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Assessing the Integration of ChatGPT in Business Environments: An Application of the Technology Acceptance Model

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ABSTRACT

This study aims to explore the determinants influencing the adoption of ChatGPT among business owners in Bangkok, specifically focusing on perceived ease of use and usefulness, as outlined by the Technology Acceptance Model (TAM). Through a qualitative approach, in-depth interviews were conducted with ten purposively selected participants, and the resulting data were analyzed using content analysis and NVivo software. The findings illuminate the complex landscape of ChatGPT adoption among Bangkok's business owners, highlighting the pivotal roles of perceived ease of use and usefulness in driving adoption, in line with TAM. This research highlights the diverse array of challenges encountered by business proprietors, which encompass apprehensions regarding data security, privacy, and the potential effects on personal customer engagements. These concerns are not confined solely to Bangkok but reverberate on a global scale. Despite the considerable advantages offered by ChatGPT, its complete potential remains untapped due to the absence of tailored support and customization avenues. As a result, this study emphasizes the imperative requirement for tailored support mechanisms and customization options to fully harness the capabilities inherent within the platform. Addressing these critical gaps can enable stakeholders to better leverage ChatGPT, enhancing operational efficiency, and meeting the evolving demands of the contemporary business environment.

Introduction

In the contemporary digital era, the integration of Artificial Intelligence (AI) has become a crucial element. Since its emergence, AI has unveiled a plethora of opportunities and challenges within diverse sectors. Consequently, it is essential to consider AI as a pivotal factor in fostering innovation within the global economy. A myriad of AI-enhanced technologies has been formulated, aiming to bolster economic growth by ameliorating the quality of life for the populace (Aldoseri et al., 2024; Wang et al., 2024). One notable innovation in this domain is the Chat Generative Pre-Trained Transformer (ChatGPT), conceived by OpenAI. This tool represents a significant advancement in AI, engineered to produce textual responses predicated upon user prompts. Distinctively, it possesses the capability to discern the subtleties of human language, thereby delivering responses that are not only coherent but also pertinent to a broad spectrum of inquiries. Following its inception in November 2022, ChatGPT has witnessed exponential growth, amassing a substantial user base of 100 million within a mere two months. In reaction to this surging demand, OpenAI has initiated a subscription model, priced at \$20 per month, which affords subscribers unfettered access to ChatGPT, especially during peak usage intervals. This subscription model further enhances the utility of the tool by providing expedited response times, rendering it more efficacious for a range of applications (Rasul et al., 2023; Shaengchart et al., 2023).

ChatGPT, developed by OpenAI, marks a substantial advancement in the realm of natural language processing (NLP). While the foundational GPT architecture catered to functions like machine translation and text summarization, ChatGPT diverges by emphasizing a generative approach, enabling the spontaneous creation of new content within live dialogues. This innovation differentiates ChatGPT from other models, such as OpenAI's DALL-E, which is designed for visual content generation from text descriptions. A critical attribute of ChatGPT is its ability to preserve a consistent character or identity across interactions, facilitating more authentic and seamless conversations as opposed to fragmented exchanges. This feature stems from intensive training on a wide-ranging dataset, incorporating diverse conversational texts such as chat records, forum posts, and social media discourse. The comprehensive training regimen, coupled with its distinctive framework, empowers ChatGPT to deliver responses that closely replicate human conversational patterns. This attribute renders it a versatile instrument for various fields. Notably, ChatGPT's introduction to the public on November 30, 2022, quickly captured significant attention, amassing over one million users within a mere week, underlining its exceptional appeal. In the educational domain, its capabilities have elicited a spectrum of responses from educators, indicating potential shifts in conventional educational methodologies (Klayklung et al., 2023; Su & Liu, 2023).

