

Adoption of AI in Digital Transformation: Assessing Managerial Intentions through UTAUT2

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[Abstract] Digital transformation enhances business process efficiency, and while practitioners are eager to adopt AI, implementation challenges persist. While the implementation of digital transformation is well-researched, limited attention has been given to factors influencing IT managers' AI adoption. This study uses the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) to examine how performance expectancy, effort expectancy, social influence, facilitating conditions, price value, and habit affect managers' intentions. Data from 96 IT managers overseeing digital transformation efforts were analyzed using linear regression. Results show significant relationships between all six constructs and AI adoption intentions among IT managers.

[Keywords] Artificial intelligence (AI), behavioral intention, digital transformation, UTAUT2, technology acceptance

Introduction

Digital transformation, driven by technologies like Artificial Intelligence (AI), offers efficiency gains but also presents challenges for IT managers (Chueh & Huang, 2023; Kiron & Spindel, 2019). While benefits such as productivity, value creation, and improved customer engagement are well-documented (Matt et al., 2015; Violeta, 2016), outcomes vary across organizations (Fischer et al., 2020; Gupta & Bose, 2022). Human factors play an important role in their success (Oyekunle & Boohene, 2024). Although AI can help overcome barriers (Agrawal et al., 2017), its role and acceptance from managerial perspectives remain underexplored (Kolbjørnsrud et al., 2017; Fernandez-Vidal et al., 2022). The gap highlights the need to examine IT managers' AI adoption behaviors in an effort to provide valuable insights for decision-makers (Lee et al., 2023).

Despite extensive literature on digital transformation, few studies focus on what drives IT managers to adopt AI (Fontaine et al., 2019). Research has shown that larger companies tend to adopt AI more extensively to improve operations but often face challenges due to gaps in external regulations, while smaller companies are typically less prepared for AI and rely more on individual managers to lead adoption efforts (Yang et al., 2024). AI implementation is complex, costly, and risk-laden, requiring agile leadership and strategic insight (Oyekunle & Boohene, 2024; Sohn & Kwon, 2020). Though practitioners are eager to implement AI, implementation can be a daunting

task for IT managers (Grewal et al., 2021; Ransbotham et al., 2017). Managers must consider a variety of external and internal factors before adopting AI technologies (Bevilacqua et al., 2025). To support informed decision-making, this study investigates the factors shaping AI adoption by applying the unified theory of acceptance and use of technology 2 (UTAUT2) to explore how performance expectancy, effort expectancy, social influence, facilitating conditions, price value, and habit influence IT managers' intentions to adopt AI (Venkatesh et al., 2012, 2016).

Background

Digital transformation involves leveraging technology to improve business models, processes, and customer experiences (Morakanyane et al., 2017). While early adopters gain advantages like efficiency and innovation (Annacone, 2019; Bughin et al., 2019), many initiatives fail due to leadership and integration challenges (Tabrizi et al., 2019; Williams et al., 2021). Managerial support, clear vision, and organizational alignment are critical to success (Wessel et al., 2021; van der Voet, 2016).

