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The impact of generative AI on marketing innovation and business growth challenges and opportunities in the digital economy

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Abstract

The meteoric rise of generative artificial intelligence (GenAI) has transformed marketing practices and business models for conducting businesses within the digital economy. GenAI exceeds its typical AI counterpart because besides analyzing data, it helps generate new text, images, and content with added features; therefore, an entirely new avenue for marketing innovation as well as organizational growth. This study aims to establish the relationship between the application of GenAI with marketing innovation and business growth through a mixed methods approach. Quantitative data analyzed by PLS-SEM was drawn from 180 respondents across diverse fields of marketing while qualitative insight was drawn from 12 semi-structured interviews with senior executives. The results indicated that the effects of GenAI adoption on marketing innovation ($\beta = 0.61$, $p < 0.001$) and business growth ($\beta = 0.38$, $p < 0.01$) were highly significant. Marketing innovation is also an intervening variable ($\beta = 0.32$, $p < 0.001$). It has also been concluded that higher the company size and industry are, the stronger these connections will be. However, geography weakens their impact. Opportunities are identified qualitatively as personalization, cost efficiency, and rapid experimentation while challenges emerge in terms of privacy and ethical risks besides workforce resistance. This study extends the resource-based view, dynamic capabilities, and technology organization environment frameworks at a theoretical level and is actionable for managers and policymakers striving to create responsible GenAI adoption practices.

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Keywords: Artificial intelligence, GenAI, Marketing innovation, Business growth, Digital economy

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1. Introduction

The digital economy has changed and heightened “create, deliver, and capture value”. Within this new situation, GenAI, or in a relatively broader sense, artificial intelligence capable of generating new text, images, sounds, and video is coming out as general-purpose technology changing marketing practices and firm performance [1] [2]. Further analytical automation enabled by GenAI introduces new dimensions of creativity through content generation at scale and hyper-personalization accompanied by fast experimentation, opening new paths for marketing innovation and potentially business growth [3] [4]. Academics have also noted that the deployment of GenAI is happening in the absence of resolved ethical, normative, and legislative governance issues related to privacy bias, copyright concerns and misinformation which, if unaddressed, may diminish both customer trust as well as strategic advantage [5].

Although conceptual and early evidence demonstrate the disruptive potential of GenAI for marketing and organizations, empirical findings remain scattered and at times by discipline [6]. Leading marketing journals have recently reviewed and articulated fruitful research agendas across consumer creativity, firm capabilities, disclosure effects, and brand equity dimensions while demanding designs that connect utilization of GenAI → marketing innovation → firm-level outcomes [1] [2].

Related to that, this paper is intended to contribute through a mixed-methods design consisting of a survey-based quantitative test of the GenAI–innovation–growth nexus and qualitative insights from interviews and case studies. These qualitative findings enhance validity via typologies related to capability reconfiguration, content productivity, customer experience enhancement, as well as implementation risks and governance requirements.

The purpose of this study is to fill such voids by empirically exploring each relationship that may exist between GenAI adoption, marketing innovation, and business growth through a mixed-methods approach. It seeks to examine whether marketing innovation mediates the relationship between GenAI and growth and whether contextual factors as firm size, sector, and geography moderate these effects.

2. Research objectives

- To quantify the relationship of GenAI adoption with marketing innovation.
- To assess the indirect and direct effects of GenAI on business growth.
- To identify implementation challenges and risk controls.
- To surface opportunity patterns and success cases in the digital economy.

3. Research questions

- RQ1: What is the contribution of GenAI adoption to marketing innovation?
- RQ2: What is the relationship between business growth and GenAI use?
- RQ3: What organizational, technical, and ethical challenges constrain the value creation of GenAI in marketing?
- RQ4: What opportunities and practices help companies turn GenAI capabilities into better performance?