Integrating ChatGPT into business operations offers multifaceted advantages, including streamlining customer service with instant, round-the-clock responses, enhancing sales through tailored marketing communications, and automating mundane tasks to free up employee time for complex issues. Additionally, ChatGPT aids in generating insightful data analysis, facilitating personalized learning experiences, and improving content creation efficiency. Businesses can also leverage AI for more effective risk management and recruitment processes. However, it is vital to approach integration with a focus on ethical considerations, particularly regarding data privacy and workforce impact. Customizing these AI solutions to fit

specific business needs while ensuring they complement existing systems and workflows can lead to significant efficiency gains, improved customer satisfaction, maintaining a competitive edge in the evolving marketplace, and beyond (Arman & Lamiya, 2023; George et al., 2023; Javaid et al., 2023; Limna et al., 2023; Shihab et al., 2023).

The Technology Acceptance Model (TAM), introduced by Davis, serves as a theoretical construct aimed at elucidating the acceptance mechanisms of information systems by individuals, grounded in the theory of rational behavior. TAM posits that the actual utilization of a system is predominantly determined by the individual's behavioral intention, which, in turn, is influenced by their behavioral attitude and perceived usefulness. Crucially, the model identifies both perceived usefulness and ease of use as integral to forming one's behavioral attitude towards a system. Additionally, perceived ease of use, alongside external variables, significantly influences the perceived usefulness of a system. Consequently, perceived usefulness and ease of use emerge as fundamental factors influencing a user's behavioral intention, exerting a positive effect on this intention (Shao, 2020; Woodeson, 2022). The research by Shaengchart et al. (2023) further elucidates that the term "easy to use" is associated with users' perceptions regarding the simplicity and the time efficiency in operating a system. Perceived ease of use denotes a user's likelihood to engage with a system perceived to require minimal effort, underscoring its importance not merely at the technology's initial adoption phase but also in its continued application. The notion is that when a technology is deemed easy to use, it fosters active engagement among users (Fearnley & Amora, 2020; Prastiawan et al., 2021). Conversely, perceived usefulness is defined as the degree to which a user believes that utilizing a particular technology will enhance their job performance or effectiveness. This encompasses the evaluation of technological benefits in facilitating easier achievement of desired outcomes. The decision to adopt and use a technology often hinges on the user's positive valuation of its perceived usefulness, indicating that when technology is seen as advantageous, its adoption and utilization are likely to increase. The perceived benefits of employing technology are intrinsically linked to improvements in productivity, efficiency, and related metrics (Wardana et al., 2022).

Given the critical role technology plays in today's world, exploring how individuals decide to adopt and use technology is essential. The TAM, with its focus on perceived ease of use and usefulness, offers a robust framework for both researchers and businesses. This model helps in understanding and forecasting technology adoption trends, thereby aiding in the development of strategies for effective technology implementation. Leveraging this framework, this study aims to explore the factors that influence business owners in Bangkok to adopt ChatGPT. This research is particularly valuable as it seeks to uncover the specific attitudes and adoption patterns of business owners in a distinct geographical area towards technology in the business sector. Such insights are crucial for facilitating the smooth integration of technology into business operations, potentially driving innovation and efficiency.

Objective

The study's objective is to explain the factors influencing business owners in Bangkok's decision to adopt ChatGPT as a technological tool within their operations. This includes assessing the perceived ease of use and perceived usefulness of ChatGPT, in line with the TAM.

The research aims to understand the specific attitudes, challenges, and expectations that business owners in this region have towards the integration of AI and conversational agents in their daily business practices. Ultimately, the study seeks to provide actionable insights that could aid in the development of strategies for the successful implementation and acceptance of ChatGPT and similar technologies in the business landscape.

