

Entrepreneurial Readiness to Adopt AI in Digital Marketing: A Systematic Review of the Literature and Comparative Analysis between Developed and Developing Countries

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ABSTRACT

Objective: This research aims to map the development of global research, compare the characteristics of entrepreneurial readiness across country contexts, and formulate a more contextual conceptual framework of readiness. **Method:** The method used is a Systematic Literature Review with bibliometric and thematic analysis of publications for the 2021–2025 period which were selected using the PRISMA protocol. **Results:** The results of the study show a significant increase in the trend of publications and citations, the dominance of the contribution of developed countries in knowledge production, as well as differences in the quality of AI adoption. Entrepreneurs in developed countries are integrating AI strategically and systemically, while in developing countries adoption is still partial due to structural limitations, technological literacy, and data governance. **Novelty:** This study proposes the expansion of Change Readiness Theory through the dimensions of technology, strategic vision, ethical-social alignment, and data governance as the foundation of sustainable socio-technical readiness for digital marketing transformation.

INTRODUCTION

Digital transformation has become one of the most decisive forces in the dynamics of the global economy of the 21st century, particularly in the context of entrepreneurship and marketing practices. The development of digital technology no longer merely functions as an operational support tool, but has transformed into a strategic foundation in business decision-making, value creation, and sustainable competitive advantage development [1]. Digital marketing is progressively evolving from a conventional platform-based approach to an increasingly automated, adaptive, and data-driven system. Artificial Intelligence (AI) is emerging as a key technology that revolutionizes the way businesses understand consumer behavior, design marketing strategies, and optimize interactions with the market in real-time and with high precision.

The adoption of AI in digital marketing not only promises operational efficiency and improved marketing performance, but it also demands complex and multidimensional readiness. These readiness include cognitive aspects (knowledge and understanding of technology), structural (availability of infrastructure and resources), organizational (culture of innovation and managerial support), as well as external environments such as regulations, digital ecosystems, and market pressures [2]. In this context, entrepreneurial readiness is a crucial variable that determines whether AI can be adopted meaningfully or even becomes a non-optimal technology, and even has the potential to widen the performance gap between business actors. The level of readiness

of entrepreneurs to adopt AI in digital marketing is not homogeneous globally [3]. This phenomenon of differences in readiness is increasingly prominent when compared between developed and developing countries. Developed countries generally have a mature digital ecosystem, progressive policy support, and a relatively high level of technological literacy among entrepreneurs. In contrast, developing countries often face structural constraints such as uneven digital infrastructure, low human resource capacity, limited access to data and AI technology, and regulatory uncertainty. This condition creates systemic challenges that make AI adoption not only a technological issue, but also a social, economic, and institutional readiness issue.

The phenomenon of the problem that arises is the paradox between the enormous potential of AI in increasing the competitiveness of entrepreneurs and the reality of low AI adoption rates, especially in developing countries. Many entrepreneurs are aware of the benefits of AI in digital marketing such as content personalization, consumer behavior prediction, and campaign automation but do not yet have the adequate readiness to implement them effectively. As a result, AI is often perceived as "too complex", "too expensive", or "irrelevant" to the scale of their efforts [4]. This phenomenon shows that the failure of AI adoption is not solely caused by individual resistance, but rather by layered systemic unpreparedness.

Various data show that there is a consistent gap in the use of AI for digital marketing among entrepreneurs between developed and developing countries, especially in terms of the depth and purpose of using the technology. In developed countries, around 60-75% of entrepreneurs and small-medium enterprises have actively leveraged AI in digital marketing, particularly for ad personalization, automated product recommendations, social media content optimization, and consumer behavior analysis to increase sales conversions [5]. The use of AI in this context is strategic, planned, and part of long-term marketing design. In contrast, in developing countries such as Indonesia, the level of AI utilization in digital marketing is still relatively limited, with less than 25-30% of businesses using AI, and most only at the basic level, such as the use of chatbots, automated content scheduling, or AI features built into digital platforms without the integration of mature marketing strategies [6]. In fact, most entrepreneurs are still using AI experimentally and reactively, simply following trends without a deep understanding of how AI can improve marketing effectiveness and business competitiveness. This difference shows that the gap between developed and developing countries in the adoption of digital marketing AI lies not only in the level of use, but especially in the quality of utilization, where entrepreneurs in developed countries use AI as a tool to leverage business value, while entrepreneurs in developing countries are still in the early adaptation and partial utilization stages.

A number of previous studies have attempted to examine the adoption of AI in the context of business and digital marketing, but most of them still focus on the environment of developed countries or large corporations. Studies conducted by [7] shows that technological and organizational readiness are the main determinants of the success of AI adoption in digital marketing, but the research context is limited to the

relatively mature digital ecosystem. Research [8] highlights the role of digital literacy and analytics capabilities as key factors, but does not explicitly distinguish structural challenges between developed and developing countries. Research conducted by [9] more emphasis is placed on the benefits and performance aspects of AI in marketing, assuming that adoption readiness is available, thus less exploring the root cause of entrepreneurial readiness in a more resource-constrained context.

