

Title: Embracing the AI Revolution: Antecedents of GAI Adoption Among Business Educators in Emerging Economies

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Summary:

Generative Artificial Intelligence (GAI) as a groundbreaking technology is expected to have profound impact on the education sector, significantly altering the status-quo of how business educators design and deliver education. Yet, little is known of its acceptance among business educators. Although recognised for its potential, GAI faces widespread scepticism due to concern of misuse, questioning its role as a helpful ally or a potential adversary. Extending the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT), this study applies a mixed-method research design to identify factors that drive or curtail the adoption of GAI among the business educators. This study attempts to extend the models by incorporating individual characteristics and emotional well-being; provide insights to practical, ethical, policy contributions; and implications for curriculum adaptation.

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1. Introduction

Generative Artificial Intelligence (GAI) marks a groundbreaking technological shift but also sparked various debates among researchers since its inception. Almost 40 percent of workers in emerging markets is exposed to GAI, however due to the lack of infrastructure and skilled workforce in these nations, it is challenging for them to harness the immediate benefits of GAI technologies (Cazzaniga et. al. 2024). Within the higher education sector, the application of GAI is on the cusp of transforming the industry and has indeed gained significant attention due to its considerable uncertainty (Baker et al. 2019). Uncertainties arise due to a widespread scepticism on the potentials of GAI, including raised concerns of its possible misuse among the stakeholders. GAI tools, the pervasive implications of GAI on business educators' interactions raises various loopholes, challenges and ethical considerations (Essien et al., 2024). While the impact of GAI among the learner's received significant attention, the understanding of its use and acceptance among business educators remains scarce (Al-Nuaimi and Al-Emran 2021).

The purpose of this study is to investigate the use of GAI by educators with a focus on recommending ways for practical and ethical implementation of GAI technologies. Moreover, this study attempts to broadens the research beyond work undertaken in Western context to focus on emerging economies. Technological disparities between the developed and emerging economies influence the adoption and use of GAI, resulting in non-identical set of challenges. The objectives of this research are threefold: (1) to explore ways GAI is applied within the education context among the business schools of emerging economies; (2) to investigate the reasons for and reasons against the adoption of GAI among business educators; and (3) to determine the precursors (attitude, belief, trust, confidence, motivation, functionality) influencing GAI utilisation among business educators. A mixed-method research design following the exploratory sequential design (Creswell and Clark 2017) using semi-structured interviews and online questionnaire survey is proposed to achieve the study objectives.

2. Literature Review

2.1 GAI in Emerging Economies: Transformational Teaching and Learning

The era of digital disruption has created the need for universities to adopt to changes in technologies that impacts practices in higher education. Universities have the responsibility to stay current with these developments to equip future graduates with essential knowledge and skills. Given the significant impact of GAI on industries, it is crucial for business educators to think of ways on GAI integration. Despite the concern of misuse of GAI among the learners, the long-term benefits of GAI adoption in higher education are substantial. For instance, use of GAI enrich learner's experiences, supports development of lectures or assessments, and alleviate faculty workload through assistance in content creation. Moreover, GAI's potential for personalised learning could revolutionise the structure and function of business schools. Limiting our scope to emerging economies allows for renewed insight into evolution of contemporary education and practical challenges of GAI adoption among the developing nations.

2.2 TAM and UTAUT

The Technology Acceptance Model (TAM) has served as a foundation framework in studying factors that affects technology acceptance and usage. The TAM framework introduced by Davis

(1989) are defined by a combination of perceived usefulness and perceived ease of use. However, the simplified nature of this framework has caused researchers to argue that the framework underestimates the complexity of technology acceptance process and propose extensions to TAM (Venkatesh, Davis and Morris 2007; Lee, Kozar and Larsen 2003). As such, since its inception, the TAM model has undergone two extensions in the following 20 years. TAM2 introduced by Venkatesh and Davis (2000) includes determinant of perceived usefulness such as subjective norm, image, job relevance, output quality and result demonstrability. Building upon this, TAM3 (Venkatesh and Bala 2008) includes determinants of perceived ease of use that include computer self-efficacy, perception of external control, computer anxiety, computer playfulness, perceived enjoyment and objective usability. The second extension of TAM3 retains the original factors and extend them to provide more insights on user acceptance of modern technology by including factors such as computer anxiety and computer self-efficacy, making it relevant to study the acceptance of generative AI technology by educators.