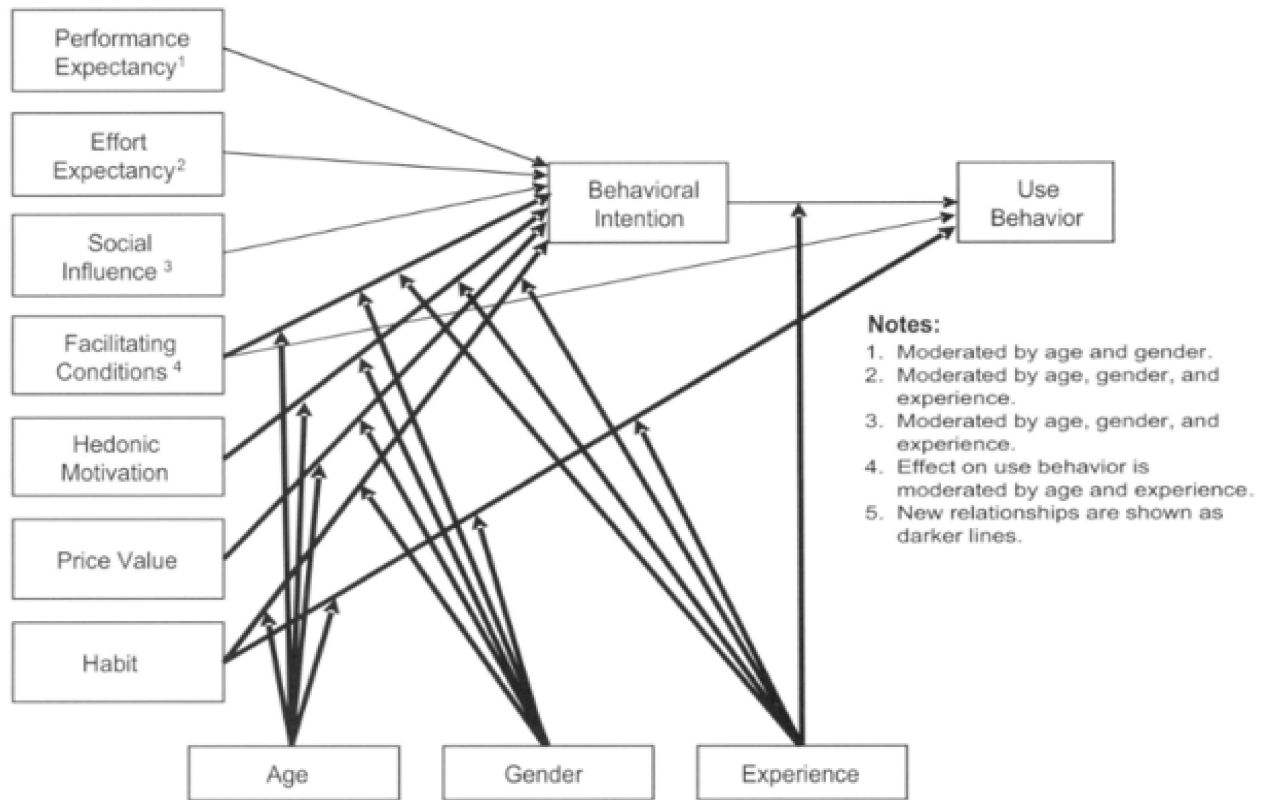
AI is central to many transformation efforts but presents significant barriers, including technical complexity, cost, and deployment failure rates of up to 80% (Costello, 2019; White, 2019). While AI offers potential for real-time insights and competitive agility (Marx et al., 2021), organizational readiness and leadership commitment remain inconsistent (Holmström, 2022; Bharwani & Mathews, 2021).

To examine the behavioral factors shaping AI adoption during digital transformation, this study applies the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) (Venkatesh et al., 2012). UTAUT2, shown in Figure 1, extends the original UTAUT and incorporates eight major technology acceptance theories, the theory of reasoned action, the technology acceptance model, the motivational model, the theory of planned behavior, a combined theory of planned behavior and the technology acceptance model, the model of personal computer use, the diffusion of innovations theory, and social cognitive theory (Khechine et al., 2016; Venkatesh et al., 2012, 2016). The original UTAUT explained about 70% of the variance in behavioral intention and 50% of the variance in use behavior. UTAUT2 added hedonic motivation, price value, and habit, making it particularly relevant where cost–benefit considerations and established work routines influence adoption (Brown & Brown, 2019; Ighalo et al., 2021).

This study focuses on seven constructs: performance expectancy, effort expectancy, social influence, facilitating conditions, price value, habit, and behavioral intention, excluding hedonic motivation, as AI is not used in an entertainment context when conducting digital transformations. Performance expectancy reflects perceived performance gains; effort expectancy, ease of use; social influence, peer and leadership expectations; facilitating conditions, resource availability; price value, cost–benefit perceptions; and habit, routine use. Behavioral intention, the dependent variable, measures readiness to adopt and integrate AI into transformation initiatives.

Figure 1

The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) Model



Note. From “Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology,” by V. Venkatesh, J. Y. L. Thong, & X. Xu, 2012, *MIS Quarterly*, 36(1), p. 160 (<https://doi.org/10.2307/41410412>). Copyright MIS Quarterly. Reprinted with permission.

Despite increasing interest in AI, adoption often stalls due to human factors like resistance, learning curves, and integration issues (Aguilar et al., 2022; Toufaily et al., 2021). Existing literature focuses heavily on individual perspectives, leaving a gap in understanding how managers adopt and integrate AI in practice (Tursunbayeva & Chalutz-Ben Gal, 2024). This study addresses that gap by applying the UTAUT2 model to explore the behavioral drivers of AI adoption among IT managers (Venkatesh et al., 2012, 2016). The hypotheses for this study were as follows:

- H_1 . Performance expectancy significantly influences IT managers' behavioral intentions to adopt AI for digital transformation.
- H_2 . Effort expectancy significantly influences IT managers' behavioral intentions to adopt AI for digital transformation.
- H_3 . Social influence significantly influences IT managers' behavioral intentions to adopt AI for digital transformation.
- H_4 . Facilitating conditions significantly influence IT managers' behavioral intentions to adopt AI for digital transformation.
- H_5 . Price value significantly influences IT managers' behavioral intentions to adopt AI for

digital transformation.