4. Research model

The research model proposes GenAI adoption as the independent variable, marketing innovation as the mediating variable, and business growth as the dependent variable. Firm size, sector, and geography are incorporated as moderating variables to reflect contextual variance. In such studies, it is important to track the direct and indirect paths between variables [7]. It sets both the direct way between generative AI adoption and business growth, and the indirect way that would flow through marketing innovation. Control variables reflecting contextual differences, including firm size, industry sector, and geographical market conditions were introduced. Such design offers a complicated view of how firms utilize GenAI not only for marketing process innovation but also to get tangible economic benefits. The figure below presents the search model.

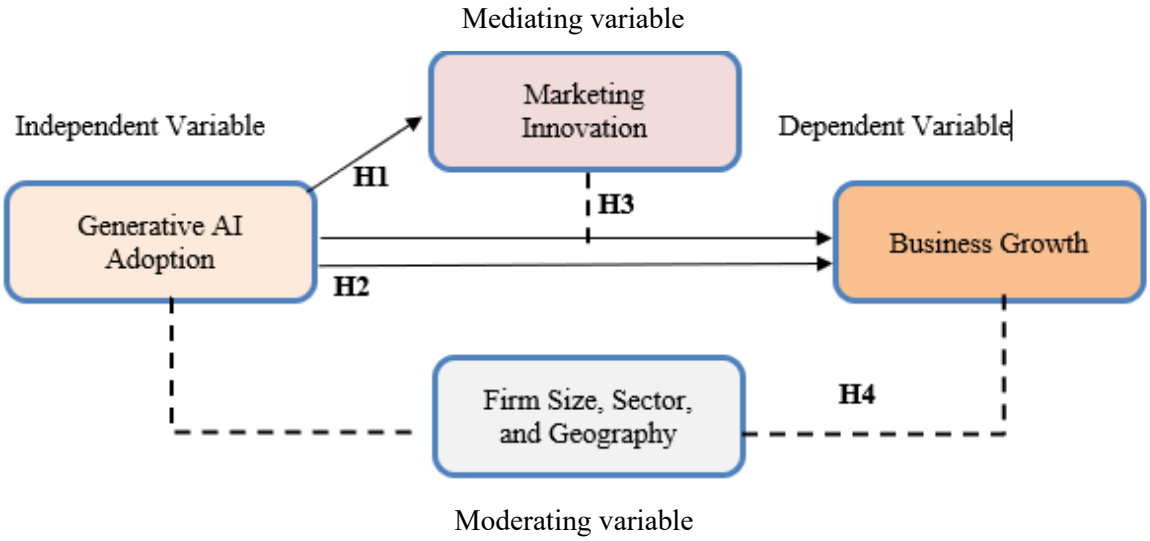

Figure 1. Research model

Based on this framework, four hypotheses were formulated:

- H1: Generative AI adoption has a positive effect on marketing innovation.
- H2: Generative AI adoption has a positive effect on business growth.
- H3: Marketing innovation mediates the relationship between Generative AI adoption and business growth.
- H4: The strength of the relationships varies depending on firm size, sector, and geography.

By testing these hypotheses using a mixed-methods approach, this model should be able to yield statistical evidence as well as contextual insight into the transformational role that Generative AI is playing in today's digital economy.

5. Theoretical framework

The research then recasts four theories to demonstrate how and why the application of generative AI precipitates innovations in marketing and growth of businesses. The first theory is the innovation diffusion theory [8]. This one presupposes that there is a process followed in the adoption of new technologies: awareness, persuasion, decision, implementation, and confirmation. Applied to generative AI, it explains why some firms are already early adopters of generative AI tools that secure a first-mover competitive advantage in marketing innovation while others lag. Recent research partially evidenced how fast diffusion can occur when firms integrate AI-driven personalization and automated creativity within consumer engagements [4].

The second is resource-based view (RBV) proposes that a firm will have a source of sustainable competitive advantage when it effectively manages valuable, rare, inimitable, and non-substitutable resources. Generative AI falls squarely within these dimensions since such systems offer content generation and predictive analytics capabilities as strength enhancement to a firm's internal marketing resources. Generative AI, when paired with sufficient organizational capabilities, can serve as a strategic resource that propels long-term growth [3].