Based on a critical review of the literature, it can be identified that there are several types of significant research gaps. The first is *the contextual gap*, which is the lack of studies that explicitly compare the readiness of entrepreneurs to adopt AI between developed and developing countries. The second is the *conceptual gap*, where AI adoption readiness is often treated as a single concept, without an in-depth exploration of the interinteracting dimensions of readiness. The third is the *methodological gap*, as most studies use a partial empirical approach, while systematic and comparative cross-country studies are still very limited. Therefore, this study offers novelty through a structured Systematic Literature Review approach and comprehensive comparative analysis to map the patterns, determinants, and dynamics of entrepreneurial readiness in diverse global contexts.

Based on the background and formulation of the problems that have been presented, this study aims to comprehensively examine the development of global research related to the readiness of entrepreneurs in adopting artificial intelligence for digital marketing by tracing publication trends, citation patterns, and scientific networks throughout the 2021–2025 period. In addition, this study is also directed to compare the characteristics of entrepreneurial readiness between developed and developing countries through bibliometric, thematic, and geographical analysis approaches to identify differences in adoption patterns and the structural context that influences them. Furthermore, this study seeks to formulate a more contextual conceptual framework for entrepreneurial readiness for developing countries by expanding Change Readiness Theory through the integration of various dimensions of readiness revealed from the results of the Systematic Literature Review, so that it can provide theoretical contributions as well as practical implications for the development of AI adoption strategies in digital marketing.

RESEARCH METHODS

Research Design

This study uses the Systematic Literature Review (SLR) approach to analyze in a structured manner the readiness of entrepreneurs to adopt Artificial Intelligence (AI) in digital marketing. The SLR approach was chosen because it allows the integration of previous research findings through a systematic, transparent, and replicable literature selection procedure. Through this method, the research not only summarizes previous studies, but also maps the development patterns of research, research gaps, and the direction of conceptual development in the future. The research process follows the stages of literature identification, screening, feasibility assessment, and synthesis of

findings to build a comprehensive framework of understanding of entrepreneurial readiness in the context of AI adoption [10]. The focus of the research is directed at the academic literature that discusses the adoption of AI in digital marketing, entrepreneurial readiness, as well as a comparison of the context of developed and developing countries. With this design, the research is able to uncover conceptual and empirical dynamics in depth, while providing a scientific basis for the development of a more contextual model of entrepreneurial readiness.

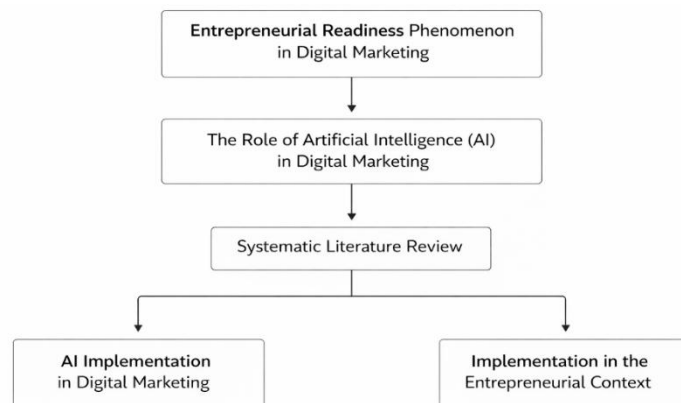
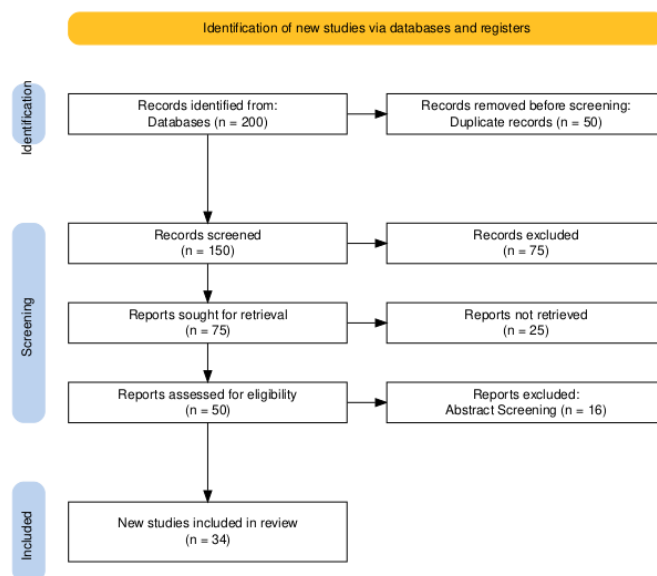


Figure 1. Conceptual Framework.

Inclusion and Exclusion Criteria

To ensure the quality and relevance of the literature analyzed, this study applied strict selection criteria through inclusion and exclusion mechanisms. The selection process is carried out systematically so that the selected articles truly represent the development of research on entrepreneurial readiness in the adoption of AI for digital marketing. Literature restriction aims to maintain methodological consistency and ensure that the synthesized findings reflect the latest research trends [11].



Source: PRISMA Database (2025)

Figure 2. Literature Source Selection Process.

Inclusion criteria

1. Scientific articles that have gone through a peer-review process and discuss AI adoption, digital marketing, or entrepreneurial readiness.
2. Research that has relevance to the context of developed and developing countries.
3. Publication in the span of 2020–2025 to capture contemporary developments.
4. Studies that make conceptual or empirical contributions to the topic of entrepreneurial readiness and AI.

