology in recent times, some firms are facing challenges in efficiently using their capabilities to generate value (Collins et al., 2021). There has been a growing body of scholarly study dedicated to this matter, with a particular focus on highlighting the role of the organizational environment in contributing to the challenges related to harnessing the capabilities of artificial intelligence (Chernov & Chernova, 2019). Contrarily, there exists a range of notable examples in which firms have successfully integrated artificial intelligence (AI) into their operational frameworks and discerned approaches by which these technological advancements might enhance the overall prosperity of the enterprise (Makarius et al., 2020). The aforementioned examples have shown the potential for AI orchestration to become a core competency inside a business, resulting in significant benefits for said firm (Batko & Szopa, 2016). Consequently, the notion of AI competency extends beyond the conventional perception of only advancing AI technology, to embrace their strategic design and integration inside an organizational framework, with the objective of fostering value generation. Hence, an AI competence is the outcome of a comprehensive body of scholarly research that differentiates between core technology (referred to as AI technologies) and core skills (known as AI competencies). Therefore, an AI competence covers not only technical ability in efficiently using or supporting the technology itself, but also entails the creative integration of organizational knowledge, institutions, and technology in a coherent manner (Makarius et al., 2020).

According to a study conducted by Fountaine et al. (2019), recent research and surveys conducted among prominent organizations highlight the importance of creatively incorporating artificial intelligence into new or redesigned processes in order to effectively harness its potential value. Therefore, the proficiency in integrating and consolidating AI technologies in an innovative fashion to enhance business outcomes necessitates experience in AI. Building upon existing academic literature in the realm of information systems (IS), this study introduces the notion of an

artificial intelligence (AI) competency, which is consistent with other investigations conducted in this area (Ravichandran, 2018). Based on the original work by Prahalad (1993) that focuses on the definition of competences, we argue that an AI skill should exhibit three fundamental attributes. It is crucial to recognize the technical proficiency required to effectively manage technology, since this has the potential to provide a competitive advantage. Furthermore, it is essential that the framework encompasses a diverse range of activities and operations, beyond the limitations of any one business unit. In addition, it is essential for rivals to encounter challenges in replicating the product or service, hence requiring a strong focus on continuous innovation and a proactive stance. The confluence of these three factors facilitates the development of an AI aptitude.

The Effect of AI Competencies to B2B Marketing Capabilities

Market research quality greatly impacts marketing success. When performing market research, the firm must evaluate industry trends, customers, rivals, and other stakeholders. Market research may use internal and external reporting, social media, and others. Artificial intelligence is needed to analyze and interpret data from many sources. Companies are using AI in marketing decision support and market research to improve decision-making (Pietronudo et al., 2022). Sharma et al. (2022) show how artificial intelligence (AI), especially natural language processing (NLP), helps marketers analyze textual data to learn about customer traits and habits. Marketers may modify material for individual clients using this feature. It also helps understand client needs and provide customized goods and services. This study suggests that AI proficiency may affect marketing information management. For instance, firms might use AI to evaluate market data and create graphical representations to help executives make educated decisions (Farrokhi et al., 2020). Empirical studies have confirmed this association. Singh (2022) suggests that artificial intelligence (AI) might speed up decision-making and help evaluate marketing initiatives.

Advanced artificial intelligence (AI) capabilities encourage cooperation amongst marketing, operations, business, and analytics staff. Fountaine et al. (2019) believe this phenomenon transforms distinct work processes into a multidisciplinary collaboration that achieves corporate objectives. Fountaine et al. (2019) showed that AI systems can create and analyze several hundred million probable outcomes and alternatives. The algorithms then prioritize a limited number of ideal solutions for marketing decision makers. In the information systems literature, indirect evidence links business-to-business planning to artificial intelligence (Saura et al., 2021). Ravichandran (2018) found that IT skills increase organizational agility. Furthermore, Lu and Ramamurthy (2011) found a strong link between IT skills and organizational agility. Thus, we propose the following hypothesis. Fountaine et al. (2019) suggest that marketing professionals may use their own judgment and knowledge to make a decision after AI-based systems evaluate and prioritize marketing solution strategies. AI suggestions aid this decision-making process, eliminating the need for higher-ups. It greatly improves the company's operations. According to Wamba-Taguimdje et al. (2020), an organization should improve its ability to use artificial intelligence (AI) and related technologies to make high-quality decisions faster and more efficiently. Bag et al. (2021), Rahman et al. (2021), and Singh (2022) found that AI systems in firms might triple B2B marketing effectiveness. The rise is due to AI systems' ability to get consumer, user, and market information. However, the integration of AI competencies into B2B marketing capabilities can have a profound impact on various aspects of marketing strategies and operations. Here are some key effects:

