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Article

Enhancing marketing success in Jordanian telecom: Strategic IoT integration and brand relationship management for maximized consumer loyalty

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Abstract: This study explores how Jordanian telecom companies can balance Internet of Things (IoT) driven automation with maintaining genuine consumer-brand connections. It seeks strategies that blend IoT automation with personalized engagement to foster lasting consumer loyalty. Employing qualitative research via semi-structured interviews with IT and customer service managers from Jordanian telecom companies. IoT-driven automation in Jordan's telecom sector revolutionizes consumer-brand relationships by enabling data-driven personalization. It emphasizes the importance of IoT proficiency, transformed marketing strategies, and the need to balance personalization with consumer privacy. Interviews stress the significance of maintaining authentic human connections amidst automation. Strategies for Jordanian telecom firms include integrating IoT data into CRM systems, employing omnichannel marketing, balancing automation with human interaction, adopting a consumer-centric approach, mitigating security risks, and leveraging IoT insights for adaptive services. These approaches prioritize consumer trust, personalized engagement, and agile service adaptation to meet dynamic consumer preferences. This research provides actionable strategies for telecom firms on effective IoT integration, emphasizing the need to maintain genuine consumer relationships alongside technological advancements. It highlights IoT's transformative potential while ensuring lasting consumer loyalty and business success. Future research avenues could explore longitudinal studies and the interplay between AI and IoT in telecom services.

Keywords: IoT integration; telecom firms; consumer-brand relationships; automation strategies; consumer loyalty; technological landscape; branding

1. Introduction

The telecommunications landscape in Jordan has undergone a transformative shift with the strategic integration of Internet of Things (IoT) technologies within telecom firms (Rejeb et al., 2023). This adoption has sparked discussions surrounding its impact on consumer-brand relationships, automated services, and the overall business landscape. While existing literature extensively examines the advantages of IoT adoption, a critical gap persists in comprehensively analyzing how to balance IoT-driven automation while preserving genuine consumer-brand relationships effectively.

Despite the wealth of research exploring IoT integration within Jordanian telecom firms and its effects on consumer behavior, loyalty, and business implications, a notable gap remains. The nuanced balance between leveraging IoT-driven automation and maintaining authentic consumer connections has not received adequate attention. Current literature highlights the benefits of IoT adoption but lacks

a comprehensive analysis of strategies that successfully merge technological innovation with sustained personalized engagement, crucial for enduring consumer loyalty and meaningful connections.

The primary objective of this study is to evaluate the impact of IoT-powered automation on the genuine relationships between consumers and brands in Jordan's telecom sector. It aims to explore strategies that strike a balance between technological advancements and personalized engagement to foster consumer loyalty. Additionally, the study will examine how the adoption of IoT has reshaped consumer behavior and preferences, providing guidance to telecom firms in aligning their strategies with these evolving needs.

To address this aim, the following research questions will guide the investigation:

1) How does IoT-powered automation impact genuine consumer-brand relationships in Jordan's telecom sector, and what strategies preserve authenticity amid technological advancements?
2) What strategies can Jordanian telecom firms employ to balance IoT-driven technological progress with personalized engagement, fostering lasting consumer loyalty?
3) To what extent has IoT adoption reshaped consumer behavior and preferences in Jordan's telecommunications, guiding strategies to align with evolving consumer needs?

The study delves into empirical findings derived from industry experts and a comprehensive literature review. Initial insights reveal the transformative potential of IoT in reshaping consumer behavior, the impact of IoT-driven automation on consumer-brand relationships, and strategies crucial for maintaining authenticity amidst technological advancements.

The implications of this research extend to Jordanian telecom firms seeking to navigate the IoT landscape effectively. The study's findings will offer actionable insights, guiding these firms in striking a balance between leveraging IoT for technological advancements and preserving genuine consumer connections to drive sustained loyalty.

In conclusion, this study addresses a critical gap in the existing literature and aims to provide pragmatic solutions for telecom firms in Jordan, enabling them to navigate the IoT terrain while fostering enduring consumer relationships and loyalty in an ever-evolving technological ecosystem.

The literature review is presented in Section 2, methodology is described in Section 3, findings are presented in Section 4, and the discussion, implications, and conclusion are presented in Sections 5 and 6.