Exclusion Criteria

1. Opinion articles, editorials, non-scientific reports, or popular documents.
2. Research that only discusses technical aspects of technology that has nothing to do with marketing or entrepreneurship.
3. Studies that are not relevant to the context of the organization or business practice.
4. Duplicate articles from various databases.
5. Publications that are not available in full-text form.

Data Analysis Techniques

Data analysis was carried out through a combination of thematic and bibliometric analysis to identify research patterns, topic developments, and relationships between concepts in the study of entrepreneurial readiness and AI adoption. The literature that passed the selection was analyzed comparatively to compare the findings between developed and developing countries. This study also utilizes the VOSviewer software to visualize keyword networks, topic trends, and scientific collaborations, thus helping to uncover the structure of knowledge in the research field. The results of the analysis are then synthesized to produce in-depth conceptual interpretations and strategic recommendations for strengthening the readiness of entrepreneurs to adopt AI in a sustainable manner.

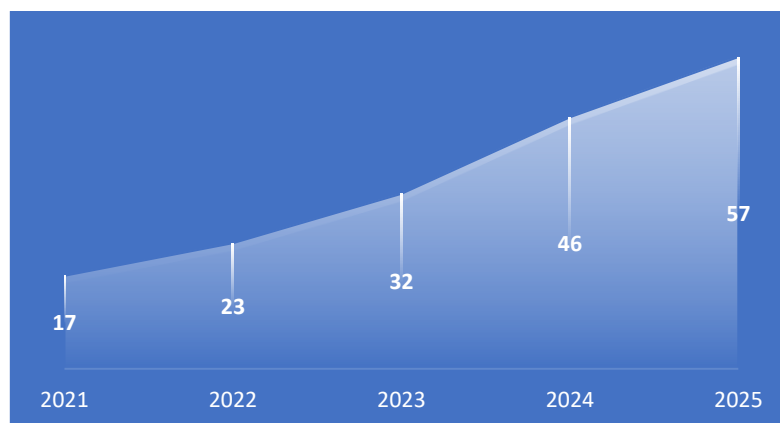
RESULTS AND DISCUSSION

Results

Analysis of the Number of Articles Published per Year

Annual trends in scientific publications on an organization's readiness for AI adoption in digital marketing serve as an important indicator of the urgency, relevance, and evolving topic discourse in management and technology studies. An increasing number of publications usually signals increased recognition and strategic importance, while a stagnant or declining trend may reflect research saturation, data limitations, or shifting academic priorities. Such patterns often align with phases of scientific development beginning with limited conceptual work, progressing to a phase of growth dominated by empirical study, and culminating in a stage of consolidation in which theory and practice are stable. In addition, these trends are shaped by external drivers such as technological breakthroughs, global crises, and policy interventions; for example, the COVID-19 pandemic and advances in generative AI have spurred a significant spike in research results. Thus, analyzing the pattern of annual publications not only measures

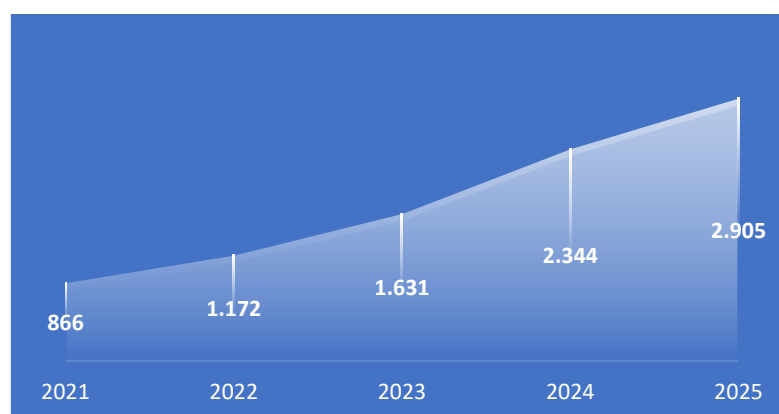
scientific activity but also reveals the dynamic interaction between contextual factors and the evolution of research focus.



Source: Processed Data (2025)

Figure 3. Research Trends Related to the Period 2021-2025.

Figure 3 shows research trends related to organizational readiness for AI adoption in digital marketing during the period 2021 to 2025. Consistent and significant improvements were seen year-on-year, starting with 17 publications in 2021, increasing to 23 in 2022, 32 in 2023, 46 in 2024, and reaching a peak of 57 publications in 2025. This upward trend shows that the issue of an organization's readiness to integrate AI into digital marketing strategies is getting more and more serious attention in the academic community. A significant surge in 2024 and 2025 is likely to be driven by the acceleration of post-pandemic digital transformation, the emergence of generative AI technologies, and increasing organizational awareness of the importance of internal readiness to make the most of AI's potential. These findings show that this topic is not only academically relevant but also increasingly urgent practically, as the market demands become increasingly competitive in the digital age.



Source: Processed Data (2025)

Figure 4. Distribution of the Number of Citations for the 2021-2025 Period.