Data Analysis and Insight Generation: Artificial intelligence can process and analyze massive amounts of data faster than humans. This allows for more comprehensive segmentation, profiling, and predictive analytics for targeted marketing initiatives. The AI-powered algorithms can

identify patterns and trends in data to provide marketers important insights about customer preferences, buying habits, and behavior.

Personalization: Artificial intelligence allows the creation of tailored and dynamic content that matches each customer's tastes. This technique may improve consumer engagement by offering relevant material tailored to certain demographics.

Lead Generation and Scoring: Using historical data, artificial intelligence systems can anticipate lead conversion probabilities. This lets marketing teams prioritize high-value prospects and tailor their strategy. B2B marketers save time and money by automating lead generation using AI. Potential clients are identified and generated in this process.

Customer Relationship Management (CRM): AI-automated data input and analysis accelerates CRM system administration and maintenance. This helps keep customer records accurate and updated. AI can predict consumer behavior, allowing companies to create and implement plans to retain consumers and meet their needs.

Chatbots and Virtual Assistants: Dialog Artificial intelligence-powered virtual assistants and chatbots can answer basic client questions, freeing up human resources for more sophisticated initiatives. AI-powered chatbots can provide ongoing customer care and rapid responses, improving the customer experience.

Marketing Automation: Marketing automation tools that use artificial intelligence can optimize content, timing, and channel selection to boost campaign effectiveness. These metrics lead to more effective and efficient marketing methods. Behavioral targeting uses AI to study customer behavior to optimize marketing messages. Automated customized advertising and promotional systems ensure customers obtain more relevant information.

Competitive Advantage: AI-powered B2B marketing helps companies stay ahead by using cutting-edge technology and adapting quickly to changing market circumstances. Focusing on strategic goals and innovation with AI in marketing processes may improve operational performance.

The Impact of B2B Marketing Capabilities on Organizational Performance

In previous research, marketing competencies were found to be associated with organizational performance. Marketing capabilities, according to Mariadoss et al. (2011), may influence both technical and non-technical innovations, thereby influencing the competitive advantage of an organization. Morgan et al. (2009), on the other hand, discovered a direct correlation between marketing proficiency and business performance. According to a study by Kamboj and Rahman (2015), marketing skills have the greatest impact on the prosperity of a company. Marketing capabilities are defined in this article in terms of marketing information administration, planning, and execution.

Marketing Information

Marketing information management (Cavazos-Arroyo & Puente-Diaz, 2019) is the capacity of an organization to collect and analyze stakeholder data in order to develop effective marketing strategies. Consequently, enhanced marketing information administration could facilitate quicker information access for executives. This may assist executives in comprehending and fulfilling client desires, thereby potentially boosting customer satisfaction, revenue, and profitability. Utilizing marketing information management solutions powered by artificial intelligence may enhance performance, productivity, and decision-making. Information generated by AI technology may unveil novel concepts and commercial prospects. The organization could potentially gain a competitive advantage by rapidly introducing novel services.

Marketing Planning

In order to assist businesses in attaining their objectives, marketing planning anticipates and adjusts to market developments. By optimizing marketing planning, an organization is able to leverage its resources in order to develop effective marketing strategies. Competitors of today must have the ability to anticipate and adapt to market shifts. Failure on the part of an organization to undertake essential measures diminishes its prospects of achievement in the current volatile market. In addition to historical market dynamics, competitive research, stakeholder engagement, and industry trends, an AI-powered marketing planning procedure may generate strategic actions. Successful and competitive businesses engage in experimentation (Ravichandran, 2018).