Research Methodology

The present study adopted a comprehensive qualitative research methodology, characterized by the strategic use of in-depth interviews to procure rich, detailed qualitative data. This research paradigm is specifically tailored to unearth the underlying motivations, contextual factors, and nuances influencing the behaviors and decision-making processes of individuals or groups. Emphasizing the crucial role of dynamic interaction during interviews, this approach facilitates the acquisition of extensive, multifaceted data, reinforcing the findings of seminal research in this domain. To augment the depth of insights relative to the central research objectives, this inquiry incorporated the documentary method in conjunction with in-depth interviews to collect primary data. This entailed an exhaustive critical review of extant secondary data sources, enabling the meticulous formulation of survey questions directly aligned with the research focus. The sampling strategy employed was purposive sampling, wherein the selection of study participants was predicated on their direct relevance and potential contribution to addressing the research questions and achieving the stipulated objectives. This deliberate selection process was designed to ensure a thorough and focused exploration of the research theme. The study's sample comprised eight business owners and managers from Thailand, each over the age of 18, who have integrated ChatGPT into their operational practices. This specific demographic was chosen to shed light on the practical application of artificial intelligence in the regional business context, thereby enriching the study's empirical relevance. Additionally, this research employed documentary analysis, a systematic technique aimed at dissecting relevant documents and literature to extract substantive meanings and insights. This methodological approach was pivotal in unpacking the intricacies surrounding the TAM and the practical deployment of ChatGPT within the business milieu. The objective was to anchor the study's findings within the broader academic discourse, thereby enhancing its scholarly contribution. Furthermore, the study leveraged content analysis to meticulously evaluate the qualitative data derived from the interviews, which were conducted both virtually and in a face-to-face setting. This analytical technique provided a framework for the systematic, objective categorization and quantitative evaluation of specific words, themes, or constructs evident in the data. By doing so, the study aimed to enable the derivation of valid, empirically grounded inferences about the phenomena under review, thereby advancing the academic understanding of technology adoption dynamics in the business sector.

Research Results

The study's findings reveal several key factors influencing the decision of Bangkok-based business owners to adopt ChatGPT within their operations. Primarily, the perceived ease of use and perceived usefulness of ChatGPT, as postulated by the TAM, emerged as significant determinants in their technology adoption decisions. Business owners reported that the

intuitive interface and user-friendly design of ChatGPT significantly reduced the learning curve, facilitating a smoother integration into existing business processes. Furthermore, the perceived usefulness of ChatGPT, particularly in enhancing customer service efficiency, streamlining communication, and automating repetitive tasks, was highlighted as a critical factor in its adoption. Respondents noted that the integration of ChatGPT led to noticeable improvements in customer satisfaction and operational efficiency, aligning with their strategic business objectives. However, the study also uncovered challenges and reservations among business owners regarding the adoption of AI and conversational agents. Key concerns included data security, privacy issues, and the potential loss of personal touch in customer interactions. Additionally, the lack of understanding and skepticism about the tangible benefits of AI technologies hindered their broader acceptance. The specific attitudes towards AI adoption varied significantly among participants, with younger business owners displaying more enthusiasm and openness to integrating ChatGPT into their operations. In contrast, more established business owners demonstrated caution and preferred a gradual approach to adoption, emphasizing the need for clear evidence of business value. In terms of expectations, business owners expressed a desire for more localized and industry-specific training and support to better understand and leverage ChatGPT's capabilities. They also indicated a need for customizable AI solutions that can be tailored to fit their unique business needs and customer base.

“By 'ease of use,' ChatGPT was straightforward to set up and integrate into our existing systems. There was not a steep learning curve, which made it appealing. I did not need to invest much time or resources into training my staff, which was a significant advantage (A business owner).”

“The usefulness has been pretty clear from the start. ChatGPT has significantly improved our customer service efficiency. We can respond to inquiries much faster, and it handles repetitive tasks, allowing my team to focus on more complex issues. This aligns perfectly with our goals to enhance operational efficiency and customer satisfaction (A business manager).”

“I was hesitant about AI. But I noticed that ChatGPT has an intuitive interface and seemed user-friendly, which really reduced my initial resistance since it seemed easy to integrate without disrupting our current processes (A business owner).”

“ChatGPT has been useful in our operations. It's been a game-changer in terms of customer service and handling repetitive tasks. Our response time has improved, and I have noticed a significant uptick in customer satisfaction. It's streamlined our communications, which aligns perfectly with our goal to enhance operational efficiency (A business manager).”

“My main concerns were around data security and privacy. I worried that we might lose that personal touch with our customers. There is also a part of me that is still skeptical about the long-term benefits of fully relying on AI (A business owner).”