To provide a holistic understanding of technology acceptance, a unified theory of acceptance and use of technology (UTAUT) was introduced by Venkatesh et al. (2003). The theoretical model of UTAUT was built from eight theories of technology acceptance, including TAM. In essence, UTAUT identifies four factors that influence behavioural intention and use behaviour, they are performance expectancy, effort expectancy, social influence and facilitating conditions. Despite UTAUT's comprehensive approach in understanding technology acceptance, it omits individual characteristics that influenced the acceptance of technology (Venkatesh 2022). Montag et al. (2023) revealed that a stronger inclination for trust is positively correlated with acceptance of AI technology, and attitudes about AI and technology self-efficacy are correlates with trust in AI technology. Given the nature of AI technologies, where the opacity of algorithms and data privacy concerns are prevalent, integrating trust to the technology acceptance model is crucial in the context of GAI technology adoption.

Additionally, previous models overlook the profound impact of emotional aspects on technology adoptions. Adoption of new technologies is found to complement efficiency, productivity and creativity. Conversely, automation risks lead to mixed impact on employees' emotional well-being, originating from work stress and job satisfaction (Nazareno and Schiff 2021). While the adoption of GAI and automation have produced discourse on ethical issues and legal implications within the context of higher education, fewer topics received attention on the impact of GAI adoption on psychological well-being among scholars. Nazareno and Schiff (2021) describes well-being as a multi-dimensional concept involving hedonic (temporary pleasant feeling) versus eudemonic (a broader concept involving self-actualisation such as personal growth). Well-being is also objectively and subjectively defined, with the latter being measured through psychological metrics such as job satisfaction (McLellan and Stuart 2015). Technological transition may impact on the emotional state of employees due to occupational stress from the need to adapt, learn and stay current with the technological advancement.

Based on the discussion of literature, Figure 1 depicts the proposed theoretical framework.