Marketing Implementation

It is feasible to execute, oversee, and evaluate marketing strategies (Chahal & Kaur, 2014). Marketing implementation entails the execution of activities and the allocation of resources, while marketing planning anticipates market dynamics (Cavazos-Arroyo & Puente-Diaz, 2019). Successful businesses and market adaptation require the ability to assess and implement marketing strategies. Implementing suitable measures can potentially enhance operational, financial, and market performance. AI improves the decision-making processes of businesses, thereby enhancing their performance and providing a competitive advantage (Wamba-Taguimdje et al., 2020). Strong implementation capabilities enable organizations to combine resources in order to adopt novel marketing strategies that align with their business models. Input from marketing may also be utilized to reevaluate their business models.

Research Model

Drawing from the aforementioned discussion, it is hypothesized that the procurement of AI capabilities holds importance for organizations striving to achieve improved performance results. Machine learning, data processing and analysis, programming aptitude, algorithmic reasoning, neural networks and deep learning, natural language processing, and competitive advantage comprise the set of fundamental components that comprise AI proficiencies. The amalgamation of these components enhances the functionalities of business-to-business (B2B) marketing, which are pivotal in attaining advancements in the performance of organizations. Hence, it is argued that the influence of artificial intelligence functionalities on the performance of organizations is not direct. A succinct overview of the principal direction of link within the study model is presented in Figure 2.

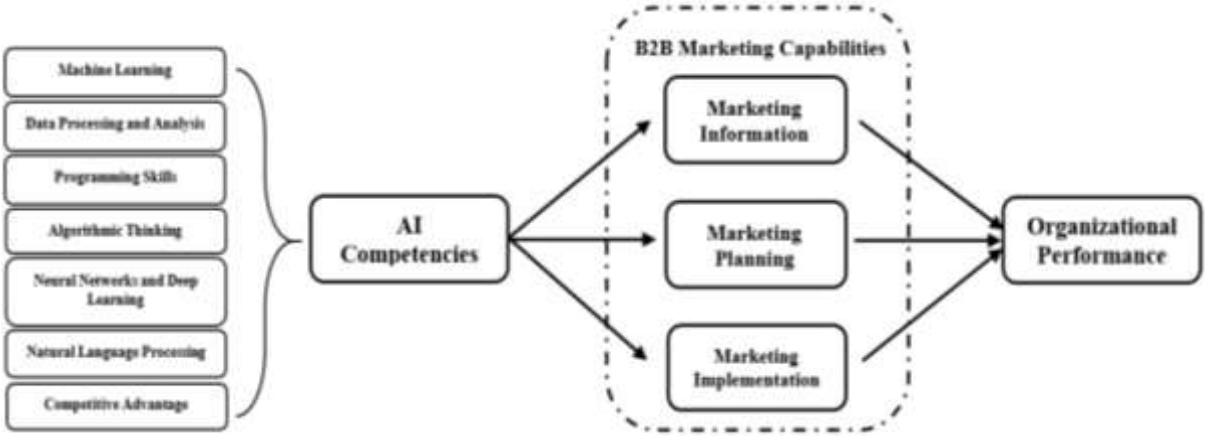

Figure 2: Structural Connection between AI Competencies to B2B Marketing Capabilities on Organizational Performance Structural Model.

The diagram presents a structural model outlining the connection between AI Competencies and B2B marketing capabilities, and their collective impact on organizational performance. In the AI competencies the block shows the foundation of the model and includes various technical and

strategic elements such as machine learning, data processing and analysis, programming skills, algorithmic thinking, neural networks and deep learning, natural language processing, and competitive advantage. These competencies are essential skills and knowledge bases that are presumed to contribute to the effective use of AI within an organization. B2B marketing capabilities is directly influenced by AI competencies, as indicated by the solid lines connecting them. Within B2B marketing capabilities, three distinct areas are influenced by AI including marketing information, marketing planning, and marketing implementation. However, in the organizational performance, the goal and outcome that the model suggests is influenced by the proper execution of B2B marketing capabilities. The direct lines from each marketing capability to organizational performance indicate that each capability directly contributes to the overall performance of the organization. The structural connections in this model suggest that AI Competencies have a multifaceted impact on B2B Marketing Capabilities. Each capability (Information, Planning, and Implementation) is directly influenced by AI competencies, implying that these competencies are not only important for gathering and processing information but also for planning and implementing marketing strategies effectively. In essence, the diagram posits that an organization's AI Competencies can enhance various aspects of B2B marketing, which in turn can improve Organizational Performance. The direct links from each aspect of the marketing capabilities to organizational performance suggest that improvements in any one of these areas can have a beneficial impact on the organization's success.