Figure 4 shows the citation distribution for research on an organization's readiness to adopt AI in digital marketing from 2021 to 2025. A significant upward trend in quotes is seen year-on-year, starting from 866 quotes in 2021, rising to 1,172 in 2022, then jumping to 1,631 in 2023, 2,344 in 2024, and reaching a peak of 2,905 quotes in 2025. This pattern shows that literature in this field is not only increasingly published but also increasingly recognized and cited by the academic community. The significant surge in citations in recent years reflects the strengthening relevance of the topic of organizational readiness in the context of global digital transformation, along with the increasing urgency for organizations to prepare for the challenges and opportunities presented by the rapid advancement of AI technology.

Research Distribution by Top Contributors

Table 1. Top 8 Documents Ranked by Number of Citations

Ratings	Author	Document Title	CT	FWCI	VC	CB
1	[12]	Ready or not, AI attends an interview study on the organization's AI readiness factors	617	154.25	480	35
2	[13]	From AI to digital transformation: AI readiness framework	455	151.67	450	30
3	[14]	Confidence, anxiety, and readiness for change for AI adoption among HR managers	211	105.50	400	28
4	[15]	Technology readiness and the organization's journey towards AI adoption	214	107.00	380	25
5	[16]	Organisational readiness to adopt AI in the exhibition sector in Western Europe	198	66.00	350	22
6	[17]	Ethical readiness of AI technology for social and business sustainability	84	84.00	300	20
7	[18]	A closer look at the current knowledge and prospects of AI in dentistry	37	18.50	250	18
8	[19]	Factors influencing readiness for artificial intelligence: A systematic literature review	13	13.00	200	15

Source: Processed Data (2025)

Table 1 highlights the eight most cited studies on entrepreneurial readiness to adopt AI in digital marketing, led by Jöhnk et al. with 617 citations and Holmström with 455 citations, both of which establish AI readiness as a central component of digital transformation. Other works, including the work of Suseno et al., Uren & Edwards, and Hradecky et al., along with contributions from Kulkarni et al., Hamd et al., and Ali & Khan, also show strong influence through high FWCI scores and extensive collaborative networks. Collectively, these studies position AI readiness not only as part of technology adoption, but as an integrative construct that connects change management, innovation

diffusion, and socio-technical systems theory. Common themes such as organizational culture, human resource capacity, strategic alignment, and ethical considerations underscore readiness as a multidimensional construct that spans structural and psychological domains. The framework of these influential works provides a solid foundation for adapting readiness models to underexplored contexts, especially in developing countries facing infrastructure and cultural challenges, thus guiding

Research Distribution by Country

The research's geographical distribution of organizational readiness for AI adoption in digital marketing reveals the global concentration of scientific activity and the gaps formed by the digital maturity, research capacity, and policy environment of each country. Countries with higher volumes of publications typically have sophisticated research ecosystems, supportive government policies for digital transformation, and industries that are already immersed in digitalization, while countries with lower contributions are often still in the early adoption stage or constrained by limited resources. This distribution not only maps global research centers but also exposes regional gaps that can be addressed through cross-border collaboration. In addition, contextual factors such as national AI strategies, organizational culture, and infrastructure readiness strongly influence research priorities: developed countries tend to focus on implementation optimization, data-driven innovation, and embedding AI into mature business models, while developing countries emphasize basic readiness, internal capacity building, and addressing structural barriers. Together, these patterns underscore the interplay between socioeconomic contexts and research directions, offering insights into leadership and lagging behind in the global AI adoption discourse.

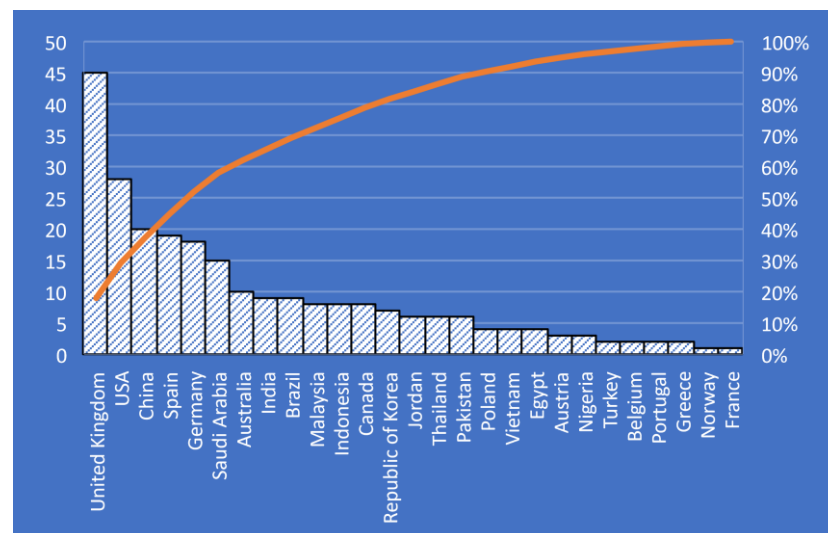


Figure 5. Visualization of the Distribution Chart of the Number of Publications by Country in 2021-2025.