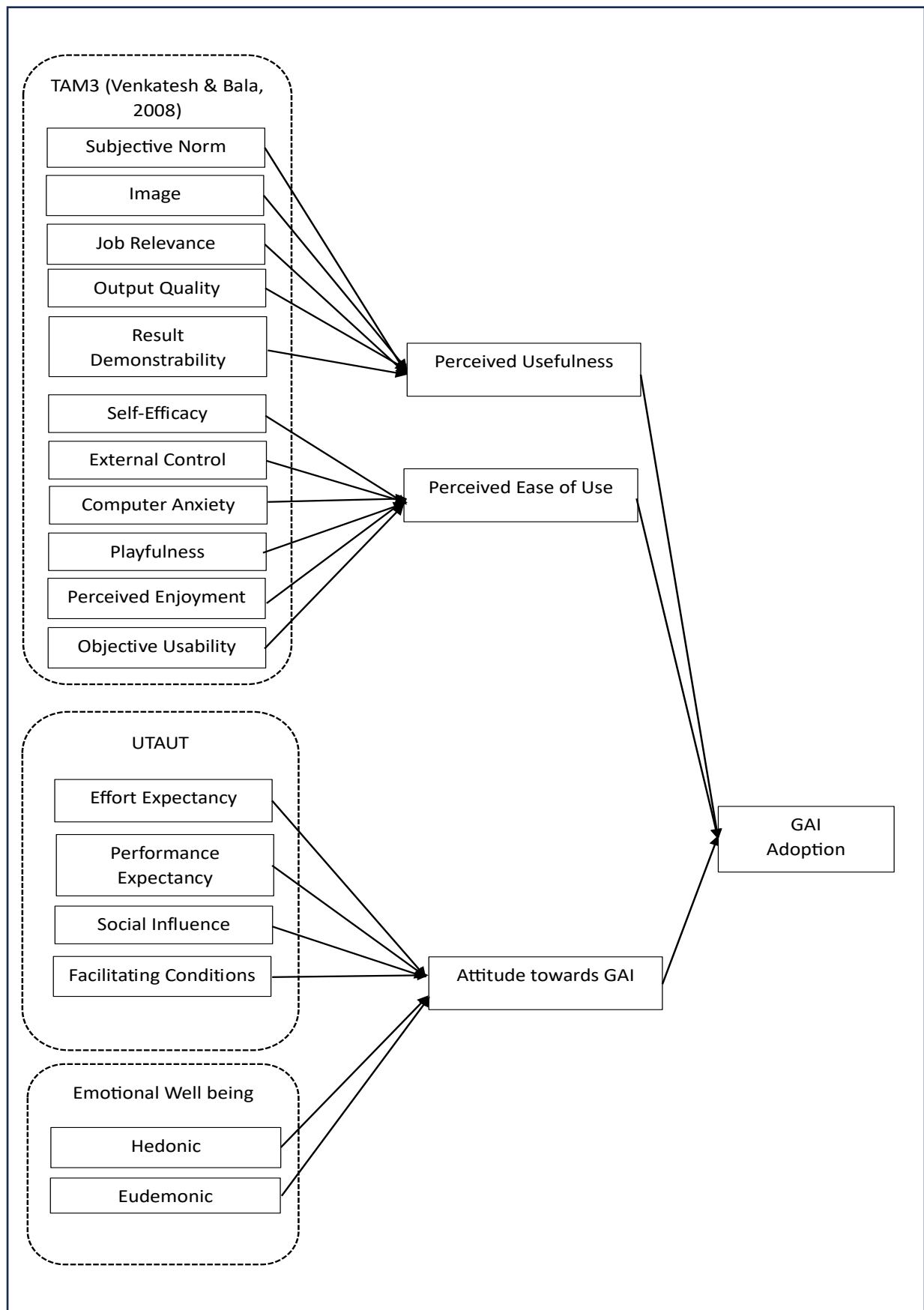


Figure 1: Proposed Theoretical Framework

3. Methodology

This study employs a mixed-method research design following the exploratory sequential design (Creswell and Clark 2017). This study is conducted in two stages.

3.1 Stage 1 – Qualitative Research

The first stage begins with the collection and analysis of qualitative data using semi-structured interviews. 15 in-depth interviews of 60-90 minutes will be conducted with business educators from emerging countries including Malaysia, Indonesia and Vietnam. Initial sourcing of participants is done through email invites and subsequently through the use of snowballing method. Sampling includes educators from the business school with a minimum of 2 years of teaching experience. Qualitative data is analysed using content analysis to identify emerging themes (Kleinheksel et al., 2020). Building from the exploratory results, a quantitative data collection will be conducted to test the hypothesis.

3.2 Stage 2- Quantitative Research

In the second stage of this study, a quantitative research design is applied to collect survey data anonymously aligned to the ethics requirement and analysed using statistical software. The structural equation modelling is applied to test the postulated hypothesis in earlier section.

3.2.1 Sampling Design and Data Collection

Based on the Edurank (2023), there are a total of 20 top business schools in Malaysia. These were ranked based on the university's involvement in research, particularly their publication ratings. As such, respondents who are faculty members that have been teaching a business module in the past 2 years would be approached from these universities. This study expects to collect data from a minimum of 100 respondents, as such a total of 250 survey invitations will be sent out using snowballing technique to ensure that data collection time is optimum.

3.2.2 Instrument Design

A survey instrument containing 3 sections will be used to collect data. In the first section, the respondents will be asked about their demographic background such as their education qualification, teaching experience, and their role in the business school. In section 2, it contains statements about different aspects in gauging their current Generative AI tools usage patterns. The statements for Section 3 that measures the dependent and independent variables will be adapted from past studies. Prior to quantitative full data collection, the questionnaire will undergo validation procedures through a pre-test to determine the length of time it would take to complete it and whether its contents are understandable to the participants. Five sets of questionnaires will be distributed to the experts who are senior academics (above 5 years teaching experience in business programs).

3.2.3 Data Analysis

SPSS will be used to conduct a descriptive analysis to summarize the demographic data of the respondents. To answer the subsequent research objectives and hypotheses, the data will then be analysed by using partial least squared-structural equation modelling (PLS-SEM) with Smart PLS 4.0 software. SEM has the ability to reduce measurement error and improve statistical estimation of the relationships (Hair et al., 2017). Besides, PLS-SEM is a more contemporary multivariate technique that uses both multiple regression and confirmatory factor

analysis (CFA) concurrently (Sarstedt et al., 2014). Firstly, the measurement model is evaluated whereby each latent construct are evaluated by examining the standardized loading, error variance, reliability, and the variance extracted. Next, the structural model that relates the constructs to other constructs is examined by providing path coefficients (parameter values) for each hypothesis and each estimated path coefficient will be tested in terms of its statistical significance that includes analysing the standard errors, t-values and the R² (overall coefficient of determination) (Hair et al., 2017).

4. Conclusion and Expected Results

This study can yield numerous benefits and outcomes with far-reaching implications. Besides fostering a more in-depth understanding on GAI's impact, studying the potential adversarial or ally role of GAI for business educators holds implications for curriculum adaptation, decision-making, and policy contribution. Integrating these insights can better prepare students and educators for ethical GAI adoption especially in emerging economies. All in all, understanding the usage, challenges, and precursors would enable us to identify the impact of GAI on pedagogy, curriculum design, and student engagement which are crucial for business educators and institutions that are looking to leverage GAI effectively. Future development of this projects includes: (1) gaining initial insights from qualitative phase upon ethics approval; (2) other emerging economies universities; (3) comparative studies to promote curriculum decolonisation; (4) enhancing underpinning theoretical framework.

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