Theoretical Framework

Technology Acceptance Model (TAM) by Fred Davis (1986)

The main aim of the Technology adoption Model (TAM) was to elucidate the underlying mechanisms that drive the adoption of technology. This was done with the purpose of forecasting user behaviour and provide a theoretical framework to account for the effective deployment of technology. The primary aim of Technology Acceptance Model (TAM) was to provide practitioners with insights into the actions they may do before the installation of technology. In order to achieve the goals outlined by the theory, a series of actions were undertaken (Davis, 1989; Davis, 1993). However, Fred Davis first proposed the concept which was recognised as the Technology Acceptance Model (TAM), in his doctoral dissertation in 1986 see Figure 3. The Technology Acceptance Model (TAM) is a derivative of the Theory of Reasoned Action, designed to replicate the mechanism via which individuals embrace new information systems or technologies.

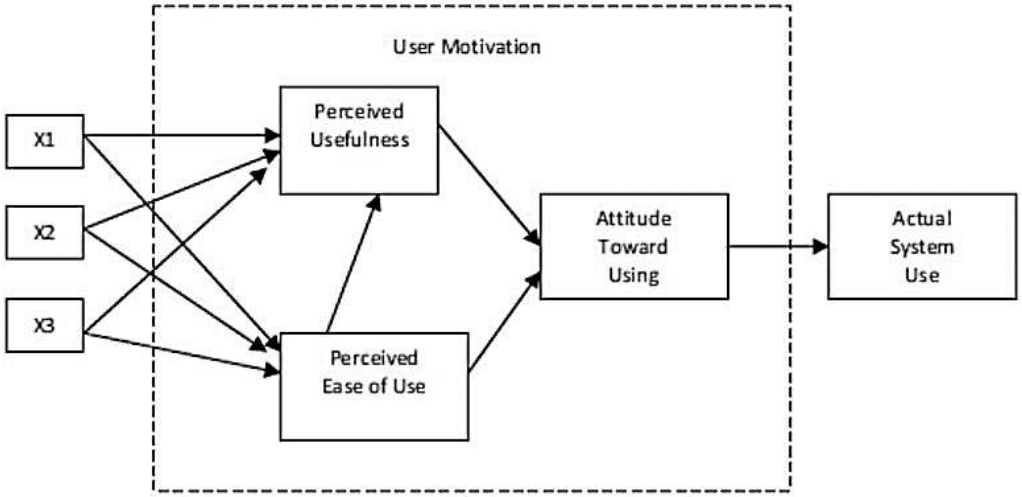

Figure 3: illustrates the first version of Davis's (1986) technology acceptance model.

In 1989, Davis used the Technology Acceptance Model (TAM) to provide a rationale for the observed computer usage trend seen in Figure 4. The objective of Davis' (1989) Theory of Reasoned Action (TAM) is to elucidate the fundamental components that govern the acceptance of computers and, therefore, provide understanding into the actions of users across a wide range of end-user computing systems and user demographics. The TAM approach was adapted to include and evaluate specific beliefs, namely perceived utility (PU) and perceived ease of use (PEU). According to Davis (1989), the concepts of "perceived usefulness" and "perceived ease of use" refer to the subjective perception of potential users regarding the extent to which utilising a specific system, such as a single platform electronic payment system, will enhance their overall experience and the level of effort they anticipate in using the target system, respectively. Within the framework of the Technology Acceptance Model (TAM), characteristics that are not inherent to the system under investigation are denoted as external factors. The aforementioned elements might influence an individual's view of a system.