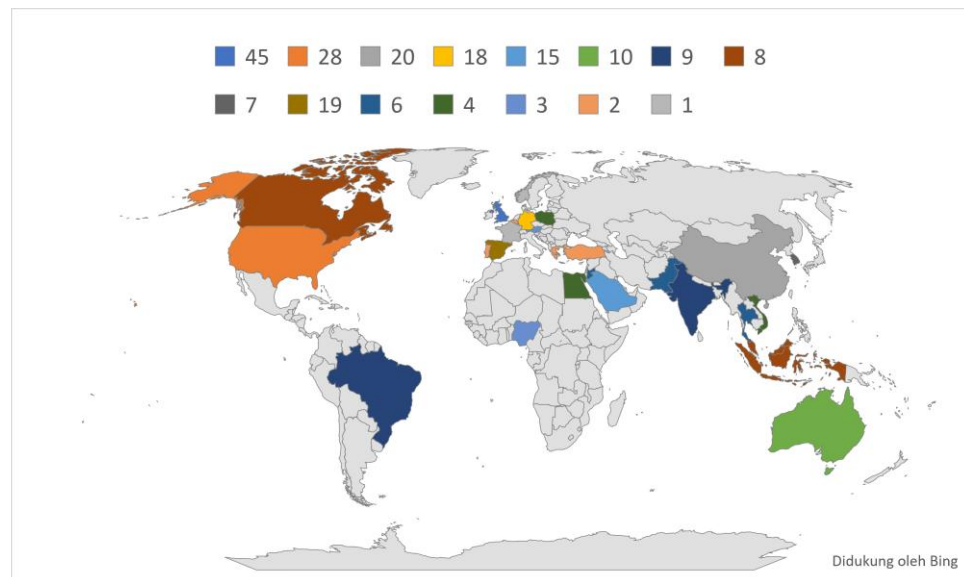


Figure 6. Visualization of Map Diagrams Based on Research Number Distribution.

Figures 5 and 6 show the percentage distribution of publications by country on the topic of entrepreneurial readiness for AI adoption in digital marketing during the period 2021–2025. The UK accounts for the largest share, with more than 60% of the total publications, followed by the United States, which contributes around 40%. China and Spain each contributed about 30%, while Germany, Saudi Arabia, Australia, and India were in the range of 20–25%. Countries such as Malaysia, Indonesia, Canada, and the Republic of Korea each recorded a contribution of between 10–15%, while subsequent countries, including Jordan, Thailand, Pakistan, and so on, had a smaller proportion, generally below 10%. The cumulative curve that accompanies the graph shows that about 80% of the publication's contributions come from the top ten countries, with the rest spread thinly across other countries by a very small percentage. These findings show an uneven distribution, with a clear dominance of a small number of countries over the total publications.

Table 2. Comparative Bibliometric Metrics: Developed vs Developing Countries (2021–2025).

Metrics/Indicators	Developed Countries (n=42)	Developing Countries (n=28)	Sig. (p-value)
Average Publications per Author	2.48	1.36	0.028*
Average Citations per Document	142.7	94.2	0.039*
Impact of Field-Weighted Quotes (FWCI)	1.39	0.91	0.021*
H-index (Aggregate)	39	23	—
Centrality of Betweenness (Collaborative Network)	0.318	0.152	—

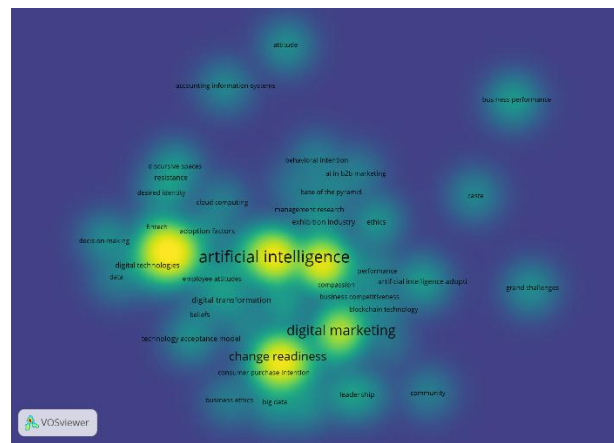
Centrality of Degrees (Collaboration Network)	26	15	—
Average Keyword Growth Rate (Top 5 Emerging Terms)	+21.8%	+12.9%	0.036*

*Note: p-values are calculated using independent t-tests; * shows significance at $p < 0.05$.

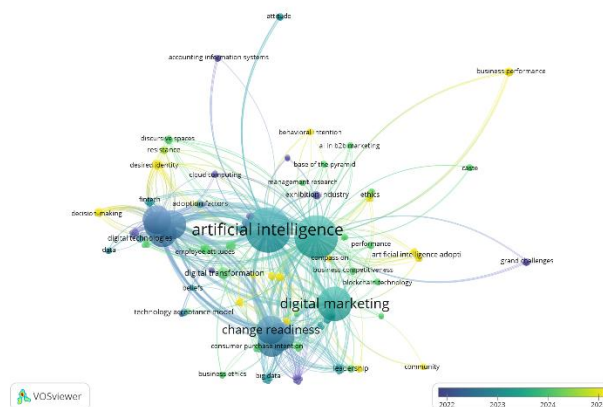
The results of the bibliometric analysis in Table 2 show that there is a significant gap between developed and developing countries in the development of knowledge regarding entrepreneurial readiness for the adoption of Artificial Intelligence (AI) in digital marketing. Developed countries have higher levels of productivity and scientific impact, as reflected in the average publications per author (2.48 vs. 1.36) and the number of citations per document (142.7 vs. 94.2), as well as a stronger Field-Weighted Citation Impact value (1.39 vs. 0.91). In addition, entrepreneurs and research institutions in developed countries occupy a more strategic position in global collaboration networks, with a higher level of centrality and denser connections, thus having more influence in shaping the direction of global research. This difference is also reflected in the growth rate of the research theme, where developed countries show faster thematic expansion than developing countries. These findings confirm that the entrepreneurial readiness gap in AI adoption is not only caused by individual or entrepreneurial psychological factors, but is also influenced by broader structural and strategic conditions, such as the quality of global collaboration and adaptability to new themes, thereby reinforcing the urgency of developing a more contextual and inclusive entrepreneurial readiness framework for developing countries.