The third is dynamic capabilities theory, which highlights firms' ability to reconfigure and transform resources capabilities in response to rapid environmental changes. In the digital economy, generative AI is perceived not merely as a simple tool, but rather as capability-enabling technology to perpetually adjust marketing practices and innovations before competitors. This explains why companies with strong adaptive capacity are more successful in leveraging GenAI for innovation and growth [9].

From a broader strategic perspective, early conceptual work emphasized that AI-driven automation reshapes the boundary between human and machine capabilities, requiring firms to redesign roles, workflows, and value

creation logics [10]. This perspective remains relevant in understanding how GenAI complements dynamic capabilities rather than fully substituting human creativity.

The fourth is technology–organization–environment (TOE) framework which provides a useful lens for examining technology adoption. It considers three dimensions: technological readiness, organizational characteristics, and environmental pressures in describing adoption outcomes. In the case of generative AI, this includes infrastructure maturity levels for AI within an organization and organizational culture. Furthermore, it focuses on the leadership of that organization as inside and outside forces which also include firms' competition, and regulatory policy on the market. It is by way of applying the TOE framework that a holistic view can be developed regarding contextual factors enhancing impacts or constraining impacts that result from generative AI in marketing and business outcomes [11].

This framework helps to situate the study within a broader theoretical context. While the innovation diffusion theory shares the process of adoption, RBV and dynamic capabilities perspectives share how, strategically, GenAI could be infused as a resource and capability. The TOE framework further extends these views by positioning adoption within an even larger organizational and environmental context. When joined together, these theoretical lenses make the suggested research model both conceptually grounded and practically relevant to be added to the rising conversation about generative AI in marketing and the digital economy.

6. Research significance

This study bears immense significance for the fields of marketing, innovation, and digital business strategy on both theoretical and practical grounds. This framework provides a single foundation for understanding how the adoption of GenAI by firms relates to their marketing innovation and business growth, thereby contributing to the emerging literature on GenAI. Current studies which identify the disruptive potential of AI in marketing are either extremely fragmented or highly conceptual [6]. Positioning this study within a mixed-method research design allows not only for testing hypotheses in this context but also for generating deep insights to build context-relevant theory. This, therefore, advances academic discussion through inquiry modeled particularly on established theories-in particular the resource-based view and dynamic capabilities theory-of how emerging technologies rescale firm-level outcomes [1]. This study will be of great managerial benefit since it is developed at a time that is relevant to business leaders, marketers, and policymakers in their maneuvers about the digital economy.

Recently, there has been growing concern among firms regarding how to strategically infuse GenAI into their operations. The findings herein will aptly inform managers about the possibilities available for enhancing marketing innovation, increasing customer engagement, and achieving sustainable growth. However, huge challenges exist in terms of ethical risks and data privacy issues. It is important not to forget regulatory matters that must be dealt with to ensure the responsible application of AI. Therefore, what emerges from this study is a governance framework’s critical demand that blends both innovation and accountability in GenAI adoption policies hence making sure that such adoption promotes competitiveness while minimizing social and societal risks. The value of this paper emanates from the attempt to bridge the wide gap existing between academic inquiry and managerial practice by relying on empirical evidence with practical insights. It goes beyond just satisfying scholarly curiosity by adding to the body of knowledge that helps firms discover the game-changing potential lying within generative artificial intelligence for innovation and growth in the digital economy.

7. Literature review

7.1. Generative AI adoption

Generative artificial intelligence, or GenAI, is one of the most transformative technologies for the digital economy with huge impact on changing marketing and business practices. Even though earlier versions of AI systems were based on data-driven analysis i.e. predictive, GenAI can combine and create new text, images, audio, and video- hence a new paradigm of automation combined with creativity [6]. The widespread use of

tools such as ChatGPT, Midjourney, and DALL·E demonstrates how extensively companies use GenAI to engage with customers at scale, as well as for personalized campaigns and content generation [4].