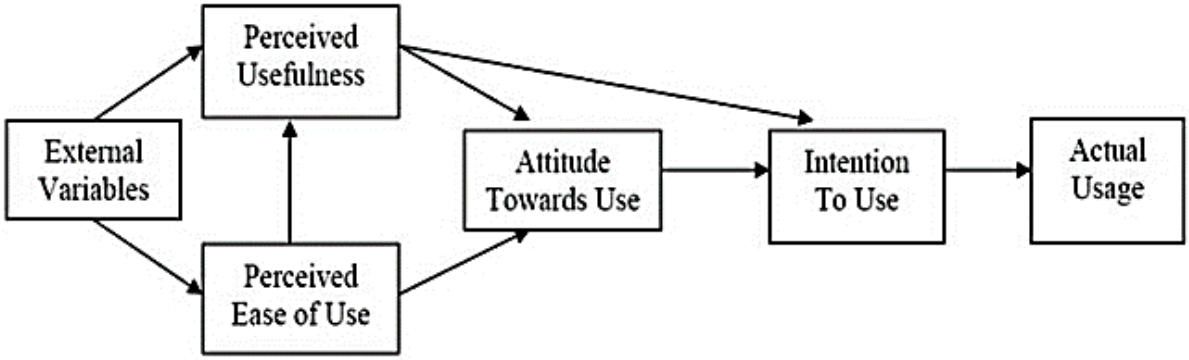

Figure 4: Davis, Bogozzi and Warshaw (1989) First modified version of TAM

Venkatesh and Davis (1996) formulated the ultimate version of the Technology Acceptance Model (TAM) after first uncovering the direct influence of perceived utility and perceived ease of use on behavioural intention. This last iteration of TAM is visually shown in Figure 5. This action was undertaken due to the elimination of the need for the attitude construct after its discovery.

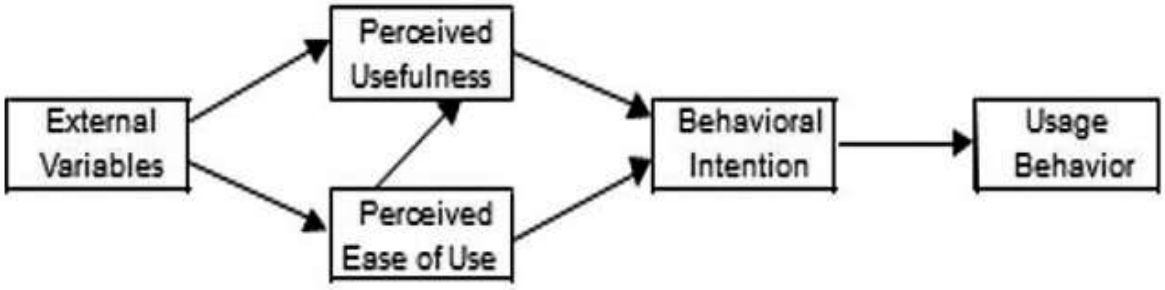

Figure 5: The final iteration of the Technology Acceptance Model (TAM), as elucidated by Venkatesh and Davis (1996).

The TAM 2 model was proposed by Venkatesh and Davis (2000), as seen in Figure 6. This research aimed to provide a comprehensive analysis of the factors contributing to users' perception of a certain system's benefits at three distinct time points: pre-implementation, one month post-implementation, and three months post-implementation. As per the Theory of Reasoned Action (TAM2), users develop their perceptions regarding the utility of a system by mentally assessing the extent to which the outcomes of completing job tasks using the system align with significant work objectives (Venkatesh and Davis, 2000). This assessment is predicated on the users' cognitive

assessment of the extent to which major work goals are congruent with the results that ensue from the execution of job duties using the system. Based on the available data, it can be seen that TAM 2 exhibited commendable performance in both voluntary and forced contexts. This is really promising.