2. Theoretical framework

The IoT plays a transformative role in various sectors within emerging markets. Smart city initiatives leverage IoT to enhance traffic management, waste disposal, and energy conservation, thereby bolstering public safety. Supply chain efficiency and visibility are also improved through IoT tracking, particularly in the delivery of essential goods. Furthermore, IoT promotes financial inclusion by providing banking services in remote areas. Environmental monitoring and disaster management are

made more effective through the utilization of IoT sensors. In the education sector, IoT enhances learning experiences through online platforms and smart classrooms. Moreover, the manufacturing and industrial sectors experience productivity gains through automation and predictive maintenance facilitated by IoT. However, in order to fully unlock the potential of IoT in these markets, it is essential to address challenges such as infrastructure requirements, affordability, data security, and regulatory concerns (Peter et al., 2023).

In recent years, the telecommunications landscape in Jordan has experienced a significant transformation due to the strategic adoption of IoT-enabled sales channels by major players like Zain Jordan, Orange Jordan, and Umniah (Hijazin et al., 2023). Confirming research indicates that this adoption has resulted in enhanced accessibility and personalized experiences for consumers, offering seamless connectivity and advanced service options (S. K. Roy et al., 2022). However, contrary research could contend that although the adoption of IoT has brought about advancements, there may be worries regarding the digital divide, with some consumer segments possibly being left behind as a result of unequal access to and comprehension of IoT technologies (Marshall et al., 2020).

2.1. Characteristics and influence of IoT devices in Jordanian telecom

Jordanian telecom firms have strategically integrated IoT devices, encompassing Wi-Fi, Bluetooth, and ultrasonic technologies, fundamentally altering customer interactions and operational frameworks (Alalawin et al., 2022). Verifying viewpoints demonstrate how IoT adoption has improved operational efficiency, streamlined services, and made subscription management simpler (Allioui and Mourdi, 2023). Contrarily, research that is, in contrast, may be criticized for posing security risks that could arise from the increasing interconnectedness of devices, demanding stringent security procedures and safeguards for consumer information (Brous et al., 2020).

2.2. Consumer behavior shifts and IoT adoption by Jordanian telecom firms

Shifts in consumer behaviour and the adoption of IoT by Jordanian telecom companies have significantly changed how customers interact with telecom services. Verified research systematically reveals a discernible consumer inclination towards seamless, tech-driven solutions, which profoundly impacts their brand loyalty and promotes higher levels of engagement (Yerpude and Singhal, 2021). This preference is indicative of a growing trend in which customers are sticking with telecom brands because they appreciate the convenience and efficiency that IoT-driven services provide (Rane, 2023). Opposing research voices concerns regarding an excessive reliance on technology, potentially eroding the personal connections between consumers and telecom companies (Moreau et al., 2020). This concern underscores the risk of reducing interactions to mere transactions, diluting the authenticity of consumer-brand relationships (Alkhowaiter, 2023). As consumers navigate an increasingly digital landscape, ensuring a balance between technology-enabled convenience and preserving genuine, personalized interactions becomes pivotal for

sustaining authentic brand loyalty and fostering lasting consumer connections (Nadeem et al., 2023).

2.3. Automated services and consumer loyalty in Jordanian telecom

Telecom firms in Jordan have actively embraced IoT technologies, leading to a strategic transition towards automated service models aimed at enhancing consumer engagement and trust (Mansour et al., 2024). Proving viewpoints underscore the significant advantages of these IoT-powered services, stressing their function in establishing client loyalty by improving dependability, effectiveness, and ease of communication (Utomo et al., 2023). These developments improve operational effectiveness while also providing consumers with unmatched convenience, which raises customer satisfaction and fortifies their loyalty to these telecom providers (Hujran et al., 2023). However, opposing research sheds light on potential risks associated with an overreliance on automated services (Farroñan et al., 2023). This perspective emphasizes the possible development of transactional relationships, where loyalty is rooted more in the convenience of automation than genuine emotional connections (Pelet et al., 2021). Critics stress the importance of striking a balance between efficient automation and maintaining authentic consumer-company relationships, suggesting that while automation streamlines processes, it should not overshadow the need for personalized experiences and human interactions (Güntürkün et al., 2020). This balance is crucial to prevent a potential shift towards transient customer allegiance, where consumers might readily switch providers for marginally better offerings or experiences (Bate, 2023).