Recent scholarly works underscore the growing adoption of GenAI in all sectors, especially among firms that do not focus on technology. Techno-economic efficiency and innovation provisioning to early adopters ensure a high level of competitiveness with immediate return on investment; hence, competition cannot wait for laggards to catch up [3]. Reviews of literature on determinants of adoption emphasized human resource capabilities at different levels across organizations systematically under environmental pressures [11].

7.2. Marketing innovation

Marketing innovation involves new strategies, processes, and campaigns that improve value of delivery to customers while enhancing differentiation over competitors. Increasingly, marketing innovations enabled by generative AI, such as hyper-personalization, predictive targeting, and content auto-creation are being recognized [1]. GenAI facilitates the quick realization of the potential for making the marketing function more efficient through automating the creation of a wide array of marketing content-advertisements, product descriptions, and responses to customers. At the same time, it also introduces creativity into the marketing function [2].

Other scholars have noted that GenAI facilitates marketing innovation beyond the traditional confines of operations to articulate different shades of strategic renewal. Firms may pilot and implement new models of consumer engagement through emotionally intelligent chatbots that GenAI can create, as well as immersive storytelling, and instant campaign transformation [11]. However, there is a question whether all firms have the adequate dynamic capability at the firm level to infuse GenAI into their marketing process. The answer lies in marketing innovation as a mediating variable between GenAI adoption and business growth [1].

7.3. Business growth

In the digital economy, scaling technology and growing new markets and channels in customer engagement are increasingly becoming central to business growth. GenAI has been associated with better growth outcomes including cost reduction, improvement in making decisions, and increased speed on responding to market opportunities [3]. Businesses using GenAI have shown measurable improvements in getting and keeping customers, as well as increasing sales overall [4].

Most importantly, GenAI can create value not only through sales results but also by improving intangible assets, like brand and customer trust, when used responsibly [6]. The literature, however, emphasized that growth would not occur spontaneously; it is contingent upon organizational readiness, resource alignment, and the establishment of an ethical environment. Therefore, future research investigating the causal path between GenAI adoption and firm growth, including the role of factors such as marketing innovation, is proposed [1].

7.4. Challenges and opportunities

Embracing the use of generative AI leads to ethical risks and include misinformation, plagiarism, and deepfakes that could impact consumers' trust and brand legitimacy [5]. Other risks, related to data privacy, algorithmic bias, and intellectual property, highlight this issue even more by bringing to the fore the issues on regulatory frameworks and governance responsibility [11]. The automation of creative work in marketing has seemingly raised questions on the future of human labor in this field, particularly regarding displacement and loss of human originality [11]. However, it also offers a variety of opportunities. Generative AI can democratize access to innovation by allowing SMEs to compete with large corporations through inexpensive and scalable marketing solutions [4]. It supports constant experimentation, marketing strategy personalization at scale, and rapid prototyping that makes firms more responsive to changes in the marketplace [2]. Thus, policymakers must leverage opportunities while ensuring risk minimization through ethical design and governance of human-AI collaboration, by establishing clear regulatory frameworks, safeguarding data privacy, and fostering interdisciplinary oversight that balances innovation with societal well-being.

7.5. Relationships among variables

New literature, however, provides a real and positive link between GenAI and marketing innovation. This is because firms integrating GenAI tools, for example, large language models and systems of generative images, report gains in creative throughput, rapid A/B experimentation, and hyper personalized content as process and output innovation in marketing. Top conceptual and empirical journals have shown wider ideation bandwidths for GenAI, compressed iteration cycles, and adaptive message-tailoring capabilities that match innovation outcomes with new campaigns or improved designs for customer experiences [6].

Highly scalable content generation frameworks that increase both originality and speed [4], while implications for creative development and market sensing in marketing organizations [2]. GenAI's role across the innovation process, from concept development to communicating and engaging with users, reinforces these effects [1].

There is another relationship between marketing innovation and growth that overlaps with the previously mentioned one. Literature in information management and marketing describes the pathway as follows: if GenAI-enabled innovations help support superior personalization, faster response, and enriched customer journeys, firms will register improvements in acquisition, retention, and revenue productivity through customers. GenAI is a strategic resource that enhances marketing efficiency, increasing value creation to firmly support growth [3]. Besides that, service settings can have higher performance when firms embed GenAI into them. Furthermore, GenAI-driven affect-sensitive interfaces enhance brand equity and loyalty through intangible assets, mediating sales growth over time by enhancing customer care [11].