Keyword Emergence Trends Through VOSviewer

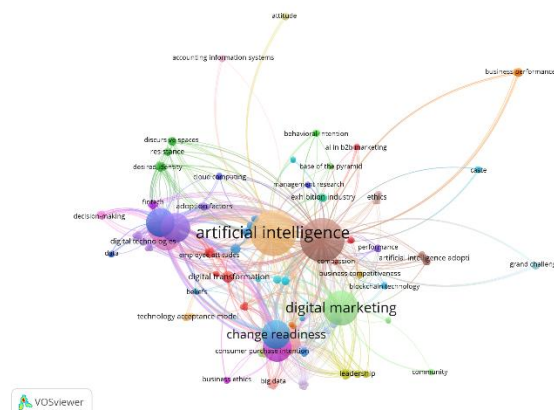
Thematic visualization analysis of keywords using VOSviewer was carried out to map the conceptual structure and dynamics of research related to entrepreneurial readiness in adopting Artificial Intelligence (AI) in digital marketing. This approach allows the identification of relationships between key themes, the level of topic density, as well as the evolution of research focus over time. By utilizing the three types of network visualization, overlay, and density, this research can reveal how the concepts of AI, digital marketing, and change readiness are intertwined in the literature, as well as explore the position of entrepreneurial readiness as a conceptual node that connects technological aspects, marketing strategies, and entrepreneurial behavior. This analysis is important to understand the dominant patterns of research as well as areas that still have potential for theoretical and empirical development.



(C) Density Visualization



(B) Overlay Visualization



(A) Network Visualization

Figure 7. Thematic Visualization Analysis of Keywords Through VOSviewer.

Figure 7 shows that in the network visualization (A), the keywords artificial intelligence, digital marketing, and change readiness occupy a central position with strong linkages to various other concepts, confirming the role of AI as the core of the discourse and readiness as the main connecting factor in the context of entrepreneurship. The overlay visualization (B) shows the temporal development of the research theme, where the topic of AI readiness and adoption in digital marketing has been strengthened in recent periods, showing a shift in focus from conceptual studies to implementive and

contextual issues. Meanwhile, the density visualization (C) showed the highest concentration in areas integrating AI, digital marketing, and readiness, indicating a higher intensity of study on these themes compared to peripheral topics. Overall, these three visualizations confirm that entrepreneurial readiness is a key concept that is increasingly prominent in the literature, while reinforcing the urgency of developing a more contextual readiness framework to explain the adoption of digital marketing AI, particularly in developing countries.

The difference in the level of readiness to adopt Artificial Intelligence (AI) in digital marketing between developed and developing countries shows that the theoretical framework that has been used so far still has limitations in explaining the complexity of the entrepreneurial context in developing countries. Change Readiness Theory put forward by [20] basically emphasizing the internal readiness dimension such as *appropriateness*, *Management Support*, *Change Efficacy*, and *Valencia Staff*, which focuses on the perception and readiness of individuals and organizations for change. However, in the context of entrepreneurship in developing countries, readiness is not only determined by psychological and managerial factors, but also greatly influenced by the structural, strategic, and social conditions that surround entrepreneurship. Therefore, it is necessary to develop a conceptual framework that is able to capture the reality of entrepreneurial readiness in a more complete and contextual manner.



Figure 8. Extended Change Readiness Theory Framework with Added Dimensions to Address Readiness Gaps in Developing Countries.

Figure 8 illustrates the development of the Extended Change Readiness Theory through the addition of four new dimensions *Technological Readiness*, *Leadership & Strategic Vision*, *Ethical & Social Alignment*, and *Data Governance & Utilization* empirically

and conceptually rooted in the findings of the Systematic Literature Review, bibliometric analysis, as well as the contextual gaps identified between developed and developing countries. Dimensions *Technological Readiness* derived from repeated evidence that entrepreneurs in developing countries are often not technically ready to leverage digital marketing AI, so psychological readiness without the support of technological capacity is not enough to drive effective adoption. *Leadership & Strategic Vision* emerged from the entrepreneurial literature that shows that AI adoption decisions in small and medium-sized businesses rely heavily on the vision, innovation orientation, and strategic courage of entrepreneurs as a single decision-maker, in contrast to large organizations that have layered managerial structures. Furthermore, *Ethical & Social Alignment* It was added based on the findings that the acceptance and sustainability of the use of AI in digital marketing is strongly influenced by conformity with local social, cultural, and ethical values, especially in the context of developing countries that are sensitive to issues of trust and legitimacy. *Data Governance & Utilization* departing from empirical findings that weak data management and utilization are the main obstacles to AI adoption by entrepreneurs, despite the perception of technological benefits.