2.4. Challenges and prospects of IoT in Jordanian telecom firms

The adoption of IoT within Jordanian telecom firms signals both promising benefits and complex challenges. Confirming viewpoints emphasize the critical need for transparent communication strategies and a consumer-centric approach in navigating an increasingly automated environment (Hemker et al., 2021). This perspective highlights the importance of clear communication channels to educate consumers about IoT-driven services while ensuring that consumers need drive service delivery models (Allioui and Mourdi, 2023). Conversely, viewpoints delve into the potential risks of heightened automation, expressing concerns about the potential dehumanization of consumer-firm interactions (Dellaert et al., 2020). There's a fear that while automation streamlines processes, it might erode personal connections, resulting in transactional relationships (Amarasinghe, 2023). To counter this, efforts must continuously balance automation with personalized engagement strategies, integrating technology seamlessly while ensuring interactions retain warmth and empathy (Gupta et al., 2020). Proactive measures addressing data privacy, security breaches, and maintaining consumers trust in an interconnected IoT ecosystem are advocated. Achieving this equilibrium requires ongoing innovation and a commitment to human-centric design, ensuring that technological advancements complement rather than overshadow the human element vital for fostering genuine consumer relationships within the telecom landscape (Y. Shen et al., 2022).

2.5. Impact of IoT on telecom sales and business implications in Jordan

The incorporation of IoT technologies within Jordan's telecommunications sector has triggered significant transformations in sales performance, operational models, and market relevance. Confirming research underscores IoT's influential role in stimulating sales growth and revolutionizing operational approaches (Ud Din et al., 2023). Leveraging IoT-driven insights, telecom companies have customized services, personalized consumer experiences, and swiftly adapted to market changes (Rane, 2023). This innovation has fortified their competitive positions, establishing them as frontrunners within the industry. Yet, viewpoints caution against exclusive reliance on IoT-driven automation. While acknowledging its advantages, concerns are raised about the potential detachment from genuine consumer relationships in a technology-centric environment (Dong et al., 2023). Critics stress the need to maintain human-centric sales approaches alongside IoT integration to ensure that consumer engagement remains authentic (Olanrewaju et al., 2022). The suggestion is to use IoT-derived insights complementarily, augmenting rather than supplanting human interactions, to foster meaningful connections beyond transactional exchanges (Taylor et al., 2020).

This dual perspective encapsulates the profound impact of IoT on telecom sales in Jordan. It highlights IoT's pivotal role in driving growth and innovation while emphasizing the necessity of preserving genuine human connections in sales strategies (Widodo, 2023). Striking a balanced approach between technological advancements and personalized engagement emerges as crucial in navigating the evolving landscape of Jordan's telecommunications industry.

2.6. Research gap and aim

Despite extensive exploration into the integration of IoT technologies within Jordanian telecom firms and their impact on consumer behavior, loyalty, automated services, and business implications, there remains a significant dearth in understanding the nuanced balance between IoT-driven automation and the preservation of authentic consumer-brand relationships. Current literature emphasizes the advantages of IoT adoption but lacks a comprehensive analysis of strategies that successfully merge technological innovation with sustained personalized engagement to ensure enduring consumer loyalty and meaningful connections.

The aim of this study is to assess the influence of IoT-powered automation on the authentic consumer-brand relationships in Jordan's telecom sector. It seeks to explore strategies that effectively balance technological advancements with personalized engagement to foster consumer loyalty. Additionally, the study will examine how the adoption of IoT has reshaped consumer behavior and preferences, providing guidance to telecom firms in aligning their strategies with these evolving needs.

3. Methodology

3.1. Study design

In order to obtain a comprehensive understanding of the conduct, mindsets, and incentives of participants amidst complex phenomena, a qualitative research structure

was employed to thoroughly examine the experiences and perspectives of the participants. Due to its ability to explore a wide range of topics and maintain consistency throughout the interviews, semi-structured interviews were selected as the data collection method. By bringing to light minute details and viewpoints that quantitative approaches frequently overlook, these interviews promote flexible discovery and offer in-depth knowledge. Interviews need to be thoroughly analyzed, are subject to interviewer bias, and take a lot of time, despite their benefits (Ramadan and Morshed, 2023).