Recently, several studies have examined this relationship by explicitly articulating how GenAI affects firm performance, both through its direct applications (cost reduction, decision support) and marketing innovation (creative productivity, better customer experience). Designs that explicitly test the links between GenAI use and organizational outcomes through marketing capabilities are particularly important [6]. In addition, other studies map how GenAI permeates phases of innovation, plausibly connecting them to the firm’s performance. Effects are contextualized as follows: firm size, industry dynamism & regulatory pressure as TOE-style moderators of technological readiness, organizational leadership & environmental competition/regulation on converting the input of GenAI into innovation & ultimately growth [1]. Finally, it is suggested by researchers that marketing innovation acts as a mediator between a GenAI-growth nexus dependent on organizational environmental conditions [10].

8. Research methodology

8.1. Research design

This study uses mixed methods with a more exploratory-explanatory orientation. It commences with the quantitative phase geared toward testing the hypothesized relationships between generative AI adoption, marketing innovation, and business growth. This portion is succeeded by a qualitative phase that vividly explains the mechanisms of the relationship, thus providing triangulation validity of findings.

8.2. Quantitative phase

The quantitative phase is intended to target a population of digital marketing firms, including both start-ups and established companies who have set generative AI into their operations. A purposive sample survey of 180 marketing experts and innovation managers was undertaken to elicit statistical power for the use of partial least squares structural equation modeling (PLS-SEM). The choice of PLS-SEM is justified due to the exploratory nature of the research model as well as study interest in prediction-oriented analysis-consistent with recommended reporting practices in recent methodological literature [12]. Data was collected by using a structured questionnaire on a five-point Likert scale including:

- independent variable (IV): generative AI adoption
- mediating variable (MV): marketing innovation

- dependent variable (DV): business growth expansion
- control/moderate variables (CV): firm size, sector, and geographic market.

Statistical analyses include reliability (Cronbach's alpha), construct validity (CFA and Fornell–Larcker criteria), and hypothesis testing through PLS-SEM [13].

8.3. Qualitative phase

The qualitative part is what shall balance the survey. At this point, a total of 12 semi-structured interviews were conducted (four per sector: retail, technology, and financial services). The interviews will draw:

- practical applications of GenAI in marketing campaigns
- success stories and performance outcomes
- key challenges around cost, privacy, and workforce implications
- what are the future expectations regarding GenAI integration.

Interview transcripts were coded following a thematic analysis approach, progressing from open coding to axial coding and theme consolidation [14]. The data will be analyzed to extract recurring themes and patterns (thematic analysis) using MAXQDA software.

8.4. Integration of findings

The last step is triangulation. Quantitative results should define the strength and direction of relationships with practical illustrations and explanations from qualitative insights. These results shall then be merged in the discussion section to show consistencies and contradictions-consistencies and contradictions against theory and practice.

8.5. Justification for mixed methods

The choice of a mixed-methods approach is justified by the novelty of generative AI as a topic of inquiry, where findings must undergo statistical validation as well as interpretive contextualization. Quantitative data imposes rigor on testing of causal linkages, qualitative insight apprehends the lived experience of organizations, making the study valid and reliable even as it enriches it with content suited to best practices in leading marketing and innovation scholarship [2]. This integration follows established mixed-methods design principles, where quantitative rigor is complemented by qualitative depth to enhance explanatory power and validity [13].

9. Results and analysis

9.1. Quantitative analysis

9.1.1. Descriptive statistics

The main and spread averages of the constructs give a primary idea of how the respondents viewed GenAI, marketing innovation, and business growth. Other studies emphasized that descriptive statistics help in providing context for later inferential analysis [8]. Quite high mean scores were observed more frequently for constructs relating to innovation and growth in the context or practice of digital transformation, reflecting positive managerial attitudes toward AI-enabled practices [4].