Discussion

Research Developments and Characteristics on Entrepreneurial Readiness in Digital Marketing AI Adoption (2021-2025)

The development of research on entrepreneurial readiness in the adoption of Artificial Intelligence (AI) in digital marketing during the 2021–2025 period shows an increasingly strong acceleration, both in terms of the number of publications and the intensity of citations, which indicates that this issue is moving from just a technological trend to a serious concern in the realm of management, entrepreneurship, and digital marketing. The consistent surge in publications indicates that the academic community is beginning to place entrepreneurial readiness as a critical point in the success of AI adoption, given that entrepreneurship, especially at the MSME scale, plays a role as the sole decision-maker that determines whether AI is seen as a strategic opportunity or an operational threat. The increase in research interest also shows a change in orientation: the beginning of the period (2021–2022) tends to be dominated by studies that describe the potential of AI in digital marketing and justify its urgency, while in 2023–2025 research begins to move into more analytical areas, namely how entrepreneurial readiness affects the quality of adoption, the depth of AI integration into marketing processes, and its impact on competitive advantage. In other words, the development of research in this period not only increased in quantity, but also indicated conceptual maturity because it began to place "readiness" as an explanatory variable, not just the background of technological change.

The 2021–2025 research shows a shift from normative discourse to the exploration of causal mechanisms and the configuration of factors that shape entrepreneurial readiness. In the early phases, the construct of readiness is often simplified to "willingness" or "intention" to use AI, so many studies emphasize aspects of perceived

benefits, ease of use, and attitudes toward technology. But as the complexity of AI increases (including the emergence of generative AI), the literature is beginning to realize that entrepreneurial readiness cannot be condensed into mere attitudes, but rather a combination of capabilities, strategic orientation, and adaptability capacity that influence how AI is operationalized in digital marketing. The characteristics of the research in the advanced phase increasingly highlight the combination of entrepreneurial perspectives (e.g. innovation orientation, risk-taking, proactiveness), marketing (e.g. customer engagement, omnichannel, personalization), and organizational change (e.g. readiness for change), but with a repositioning of the analysis unit on entrepreneurship as the main actor. This change is important because it clarifies the difference between the adoption of AI by large corporations and by entrepreneurs/MSMEs: in entrepreneurship, readiness is more attached to the owner's capacity as the "decision center," so the cognitive and strategic factors of entrepreneurship become just as important as the technological factor.

The characteristics of the research in this period also indicate the formation of relatively stable conceptual clusters, with three main nodes that often appear in the literature map: AI as a core technology, digital marketing as an application domain, and change readiness as an explanatory bridge. Interestingly, however, the 2021–2025 research shows a tendency that "entrepreneurial readiness" often appears as a concept that connects AI opportunities and the reality of digital marketing implementation, especially when studies highlight that AI does not automatically generate value if entrepreneurs are unable to translate it into clear marketing strategies. In a more mature literature, entrepreneurial readiness is understood not only as readiness to adopt technology, but as a readiness to re-design marketing practices: starting from the way entrepreneurs identify segments, determine value propositions, customize content, to managing customer relationships based on data and automation. With this perspective, research began to shift from the question "do entrepreneurs want to use AI" to "how do entrepreneurs build capabilities so that AI really improves marketing decisions and business performance," so that the discussion space becomes more strategic and does not stop at the level of tools or features.

Many conceptual models and readiness measurement instruments even when talking about entrepreneurship are still strongly influenced by the assumptions of the developed country's environment: stable access to digital services, the maturity of the digital business ecosystem, and the availability of knowledge support and innovation networks. When the model is "transferred" to a developing country such as Indonesia, there is often a gap between the model's prediction and the reality of the field, as entrepreneurial readiness is influenced by more contextual factors: limited technology learning capacity, resource improvisation patterns, and reliance on certain digital platforms that shape the way entrepreneurs interpret AI. Therefore, the characteristics of the 2021–2025 research are also marked by an increasing push to present a more contextual approach, both through cross-country studies and through the expansion of the readiness framework to be able to capture the conditions of developing countries. This confirms that the development of research is not only talking about increasing

publications, but also the emergence of a critical awareness of the limitations of existing theories.

The development and characteristics of the 2021–2025 research lead to strong theoretical and practical consequences: entrepreneurial readiness needs to be positioned as a multidimensional construct that explains the quality of AI adoption in digital marketing, not just the intention or level of use. Theoretically, the literature is increasingly reinforcing that readiness is not just "readiness to use AI," but "readiness to transform marketing decisions and routines using AI," which demands the integration of psychological readiness, strategic readiness, and capability readiness. In practical terms, the characteristics of research that increasingly lead to capability readiness demand more targeted policy and mentoring implications: intervention is not enough in the form of tool training, but it is necessary to strengthen data-driven marketing thinking, the ability to strategize, and the ability to critically evaluate AI outputs. Thus, the 2021–2025 research dynamics not only illustrate the emerging topic, but also form the argumentative foundation that entrepreneurial readiness is the main prerequisite for AI in digital marketing not to stop at superficial adoption, but to generate real and sustainable value for businesses.