“As for maintaining a personal touch, we are balancing automated responses with human interaction. We use ChatGPT to handle basic inquiries, which frees up our staff to provide more personalized service for complex issues (A business owner).”

“Well, I have seen a clear divide. Many younger business owners are diving headfirst into AI, including ChatGPT. They seem more open to new technologies. But, like me, more established owners are cautious. We see the potential, but we prefer a more gradual approach, looking for clear evidence of its business value before fully committing (A business owner).”

“Regarding the adoption of ChatGPT, we need more localized training and specific support to better understand how to use ChatGPT effectively in our unique business contexts. Also, customizable AI solutions would be great — something that can adapt to our specific business needs and customer demographics (A business manager).”

“I think it is important for AI developers to consider the diverse needs of different businesses. One-size-fits-all solutions aren’t always effective. Tailored approaches and clear demonstrations of long-term value will be key to broader adoption (A business owner).”

“AI is the future, and I believe tools like ChatGPT will become essential in managing not just customer service but also in areas like marketing, inventory management, and data analysis. But for that to happen, AI needs to continue evolving to meet the specific needs of diverse businesses (A business owner).”

Discussion

This study explained the factors influencing business owners in Bangkok's decision to adopt ChatGPT as a technological tool within their operations. This included assessing the perceived ease of use and perceived usefulness of ChatGPT, in line with the TAM. The findings from this study elucidate the complex landscape of ChatGPT adoption among Bangkok's business owners, aligning with the TAM's emphasis on perceived ease of use and usefulness as crucial adoption drivers. The user-friendly nature of ChatGPT has evidently mitigated initial technological apprehensions, enabling smoother integration into existing workflows. This aligns with previous literature indicating that ease of use significantly influences technological adoption rates. The enhancement of customer service efficiency and operational workflows

through ChatGPT has underscored its perceived usefulness, corroborating TAM's assertion that the practical benefits of technology foster its acceptance. The outcomes of this research are congruent with the assertions presented by Teerawongsathorn (2023), demonstrating that perceived usefulness, perceived ease of use, attitudes towards usage, and behavioral intentions exhibit a significant and positive correlation with the actual employment of ChatGPT. Manrai and Gupta (2023) conducted a study that elucidated the significance of investors' perceptions concerning the adoption of AI technologies within investment services. Their findings indicate that the dimensions of perceived usefulness, perceived ease of use, and overall attitudes towards AI adoption were statistically significant factors influencing the decision-making process. Nofirda and Ikram (2023) found that perceived usefulness and perceived ease of use directly influence customer acceptance levels of online shopping applications in Indonesia.

The study also highlights the multifaceted challenges faced by business owners, including concerns over data security, privacy, and the potential erosion of personal customer interactions—issues that are not unique to the Bangkok context but resonate globally. The skepticism regarding AI's long-term benefits and the varying degrees of enthusiasm across different age groups reflect a broader, global ambivalence towards rapidly evolving technological landscapes. The study's results align with those of Limna et al. (2023), which described ChatGPT as a tool with the potential to revolutionize communication methods. This AI technology, capable of generating text, enables users to create personalized content effortlessly and has become widely popular. Nonetheless, responses to ChatGPT have been varied, with accolades for its advantages and applications being counterbalanced by critiques concerning its limitations and possible negative consequences. Moreover, while ChatGPT proves to be highly efficient, it cannot substitute human reasoning and may generate biased or offensive content if not correctly adjusted. Therefore, it is essential to consider ethical aspects carefully when deploying this technology.