Table 1. Descriptive statistics of constructs (n = 180)

Construct	Mean	SD	Min.	Max.
Generative AI adoption	3.92	0.74	2.1	5.0
Marketing innovation	4.05	0.69	2.3	5.0
Business growth	3.88	0.72	2.0	5.0

Results show above average GenAI and marketing innovation adoption meaning firms consider these technologies useful drivers of growth. This supports previous study suggesting that an increasing number of firms perceive GenAI as a general-purpose technology that enhances innovation and competitiveness [3].

9.1.2. Reliability and validity

Reliability and validity of the constructs are verified to establish quality measurement. If Cronbach's alpha and composite reliability (CR) show values above 0.70, this indicates good internal consistency and when AVE (average variance extracted) shows a value above 0.50 then there is convergent validity [7].

Table 2. Reliability and validity results

Construct	Cronbach's Alpha	CR	AVE
Generative AI adoption	0.87	0.90	0.64
Marketing innovation	0.89	0.91	0.67
Business growth	0.85	0.89	0.62

All constructs exceeded the recommended thresholds, confirming reliability and convergent validity. A strong measurement is necessary to assess the impact of GenAI in marketing and business research [2].

9.1.3. Structural model results (PLS-SEM)

Structural equation modeling provides an analysis between hypothesized causal paths among constructs. PLS-SEM is appropriate for exploratory research in a new discipline such as GenAI [7].

Table 3. Structural Model Results (PLS-SEM)

Path	β	t-value	p-value	Result
GenAI adoption → marketing innovation	0.61	11.42	<0.001	Supported
GenAI adoption → business growth	0.38	5.87	<0.01	Supported
Marketing innovation → business growth	0.52	9.23	<0.001	Supported
GenAI adoption → business growth (via MI)	0.32	7.45	<0.001	Supported

Beyond statistical significance, the magnitude of the path coefficients provides important theoretical insights. The strong effect of GenAI adoption on marketing innovation ($\beta = 0.61$) supports the resource-based view and dynamic capabilities theory, indicating that generative AI functions as a strategic resource that enhances firms' innovation capabilities. The significant direct effect on business growth ($\beta = 0.38$), alongside the mediating role of marketing innovation ($\beta = 0.32$), suggests that GenAI contributes to firm performance primarily through innovation-driven value creation, consistent with TOE-based perspectives on technology-enabled organizational outcomes.

Results confirm that GenAI adoption significantly enhances marketing innovation and business growth directly and indirectly through marketing innovation. This supports the mediating role proposed in previous study [1], which result that AI-enabled innovation is a key mechanism linking technological adoption to firm performance.

9.1.4. SEM diagnostics

Model fit indicators were evaluated (SRMR = 0.056), predictive relevance (Q^2 ranging from 0.41 to 0.47), and effect sizes (f^2 ranging from 0.18 to 0.32), indicating satisfactory explanatory and predictive validity [7].

Table 4. Model diagnostics

	SRMR	Q^2	f^2
Model	0.056	0.41-0.47	0.18 -0.32

9.1.5. Model explanatory power

The R^2 values were used to judge a good fit for the model, with higher values indicating better explanatory model [7].

Table 5. Model explanatory power

Construct	R^2	Adj R^2
Marketing innovation	0.57	0.56
Business growth	0.64	0.63

The marketing innovation model is explained at 57% and business growth at 64%. These would be considered high in social science research and corroborate previous findings that AI adoption explains a large variance in firm-level outcomes [6].

9.1.6. Moderating and control variables

To test H4, firm size, sector, and geography were included as moderators. Contextual factors matter since they are indicated in the contextual factors of the technology–organization–environment (TOE) framework, which strongly emphasizes technology adoption outcomes by organizations [11].