3.2. Participant selection

Nine customer service managers from Jordanian telecom companies participated in the study that they have at least seven years' experience in this field. Additionally, seven IoT implementation experts they have at least eight years' experience in IT and involved in ten projects, particularly in the telecom sector. Finally, the interviews expanded to four IoT experts from Arab Gulfs have more than twenty years' experience in IT. Online interviews scheduled between August 2022 and October 2023; participants were chosen.

3.3. Language used

All interviews were conducted in the Arabic language and translated to English language.

3.4. Sample size determination

The saturation principle, which suggests that data collection should continue until no new information emerges, was used to determine the sample size (Morshed and Ramadan, 2023).

3.5. Data collection

Online video conferencing software was used to conduct semi-structured interviews, which were then recorded, transcribed, and subjected to analysis (Morshed, 2020, 2022). In order to conduct a thorough analysis of the attitudes, behaviors, and viewpoints of the participants, the interview questions were designed to probe deeply into their professional experience's relationship management.

First step: To establish a solid foundation of understanding regarding the role of IoT, initial interviews were conducted with nine customer service managers and seven experts. Second step: Building upon the insights gained in Phase I, a second round of interviews was conducted with five customer service managers and six experts who had provided valuable contributions.

Final step: The conclusive phase involved interviews with four highly experienced individuals, each possessing over twenty years of expertise in IT and IoT deployment.

3.6. Data analysis

For data analysis, thematic and hermeneutic approaches were used, with an emphasis on finding patterns and recurring themes in the data (Campbell et al., 2021).

Software for qualitative data analysis called NVivo made both automated and manual analysis easier. Two human analysts examined the data independently to guarantee consistency.

3.7. Ethical considerations

Throughout the interviews, ethical guidelines were closely followed, including getting participants' informed consent, protecting their privacy and confidentiality, and limiting any potential harm to them. Each participant gave their free will and was free to discontinue participation at any moment. The confidentiality of participant identities was maintained, in compliance with ethical standards for research involving human subjects (Salem et al., 2023).

4. Result

4.1. How does IoT-powered automation impact genuine consumer-brand relationships in Jordan's telecom sector, and what strategies preserve authenticity amid technological advancements?

Data-driven personalization: IoT integration in Jordan's telecom sector has revolutionized consumer-brand relationships by enabling data-driven personalization. The interviews emphasized the valuable insights gathered from interconnected devices like wearables and network sensors. This aligns with the literature review, stating that IoT devices gather crucial data, allowing tailored marketing campaigns and personalized experiences (Alalawin et al., 2022). These insights into consumer behavior patterns, preferences, and engagement metrics aid in crafting impactful marketing strategies specifically tailored to the Jordanian market (Yerpude and Singhal, 2021).

Importance of IoT proficiency: The interviews highlighted the increasing significance of IoT skills for Jordanian brands. The literature review supports this by emphasizing the substantial resources allocated to IoT integration in Jordanian businesses (Allioui and Mourdi, 2023). This proficiency is essential to handle and analyze IoT-generated data effectively, enabling companies to thrive in an era driven by data insights and technological advancements.

IoT's role in marketing transformation: IoT adoption has transformed marketing strategies offering enhanced accessibility and personalized experiences to consumers in Jordan's telecom sector (D. Roy et al., 2022). The integration of IoT devices, as highlighted in the interviews, fundamentally alters customer interactions and operational frameworks. It allows telecom companies to deliver seamless connectivity and advanced service options, reshaping how customers engage with telecom services.

Balancing personalization and privacy: While IoT-driven personalization is crucial, there are concerns about security risks associated with increased interconnectedness (Brous et al., 2020). The interviews emphasized the importance of tailored experiences while safeguarding customer privacy, resonating with the literature review's call for stringent security procedures and safeguards for consumer information.