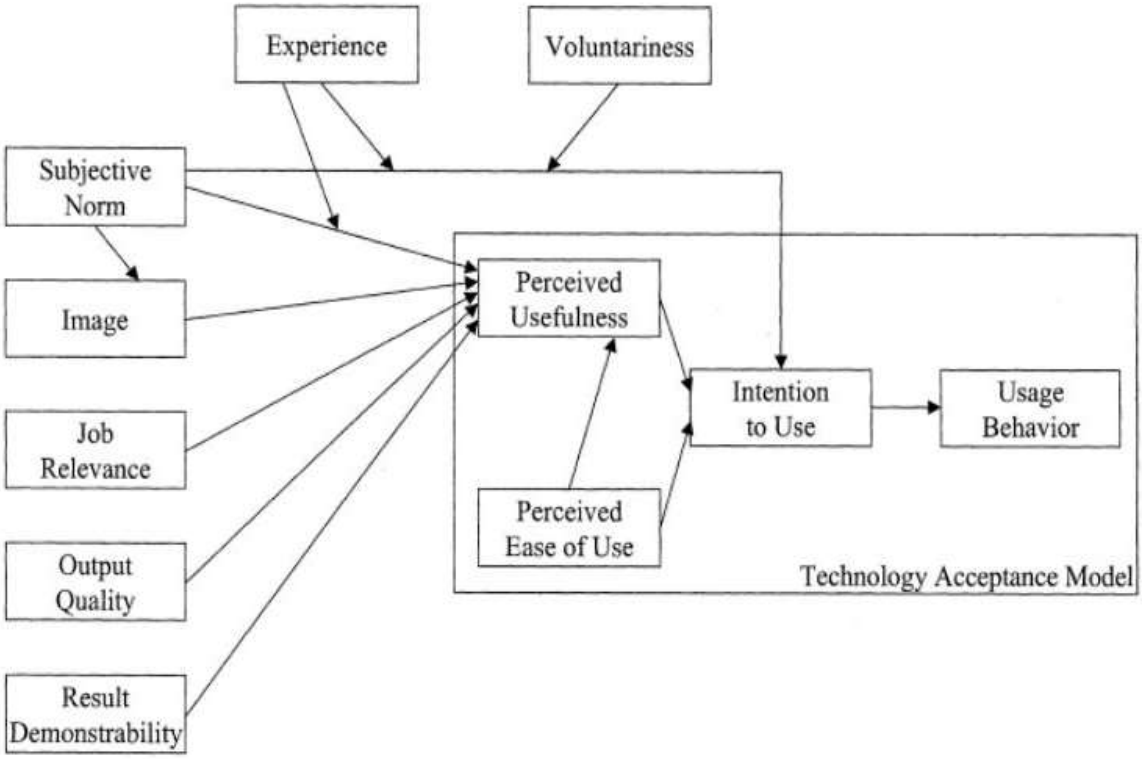

Figure 6: Venkatesh and Davis (2000) TAM 2

Implication of TAM to the Current Study

The Technology Acceptance Model (TAM) is a widely recognized framework that assesses the adoption and acceptance of technology within organizations. When applied to competencies in Artificial Intelligence (AI) for organizational performance, particularly in the context of B2B marketing capabilities, TAM offers valuable insights into the dynamics of technology integration. In the realm of AI, competencies refer to the skills, knowledge, and abilities required to effectively leverage AI tools for business objectives. TAM posits that the perceived ease of use and perceived usefulness of a technology are key determinants of its acceptance. For B2B marketing capabilities, this implies that the competencies in AI must align with the ease of use and perceived usefulness for marketers within the organization. Organizational performance in B2B marketing can be significantly enhanced by adopting AI competencies. AI can streamline processes, analyze vast datasets, and provide actionable insights, thereby improving decision-making and overall efficiency. TAM suggests that the smoother the integration and the more beneficial the outcomes perceived by users, the higher the likelihood of acceptance and successful utilization of AI competencies.

Moreover, TAM underscores the importance of external variables such as organizational culture and leadership support. In the context of B2B marketing capabilities, a culture that values innovation and a leadership team that actively supports AI initiatives can positively influence the acceptance of AI competencies. For B2B marketers, understanding and leveraging TAM in the context of AI competencies is crucial for optimizing organizational performance. By aligning AI competencies with perceived ease of use, usefulness, and organizational culture, businesses can cultivate a technology-friendly environment that propels them towards greater efficiency, competitiveness, and success in the dynamic landscape of B2B marketing.