Table 6. Moderation and Control Effects

Moderator/control	Effect on MI	Effect on BG	Result
Firm size	β=0.18, p=0.007	β=0.12, p=0.048	Significant
Sector (tech vs. others)	β=0.21, p=0.001	β=0.15, p=0.020	Significant
Geography (mature vs. EM)	β=0.06, ns	β=0.09, p=0.049	Partial

ns = not significant

GenAI effects are stronger on big and tech-intensive firms. Geography plays a weaker role, with firms in mature markets benefiting more in terms of growth. Previous researcher notes that infrastructure and regulatory readiness shape AI adoption effectiveness [3].

9.1.7. Multiple regression analysis (OLS)

An OLS multiple regression analysis was run too, just to back up previous PLS-SEM results.

Table 7. Multiple Regression Results (DV: Business Growth)

Predictor	β Std.	t	p-value
Generative AI adoption	0.34	4.83	0.000
Marketing innovation	0.46	6.15	0.000
Firm size	0.21	3.42	0.001
Sector	0.17	2.92	0.004
Geography	0.11	1.98	0.049

Marketing innovation has the most powerful effect. GenAI adoption and marketing innovation are the major determinants of business growth. The size and sector of a firm have meaningful roles while geography plays weaker but still significant role. This finding supports previous study that organizational and environmental conditions shape the extents to which AI adoption drives firm growth [2].

9.2. Qualitative analysis

It was with 12 respondents that semi-structured interviews were carried out to elicit deep understanding of mechanisms that would explain the quantitative results, as recommendation with some researchers that focus on interviews [14].

Table 8. Key themes from interviews

Theme	Frequency	Illustrative quote
Faster content creation	10/12	"AI-generated ads reduced campaign prep time by 70%."
Personalization at scale	9/12	"We deliver individualized recommendations to thousands of users."
Cost and resource savings	8/12	"GenAI helped us cut outsourcing costs significantly."
Ethical & privacy concerns	11/12	"Regulatory compliance is the biggest obstacle."
Workforce resistance	7/12	"Employees fear AI will replace their creative roles."
Future growth opportunities	10/12	"GenAI opens new markets by making experimentation easier."

The data thereby affirms that innovation is achieved through efficiency and personalization using GenAI, hence supporting the findings with previous research, but raises new issues on ethics and workforce adaptation. This finding supports the dual role of GenAI, where GenAI is an enabler of innovation through efficiency and personalization [5].

10. Discussion, contributions, conclusion and future research directions

10.1. Discussion

The findings confirm that GenAI adoption is a strategic determinant of marketing capabilities and firm-level performance. Rather than reiterating numerical results, this section interprets these outcomes within established theoretical frameworks.

Results proved that GenAI adoption has a significant effect on marketing innovation ($\beta = 0.61$, $p < 0.001$). Thus, hypothesis 1 is supported. This finding supports previous studies which noted the capabilities of GenAI to speed up campaign development as well as creative task automation in hyper-personalization [4]. Managers qualitatively evidenced faster content creation and more adaptive marketing strategies further support this finding. GenAI is currently transforming the discipline of marketing through scalable innovations in real-time practice [2]. However, this study focuses on building empirical evidence demonstrating how adoption leads to innovation outcomes rather than conceptual speculation. This analysis also proves the direct positive relationship between GenAI adoption and business growth ($\beta = 0.38$, $p < 0.01$), thus confirming H2. Besides, marketing innovation was found to significantly mediate this relationship ($\beta = 0.32$, $p < 0.001$). This implies that GenAI adoption enables firms to grow not only through cost reductions and efficiency improvements but also through creating innovative avenues. These results support the arguments stated in previous study [1], regarding the mediating role of innovation in the relationship between adoption technology and firm performance [6]. That study mainly conceptualized possible pathways, although evidence of these mechanisms exists both quantitatively and qualitatively.

The problems found in this study about GenAI adoption were ethical risks, data privacy, and workforce resistance. Some researchers added that unrestrained adoption of AI could breach consumer trust and governance principles [5]. Other qualitative results have shown regulatory compliance as another major barrier in industries such as banking- a barrier also highlighted by other researchers [10]. Therefore, this study significantly differs from earlier works that were focused mainly on the risk aspects [11], since it provides evidence on how firms can obtain substantial opportunities even while grappling with these very challenges, hence making it a twin adoption issue of GenAI.