Emphasis on customer-centric approaches: The interviews stress the significance of a customer-centric approach, aligning with the literature review that highlighted the need for service delivery models driven by consumer needs in an automated environment (Himeur et al., 2023). This necessitates identifying touchpoints where IoT enhances engagement and utilizing skilled teams capable of analyzing IoT data to better serve customers.

IoT's role in service customization and loyalty building: The literature review emphasized IoT's role in fortifying customer loyalty by improving dependability, effectiveness, and ease of communication (Hujran et al., 2023). This aligns with the interviews' emphasised on how IoT-powered automation enhances operational effectiveness and customer satisfaction, leading to fortified loyalty among consumers in Jordan's telecom sector.

Navigating automation for authentic engagement: Overreliance on automated services may risk transactional relationships, as highlighted in the literature review (Pelet et al., 2021). The interviews echoed these concerns by cautioning against letting automation overshadow the need for personalized engagement and authentic connections, emphasizing the importance of maintaining genuine consumer-brand relationships.

Striking a balance between technology and human interactions: The literature review advocates for a balance between technological advancements and human-centric design to foster genuine consumer relationships within the telecom landscape (S. Shen et al., 2020). This aligns with the interviews' emphasised on seamlessly integrating technology while ensuring that authentic human connections remain integral to customer interactions.

To sum up, the integration of IoT technology within Jordan's telecom sector has catalyzed a profound transformation in how brands engage with consumers. Interviews conducted in tandem with existing literature underscore the pivotal role of data-driven personalization facilitated by interconnected devices. This shift empowers companies to craft tailored marketing strategies and offer personalized experiences that resonate with the intricacies of the Jordanian market. The emphasis on IoT proficiency echoes the literature's call for adept handling of IoT-generated data, highlighting its significance in navigating a landscape increasingly reliant on data insights and technological advancements.

However, amidst this evolution, a delicate equilibrium emerges between personalized experiences and the safeguarding of customer privacy. The caution against overreliance on automated services, as highlighted in the interviews, echoes the literature's concerns about transactional relationships overshadowing authentic connections. The quest for authentic engagement remains paramount, necessitating a balance between leveraging IoT's capabilities for enhanced consumer experiences and preserving genuine human interactions. As Jordan's telecom sector continues its IoT-driven evolution, the successful navigation of these nuances will be integral, ensuring sustainable growth by fostering lasting consumer-brand relationships and advancing business success in a rapidly evolving landscape.

4.2. What strategies can Jordanian telecom firms employ to balance IoT-driven technological progress with personalized engagement, fostering lasting consumer loyalty?

IoT data utilization for personalization: The interviewees, particularly IT managers emphasized the transformative potential of IoT-generated data when integrated with customer relationship management (CRM) systems. This resonates with the research by Alalawin et al. (2022), illustrating how Jordanian telecom firms strategically integrated IoT devices, fundamentally altering customer interactions and operational frameworks. Additionally, Alzahrani et al. (2022) emphasized the importance of robust security measures due to the increased interconnectedness of devices.

Omnichannel marketing and personalized experiences: Customer service managers highlighted the significance of omnichannel marketing facilitated by IoT integration. This aligns with the findings of Yerpude and Singhal (2021), showcasing a preference for tech-driven solutions that enhance brand loyalty among Jordanian consumers. The literature review underscored the importance of clear communication channels to educate consumers about IoT-driven services, as emphasized by Y. Shen et al. (2022).

Automation for enhanced customer service: IT managers highlighted the role of IoT-driven automation in optimizing customer service experiences. This aligns with the literature's emphasis on the advantages of IoT-powered services in improving operational effectiveness, as highlighted by Mansour et al. (2024). However, Pelet et al. (2021) and George (2023) cautioned against overreliance on automation, warning about the risk of eroding personal connections in favor of transactional relationships.

Balancing automation with human interaction: The interviewees highlighted the crucial need to balance automation and authentic human connections in Jordan's telecom sector, aligning with concerns raised by Amarasinghe (2023) in the literature. Both sources caution against over-reliance on automation, emphasizing the potential risk of losing genuine interactions in a technology-driven environment. The consensus underscores the importance of integrating technology while preserving personalized engagement strategies, echoing the literature's call for a balanced approach. This harmony is essential for sustaining lasting consumer loyalty amid technological advancements in Jordan's telecom industry.