Differences in Patterns and Approaches to Entrepreneurship Readiness between Developed and Developing Countries

The difference in entrepreneurial readiness in adopting AI in digital marketing between developed and developing countries is rooted in the inequality of the structure of the digital ecosystem, the maturity of business transformation, and the way entrepreneurs interpret technology as a source of strategic value. In developed countries, readiness tends to be proactive and optimization-oriented: AI is positioned as a strategic infrastructure to improve marketing precision, customer acquisition efficiency, and strengthen data-driven relationships. Entrepreneurs no longer question the need for adoption, but instead focus on use-case selection, cross-process integration, and performance-based evaluation. In contrast, in developing countries, readiness is more defensive and pragmatic, as entrepreneurs must ensure that AI adoption does not magnify operational risks, does not burden costs, and remains aligned with business continuity needs [21]. The determinants of readiness are more influenced by digital literacy, operational skills, limited learning resources, and the pressure to maintain cash flow stability. As a result, AI is often leveraged as a practical tool with immediate benefits, rather than as a strategic transformation engine. This distinction shows that entrepreneurial readiness cannot be understood as a universal construct, but rather as a phenomenon shaped by local economic context and adaptive capacity.

This contrast is increasingly evident in the depth of AI integration and the accompanying socio-cultural dimensions. In developed countries, AI has become part of an integrative marketing architecture ranging from predictive customer behavior to cross-channel personalization that reflects data-driven strategic readiness. Meanwhile, in developing countries the use of AI tends to be at the surface level, such as standard chatbots or simple content generators, as a secure and low-cost form of adoption [22].

Cultural factors and social legitimacy also influence readiness: in many developing countries, concerns about loss of personal touch, privacy issues, and perceptions of authenticity shape entrepreneurial prudence in implementing AI. The implication is that the framework of entrepreneurial readiness must be constructed contextually. Models born from developed countries are at risk of bias if applied directly to developing countries without adjustment to AI literacy, learning capacity, and stability of business practices. Therefore, readiness strengthening strategies need to be differentiated: developed countries need more advanced governance and innovation, while developing countries need structured learning, adaptive capability enhancement, and strategic mentoring so that AI can be translated into realistic and sustainable business value.

Dimensions – Dimensions of Entrepreneurial Readiness in Digital Marketing AI Adoption and Theoretical Implications

The readiness of entrepreneurs in adopting AI in digital marketing shows that the success of technology is not determined by the use of tools alone, but rather by the readiness of entrepreneurs to transform ways of thinking, decision-making, and business practices to align with data logic and automation. In the context of small and medium-sized businesses, readiness is not singular or static as entrepreneurs act as the center of the integration of ownership, management, and marketing strategies. Therefore, the literature positions readiness as a multidimensional construct that includes psychological, strategic, technological, and contextual dimensions. The classical foundations of Change Readiness Theory such as belief in change, perception of benefits, and a sense of ability remain relevant as psychological foundations. However, the research synthesis shows that these dimensions do not sufficiently explain the variation in the quality of AI adoption, especially in developing countries, so a more operational and contextual readiness framework is needed.

The expansion places several key dimensions as determinants of the quality of AI adoption. Technological readiness emphasizes AI literacy and the practical ability to integrate technology into marketing activities; leadership and strategic vision highlight the capacity of entrepreneurs to set the direction of transformation; ethical-social alignment ensures AI adoption remains aligned with customer trust values; while data governance emphasizes the importance of data governance as the foundation for AI-based decisions. These four dimensions show that readiness is not only readiness to accept change, but readiness to carry out change in a structured, ethical, and strategic manner. Thus, entrepreneurial readiness can be understood as a complex socio-technical construct, which combines individual capabilities, business structure, and social legitimacy. This multidimensional framework reinforces the argument that the quality of AI adoption is highly dependent on contextual readiness, so readiness theory needs to be expanded to be able to explain the reality of entrepreneurship, especially in developing countries.

CONCLUSION

Fundamental Finding : Based on the overall findings, this study confirms that the success of AI adoption in digital marketing is highly determined by entrepreneurial readiness that is multidimensional and sustainable, especially in the context of developing countries. Readiness cannot be reduced to a positive intention or attitude towards technology, but rather includes the integration of technology readiness, leadership and strategic vision, ethical-social alignment, and data governance that interacts with the foundations of classical psychological readiness. Cross-context comparisons show that entrepreneurs in developed countries tend to implement AI strategically and systemically, while in developing countries adoption is still partial due to structural and capability limitations. **Implication :** By proposing an Extended Change Readiness Theory framework rooted in entrepreneurial readiness, this study provides a more contextual theoretical contribution while affirming that meaningful digital transformation demands socio-technical readiness that is strengthened through increasing entrepreneurial AI literacy and policy assistance that emphasizes capabilities and data governance. **Limitation :** Cross-context comparisons show that entrepreneurs in developed countries tend to implement AI strategically and systemically, while in developing countries adoption is still partial due to structural and capability limitations. **Future Research :** By proposing an Extended Change Readiness Theory framework rooted in entrepreneurial readiness, this study provides a more contextual theoretical contribution while affirming that meaningful digital transformation demands advanced empirical testing to refine readiness models across various sectors.

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