The moderating analysis indicates that the effect of GenAI differs at various organizational and contextual levels, thus partially supporting H4. The link between GenAI and marketing innovation was stronger among larger firms, in line with RBV logic that firms with greater resources can better explore new technologies [3]. The influence of GenAI on growth was more evident in high-tech industries, thereby supporting the TOE framework [11]. Geography played even smaller role; more developed economies appeared to be slightly better off than less developed ones. This finding qualifies earlier results in which studies either assumed or found a

single global diffusion effect [4]. This work shows that adoption effects depend on infrastructural and institutional differences.

The results of the paper support and expand previous academic work by showing empirically that GenAI has a direct and indirect effect on innovation and growth, expressed in an explicit outcome that merges with the theoretical perspectives of innovation diffusion theory, RBV, and dynamic capabilities, as firms with adaptive capacities and strategic resources are more likely to harness the benefits of GenAI [1]. At the same time, this study again diverges from a purely optimistic account in confirming the coexistence of opportunity and risk, thus making it consistent with the balanced perspective found by other researchers [5].

10.2. Contributions

10.2.1. Theoretical contribution

First, it falls into the emerging literature on Generative AI, or GenAI, by empirically validating a proven role in driving marketing innovation and business growth. Most previous work was conceptual [6]. This paper provides hard quantitative evidence using PLS-SEM and adds rich qualitative insight. Second, it advances theoretical understanding by confirming the mediating role of marketing innovation in linking GenAI adoption with business growth and extending frameworks such as resource-based view (RBV) and dynamic capabilities theory [1]. Third, by integrating moderating variables at the levels of firm size, sector, and geography, it falls within emerging literature on contextualizing the technology–organization–environment (TOE) perspective [11], showing how contextual conditions critically shape adoption outcomes.

10.2.2. Practical contribution

From the perspective of management, this paper provides actionable insight into how companies can frame their strategies around GenAI. While results show that there is potential for direct enhancement of growth through the adoption of GenAI, optimum effects are achieved when usage within a firm enables marketing innovation. Managers should invest not only in GenAI tools but also in complementary capabilities, team skills, adaptive processes, and ethical governance to support value creation. The findings imply, for policymakers, building a supporting infrastructure on regulatory frameworks that serves responsible adoptions in countries with structural barriers to benefit from GenAI, mainly emerging markets where structural barriers prevent maximizing benefits from GenAI.

10.3. Conclusion and future research

The study assessed the effects that the adoption of generative artificial intelligence (GenAI) has on marketing innovation and business growth in a digital economy. This was achieved through a mixed-methods approach that fused quantitative evidence emanating from PLS-SEM analysis with qualitative insights from top executives into one coherent account. The findings confirmed that GenAI adoption positively influences marketing innovation and business growth. Another finding was that marketing innovation mediates technological adoption while translating it into firm-level performance outcomes. In addition, the strength of such relationships is conditioned by firm size, sector, and geographic context. This study shows that the adoption of generative AI is a significant driver of marketing innovation and business growth in the digital economy. GenAI does not operate as a mere technological input but creates value through the enabling of innovation-oriented marketing capabilities that result in enhanced organizational performance. Therefore, sustainable growth benefits are a function of the fit between technological adoption, organizational readiness, strategic intent, and innovation process.

A major limitation of this study is that it used a cross-sectional research design, something that does not allow for making causal inferences, and simultaneously observing long-term effects as the GenAI adoption wave unfolds. Therefore, future studies may adopt longitudinal designs to capture dynamic capability development over time. Particularly specified inquiries in highly regulated industries, healthcare, and financial services would provide more nuanced perspectives on how ethical and regulatory constraints channel innovation enabled by

GenAI. Also, future research can extend the model by incorporating such constructs into customer trust, brand equity, or human AI collaboration to provide an extended view of the socio-technical mechanisms through which GenAI impacts organizational outcomes.

Declaration of competing interest

The authors declare that they have no known financial or non-financial competing interests in any material discussed in this paper.

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Author contribution

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