Conclusion

The rising demand for artificial intelligence (AI) in B2B marketing signifies a transformative shift in conventional business practices. While AI presents immense potential for data processing, customer insight generation, and operational efficiency, organizations face challenges in realizing its full value. The adoption of AI in B2B marketing is driven by both internal and external processes, with a focus on marketing information management, planning, and implementation. AI competencies, encompassing machine learning, data processing, programming skills, algorithmic thinking, neural networks, natural language processing, and research and development, are critical for successful integration into B2B marketing capabilities. However, it is not solely about the technology but also the creative bundling of AI technologies, organizational knowledge, and institutions. Achieving AI competence involves technical proficiency, cross-functional collaboration, and a strategic edge that is hard for competitors to imitate. The efficiency of B2B marketing activities, heavily reliant on effective market research, is significantly enhanced by AI competencies. The impact is evident in marketing information management, planning, and implementation, where AI influences market data analysis, strategic response to market changes, and execution of marketing strategies. This multidimensional impact underscores the crucial role of AI in shaping B2B marketing capabilities, directly contributing to an organization's overall performance and competitive advantage. As organizations strive to develop AI competencies, they not only improve existing operations but also pave the way for innovative approaches to conducting business in an increasingly AI-driven landscape. Fred Davis introduced the Technology Acceptance Model (TAM) in 1986 to explain technology acceptance and give a theoretical framework for implementation. The concept is based on the Theory of Reasoned Action, which emphasises technological usefulness and usability.

Recommendations

1. Organizations should strategically invest in developing AI competencies, including machine learning, data processing, and natural language processing. This investment should not only focus on technological aspects but also on fostering a culture that encourages interdisciplinary collaboration and knowledge sharing.

2. Organizations should recognize that AI competence goes beyond the technical aspects. It involves creative bundling of technologies, organizational knowledge, and institutional practices. Emphasize the need for a holistic approach that considers the technical ability to orchestrate AI effectively, its ability to transcend individual business units, and its potential to create a competitive advantage that is challenging for competitors to imitate.

3. Organizations should integrate of AI competencies into their B2B marketing activities. Leverage AI technologies like natural language processing to understand customer behavior, enhance market research capabilities, and personalize content. Facilitate collaboration between business, operational, and marketing teams with analytics experts to break down silos and foster interdisciplinary collaboration.

4. Organizations should strengthen marketing information management by utilizing AI competencies to acquire, analyze, and visualize relevant stakeholder information. This will empower organizations to make informed decisions, tailor marketing strategies based on customer insights, and stay competitive in dynamic B2B markets.

Implication of the Study

The implications of the study highlight the transformative potential of artificial intelligence (AI) in B2B marketing and its profound impact on organizational performance. As organizations

increasingly recognize the value of AI in revolutionizing conventional practices, particularly in B2B marketing, it becomes evident that leveraging AI competencies is essential for unlocking its full potential.

It is pertinent for organizations to develop robust AI competencies that go beyond the mere application of technology. The study emphasizes that AI competence involves the creative bundling of AI technologies, organizational knowledge, and institutional structures. This not only requires technical proficiency in AI technologies such as machine learning, data processing, and natural language processing but also necessitates transcending individual business units and creating a competence that is challenging for competitors to imitate.

The efficiency of B2B marketing activities is identified as a critical area where AI competencies play a pivotal role. AI technologies, particularly natural language processing (NLP), empower marketers to understand customer behavior and preferences, enabling the creation of personalized content and the design of products and services that meet specific needs. The integration of AI competencies into marketing information management enhances the capability to analyze market data and make informed decisions, transforming traditional siloed work practices into interdisciplinary collaboration.

Moreover, the study underscores that AI competencies impact various aspects of marketing strategies and operations, including data analysis, insight generation, personalized content, lead generation, customer relationship management (CRM), chatbots, marketing automation, and competitive advantage. The multifaceted impact of AI competencies on B2B marketing capabilities is highlighted, with each capability contributing directly to the overall performance of the organization.

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