Consumer-centric approach: Both the interviews and literature strongly advocate a consumer-centric approach in Jordan's telecom sector. Hemker et al. (2021) highlighted the importance of transparent communication about IoT-driven services and aligning service delivery models with consumer needs. This approach prioritizes understanding consumer preferences and adapting services accordingly, ensuring a shift from a product-centric to a customer-centric mindset. Integrating IoT is not just a technological advancement; it's aimed at enhancing consumer experiences and satisfaction, placing their preferences at the forefront of telecom services in Jordan.

Risk mitigation and security concerns: Interview insights and the literature review converge on the need for proactive strategies to address data security and privacy concerns in Jordan's telecom sector. Recommendations from Y. Shen et al. (2022) and Dellaert et al. (2020) about maintaining consumer trust align with the

interviewees' emphasis on transparent communication and robust security protocols. Combining technical security measures with consumer-oriented approaches becomes essential in fostering trust and security within the IoT ecosystem. This alignment emphasizes the importance of holistic strategies that prioritize both data protection and consumer confidence in engaging with IoT-driven services.

Customized services and market adaptation: The interviews echo the literature review's emphasis on the significance of utilizing IoT insights for agile service adaptation, in line with findings by Ud Din et al. (2023). Both sources stressed the vital role of IoT-driven data in enabling telecom firms in Jordan to swiftly adjust their services in response to dynamic market shifts. This convergence reinforces the critical importance of leveraging IoT information for maintaining relevance and competitiveness in Jordan's telecom industry.

To sum up, the landscape for Jordanian telecom firms navigating IoT-driven progress necessitates a delicate yet imperative balance between technological strides and personalized consumer engagement. Insights drawn from both interviews with industry experts and contemporary literature underscore critical strategies pivotal in this landscape. Integration of IoT-generated data into CRM systems has emerged as a transformative force, reshaping customer interactions and operational frameworks. However, this shift mandates robust security measures to safeguard interconnected devices and, more crucially, uphold consumer trust. Simultaneously, omnichannel marketing facilitated by IoT integration demands clear communication channels to educate consumers about these services, fostering acceptance and loyalty.

Moreover, while IoT-driven automation enhances customer service efficiency, a cautious approach is warranted. Overreliance on automation risks diluting the genuine human connections that underpin sustained consumer loyalty. A consumer-centric ethos—understanding and adapting services to consumer preferences—emerges as paramount. IoT integration transcends mere technological progress; it's about enriching consumer experiences and placing their needs centrally in service delivery. This imperative for a consumer-focused approach converges with the necessity for proactive strategies for addressing data security and privacy concerns. Transparent communication and robust security protocols become instrumental in nurturing consumer trust within the IoT ecosystem. Lastly, the agility derived from utilizing IoT insights to swiftly adapt services in response to dynamic market shifts emerges as a critical factor in maintaining relevance and competitiveness for Jordanian telecom firms.

4.3. To what extent has IoT adoption reshaped consumer behavior and preferences in Jordan's telecommunications, guiding strategies to align with evolving consumer needs?

Enhanced marketing strategies: IoT adoption in Jordan's telecommunications industry has remarkably transformed marketing strategies (D. Roy et al., 2022). Interviewees across IT management highlighted its role in facilitating targeted content delivery, personalized messaging, and effective customer engagement. The literature review aligns with these perspectives, emphasizing that IoT-enabled sales channels

have led to heightened accessibility and personalized experiences for consumers (Bayer et al., 2021; Hijazin et al., 2023).

Customer-centric approaches: Both IT managers and customer service managers emphasized the significance of customer-centric approaches in Jordan's telecom landscape. The balance between tailored messaging and safeguarding customer privacy emerged as a crucial aspect outlined by IT managers, highlighting the importance of fostering trust (Alkhowaiter, 2023). Customer service managers reinforced this notion, advocating for personalized interactions through various channels and customized offerings. The literature review mirrored these perspectives, emphasizing the need to balance technology-enabled convenience with personalized interactions to sustain authentic brand loyalty amid shifting consumer behaviors (Nadeem et al., 2023).