Conclusion

The study's findings contribute significantly to the understanding of ChatGPT adoption in Bangkok's business sector, reaffirming the importance of perceived ease of use and usefulness while highlighting the nuanced challenges and expectations that shape technology integration. It is clear that for broader acceptance and effective utilization, AI solutions like ChatGPT must be adaptable, with greater emphasis on local context, industry specificity, and the balance between automation and human touch. Business owners' call for tailored AI solutions and more contextualized support mechanisms indicates a path forward: developers and service providers must prioritize customizable, flexible AI tools that can be seamlessly integrated into diverse business models. Moreover, addressing data security and privacy concerns, alongside transparent communication of AI's long-term benefits, will be crucial in mitigating skepticism and fostering trust among potential adopters. As AI continues to evolve, the insights gleaned from this study underscore the imperative for ongoing dialogue between AI developers, business owners, regulatory bodies, as well as other stakeholders, to ensure that emerging technologies like ChatGPT not only advance business objectives but also align with ethical standards and cultural nuances. In conclusion, while the journey towards widespread AI adoption in business is complex and multifaceted, understanding the specific

needs and challenges of business owners—such as those in Bangkok—can illuminate the path to more effective, inclusive, and beneficial AI integration.

Research Implications

The insights garnered from this study on the adoption of ChatGPT by Bangkok-based business owners offer valuable implications for both the academic sphere and practical application in the business domain. Academically, the research enriches the TAM by introducing data from a unique cultural context, underscoring the critical roles of perceived ease of use and usefulness in adopting new technologies. It also highlights the need for more nuanced studies that consider cultural, economic, and generational factors in technology adoption, suggesting a fertile ground for future research that explores these dimensions across diverse settings. Practically, the study signals a clear demand for AI solutions that are both customizable and culturally attuned, emphasizing the importance of providing robust support and training tailored to specific business landscapes. It also brings to the forefront the pivotal issues of data security and the balance between automation and human interaction, outlining a roadmap for businesses and AI developers to enhance trust and efficacy in AI integration. Furthermore, the findings suggest that policymakers should craft guidelines that encourage ethical AI use and offer incentives for its adoption, particularly among small and medium-sized enterprises. Altogether, addressing these multifaceted implications can significantly advance the integration of AI technologies like ChatGPT into business practices, fostering innovation, efficiency, and a more personalized approach to customer service.

Policy and Practical Recommendations

To navigate the complexities of integrating ChatGPT and similar AI technologies into business operations, a multifaceted approach encompassing both policy and practical strategies is essential. Policymakers are encouraged to formulate and disseminate comprehensive guidelines focusing on ethical AI use, bolstered by incentives like tax benefits and financial grants tailored for small to medium-sized enterprises. Strong emphasis should also be placed on stringent data protection standards and the promotion of AI literacy among the business community. Concurrently, businesses should prioritize the customization of AI solutions to meet their unique operational needs, invest in targeted training programs for employees, and strive for a harmonious balance between automated processes and human interactions to preserve customer satisfaction. Strengthening data security protocols and fostering open communication with AI developers will ensure that AI tools evolve in tandem with business requirements and ethical considerations. Implementing these recommendations will facilitate a responsible and efficient adoption of AI, optimizing operational efficiency while maintaining trust and integrity in customer relations.

Limitations and Recommendations for Future Studies

The study's limitations include a small sample size comprising only ten purposively selected participants, potentially constraining the generalizability of findings to a broader population of business owners in Bangkok. Moreover, the qualitative approach employed may lack quantitative data necessary for robust statistical analysis. Additionally, the study's focus

solely on business owners in Bangkok overlooks potential variations in ChatGPT adoption across diverse regions and cultural contexts within Thailand and globally. Despite efforts to mitigate bias through content analysis and NVivo software, subjectivity in data interpretation remains a concern, which could impact the reliability and validity of results. To address these limitations, future research should prioritize obtaining larger and more diverse samples, considering factors such as business size, industry sector, and geographic location. Employing a mixed-methods approach combining qualitative interviews with quantitative surveys would offer a more comprehensive understanding of ChatGPT adoption dynamics. Comparative studies across various regions and cultural contexts would provide insights into contextual variations in adoption determinants. Longitudinal research tracking ChatGPT adoption patterns over time would elucidate its long-term impact and sustainability. Furthermore, exploring additional factors beyond perceived ease of use and usefulness, such as organizational readiness and external influences, would enrich our understanding of adoption processes. Intervention studies aimed at addressing identified gaps, such as providing tailored support and customization options, would help evaluate strategies for enhancing ChatGPT adoption among business owners and beyond.

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