Automation and operational efficiency: Interviewees from both IT and customer service management recognized the pivotal role of automation in driving operational efficiency within Jordan's telecom sector. They highlighted how IoT-driven automation streamlined processes, facilitated efficient analysis, and generated actionable customer insights tailored to the local market (Allioui and Mourdi, 2023). However, concerns surfaced regarding overreliance on automation, as echoed in the literature review, emphasizing the need to tread carefully to avoid potential pitfalls such as the development of transactional relationships that may overshadow genuine consumer connections (Güntürkün et al., 2020).

Data-driven insights and personalization: The integration of IoT into Jordan's telecommunications sector has significantly empowered companies with valuable customer behavior insights (Yerpude and Singhal, 2021). Interviewees discussed how IoT-generated data aids in crafting personalized messages and tailoring services effectively. This sentiment aligns with the literature review, emphasizing how IoT-derived insights have revolutionized service customization, personalized consumer experiences, and rapid adaptations to market changes (Kumar et al., 2021).

Complexities and challenges: Both interviewees and the literature review acknowledged the complexities surrounding IoT adoption (Pappas et al., 2021). There was a consensus on the need for transparent communication, consumer-centric strategies, and cautious reliance on IoT-driven automation. Concerns were raised about potential risks, such as the dehumanization of interactions and the need to balance automation with personalized engagement strategies to maintain authentic consumer connections and trust in an increasingly technology-driven landscape (Buhalis et al., 2019).

To sum up, the integration of IoT into Jordan's telecommunications landscape has fundamentally reshaped consumer behavior and industry strategies. IoT adoption has triggered a significant shift in marketing methods, enabling targeted content delivery and personalized messaging while navigating the delicate balance between tailored approaches and consumer privacy. Simultaneously, the industry has pivoted toward customer-centricity, acknowledging the importance of personalized interactions and offerings. Yet, the challenge remains in harmonizing technological convenience with the preservation of genuine connections to sustain brand loyalty amid evolving preferences. Additionally, IoT-driven automation has streamlined operations, generating localized insights, but concerns persist regarding overreliance

on automation, highlighting the need for a cautious approach amidst technological advancements.

Furthermore, IoT-generated data has empowered companies with crucial consumer insights, revolutionizing service customization and adaptive market strategies. However, the industry acknowledges the persistent challenges, advocating for transparent communication, consumer-centric strategies, and a balanced approach to automation to maintain authenticity and trust. Navigating these complexities necessitates a nuanced approach that prioritizes consumer trust, strategic IoT integration, and continual adaptation to effectively meet the dynamic needs of consumers in Jordan's telecommunications sector.

5. Discussion and implications

5.1. Discussion

The literature review (Hijazin et al., 2023) and research findings both underscore the transformative impact of IoT on consumer behavior within Jordan's telecommunications sector. They converge on the idea of a paradigm shift towards personalized experiences and enhanced marketing strategies (Bayer et al., 2021; D. Roy et al., 2022).

Moreover, both sources emphasize the pivotal role of IoT-generated data in crafting tailored marketing campaigns and better service customization, aligning with the assertions made by Alalawin et al. (2022) and Yerpude and Singhal (2021) regarding the power of IoT data in driving personalized experiences and impactful marketing strategies.

Furthermore, the growing importance of acquiring IoT proficiency within telecom firms is recognized in both the literature review's emphasis on IoT integration (Allioui and Mourdi, 2023) and the research findings, which highlight the increasing significance of IoT skills within the industry.

Concerns about overreliance on IoT-driven automation and its potential to dilute genuine human connections are echoed in both sources (Güntürkün et al., 2020; Pelet et al., 2021), emphasizing the risks associated with favoring transactional relationships over authentic connections in a technology-driven environment.

Lastly, both the literature review (Nadeem et al., 2023) and research findings stress the importance of adopting consumer-centric approaches, advocating for transparent communication, consumer trust, and the adaptation of services to meet evolving consumer preferences.

While the literature review provides a comprehensive overview of varied studies and perspectives on IoT integration, the research findings offer deeper insights by presenting practical examples and industry-specific strategies obtained through real-world interviews within the Jordanian telecom sector. For instance, while the literature review broadly covers theoretical concepts (Hijazin et al., 2023), the research findings validate and enrich these assertions with tangible experiences and implementation strategies gathered from industry experts and professionals.

Moreover, the research findings delve into specific strategies employed by telecom firms in Jordan to balance IoT-driven technological progress with personalized engagement. These findings offer concrete examples of utilizing IoT-

generated data and implementing consumer-centric approaches, which complement and support the theoretical frameworks outlined in the literature review (Alalawin et al., 2022; Yerpude and Singhal, 2021).

Additionally, the research findings elaborate more on the specific challenges faced by telecom firms and offer practical recommendations derived from industry experiences, bridging the gap between theoretical understanding and real-world implications. This aligns with the concerns highlighted in the literature review (Güntürkün et al., 2020; Pelet et al., 2021) providing nuanced insights into industry challenges and viable solutions.

5.2. Implications

Data utilization for personalization: Integrate IoT data into CRM systems for tailored marketing campaigns and customized services aligned with local preferences.

Omnichannel marketing: Employ integrated marketing strategies across channels to provide seamless and personalized experiences while educating consumers about IoT services.

Balanced automation: Optimize customer service with IoT-driven automation while ensuring personalized human connections remain integral to consumer interactions.

Consumer-centric approach: Prioritize transparent communication, consumer trust, and adapt services to evolving consumer needs rather than solely focusing on products.

Risk mitigation: Implement robust security measures and transparently communicate data privacy measures to build trust within the IoT ecosystem.

Adaptive services: Utilize IoT insights to swiftly adapt services to dynamic market shifts, ensuring alignment with evolving consumer preferences.

6. Conclusion

The study aimed to assess the influence of IoT-powered automation on authentic consumer-brand relationships in Jordan's telecom sector, with a focus on strategies that balance technological advancements with personalized engagement to foster consumer loyalty. The research, anchored in a comprehensive literature review and enriched with insights from semi-structured interviews with industry professionals, offers a multi-dimensional understanding of the IoT's impact on the sector.

6.1. Answering research questions

IoT's impact on consumer-brand relationships: The research confirms that IoT has revolutionized consumer-brand interactions in Jordan's telecom sector through data-driven personalization and enhanced marketing strategies. IoT proficiency within firms has emerged as crucial for effectively leveraging these technologies.

Strategies for balancing technological progress with personalized engagement: The findings underscore the necessity for telecom firms to integrate IoT data into CRM systems for personalized service, employ omnichannel marketing, and ensure a balance between automated efficiency and human interaction. A consumer-

centric approach, emphasizing transparent communication and adaptation to consumer needs, is vital.

Reshaping of consumer behavior and preferences: IoT adoption has led to a shift in consumer behavior towards a preference for personalized, tech-driven solutions. This necessitates telecom firms to continually adapt their strategies to meet evolving consumer needs, using IoT insights for market adaptability.

6.2. Filling the research gap

This study addresses the previously identified gap in understanding how IoT-driven automation can coexist with the preservation of authentic consumer-brand relationships. It provides a nuanced analysis of strategies that effectively merge technological innovation with sustained personalized engagement.

6.3. Recommendations

Enhanced data utilization: Telecom firms should integrate IoT data into CRM systems, enabling tailored marketing and service customization.

Balanced automation approach: While leveraging IoT for operational efficiency, firms should maintain personal connections with consumers, ensuring that relationships transcend transactional interactions.

Consumer-centric strategies: Prioritize consumer needs and preferences, adapting services and communication strategies accordingly.

6.4. Limitations and further research

Technology evolution: As IoT technology continues to evolve, further research is needed to keep pace with new developments and their implications.

Broader industry analysis: Future studies could explore IoT's impact across different sectors, offering a more comprehensive view of its role in consumer-brand dynamics.

Long-term impact study: Longitudinal studies to assess the enduring effects of IoT integration on consumer loyalty and brand perception would be valuable.

In conclusion, this research offers valuable insights into the transformative role of IoT in Jordan's telecom sector, highlighting the need for balanced strategies that fuse technological innovation with personalized consumer engagement. It lays a foundation for further exploration and serves as a guide for telecom firms navigating the complex interplay between technological advancement and consumer relationship management.

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