*H*₆. Habit significantly influences IT managers' behavioral intentions to adopt AI for digital transformation.

Method

This study employed multiple linear regression (MLR) to investigate the relationship between IT managers' intentions to adopt AI in digital transformation and various factors, including performance expectancy, effort expectancy, social influence, facilitating conditions, price, and habit. Qualtrics facilitated the recruitment of participants and provided the master framework. The survey provided information on a representative population sample's inclusion and exclusion criteria. We adopted probabilistic random sampling so that every potential participant in the sampling frame had an equal likelihood of inclusion, thereby supporting a representative sample and reducing selection bias (Field, 2018). Completed surveys were received from 96 IT managers responsible for digital transformation decisions in the United States. The adapted UTAUT2 instrument consisted of 29 questions with Likert-type scale responses. The survey collected demographic information. In the sample of ($N = 96$), the frequency is $N = 82$ males with 85.4% and $N = 14$ females with 14.6%. The data collected provides information on the population that can be used in future studies using the theoretical framework established in this research.

Results

The study reveals several significant predictors of AI adoption intention among IT managers. Performance expectancy significantly predicts AI adoption intention ($F(1, 94) = 123.479, p < .001, R^2 = 0.567$), with over 80% of participants acknowledging AI's potential to enhance work performance. The results suggest that organizations can facilitate AI adoption by highlighting its positive impact on productivity and efficiency, alongside providing adequate training and support. Similarly, effort expectancy is a significant predictor of AI adoption intention ($F(1, 94) = 100.318, p < .001, R^2 = 0.516$), with over 75% of respondents recognizing the ease of using AI. This result underscores the importance of prioritizing user-friendly interfaces and comprehensive training programs to encourage adoption.

Social influence is also a significant predictor of AI adoption intention ($F(1, 94) = 88.481, p < .001, R^2 = 0.484$), as indicated by over 77% of participants acknowledging the influence of peers' opinions on their decision-making. Leveraging positive social influence can create an environment conducive to AI adoption, fostering innovation and driving successful digital transformation initiatives. Additionally, facilitating conditions significantly predict AI adoption intention ($F(1, 94) = 92.198, p < .001, R^2 = 0.495$), with more than 71% of respondents believing their organization possessed the necessary resources for AI. This result underscores the importance of investing in the required resources and infrastructure, as well as providing adequate training and support, as crucial components of successful AI adoption.

Another significant predictor of AI adoption intention is price value ($F(1, 94) = 73.735, p < .001, R^2 = 0.439$). The perception of the tradeoff between monetary costs and benefits of AI, endorsed by over 70% of participants, underscores the significance of assessing the cost-effectiveness of AI implementation and aligning AI adoption with strategic goals. Finally, habit is a significant predictor of AI adoption intention ($F(1, 94) = 122.186, p < .001, R^2 = 0.565$). Habitual use of AI, agreed upon by over 70% of respondents, emphasizes the importance of promoting consistent AI usage among IT managers to facilitate seamless integration into daily work routines.

Overall, the study demonstrates the strong predictive power of UTAUT2 in understanding IT managers' AI adoption decisions within digital transformation initiatives. Organizations can leverage these insights to develop effective strategies for promoting AI adoption, realizing its potential benefits in digital transformation endeavors.

Discussion

This study advances our understanding of the key drivers behind IT managers' willingness to adopt AI in digital transformation initiatives. The findings affirm that successful adoption is influenced not only by the perceived utility and ease of use of AI tools but also by broader organizational and behavioral factors.

Among the most impactful predictors was performance expectancy, suggesting that emphasizing AI's role in improving job performance can be a powerful motivator for adoption. This finding suggests that organizations can leverage performance expectations as a persuasive tool to encourage AI adoption among IT managers, thereby fostering a culture of innovation and continuous improvement.

The significance of effort expectancy further highlights the need to reduce complexity and ensure usability in AI applications. These findings underscore the importance of aligning technology with user needs and capabilities. Organizations should invest in user-friendly interfaces, comprehensive training programs, and ongoing support to mitigate perceived barriers to AI adoption and facilitate smoother integration into daily work routines.

Social influence and facilitating conditions also emerged as essential considerations, reinforcing that support from peers and leadership, as well as access to organizational resources and technical support, can shape adoption behavior. By providing adequate support and resources, organizations can create an environment conducive to innovation and experimentation, accelerating digital transformation.

The influence of price value points to the importance of articulating clear cost-benefit advantages, while the role of habit emphasizes the need for sustained exposure and integration into daily workflows. Organizations should carefully evaluate the financial implications of AI adoption and communicate the potential return on investment to stakeholders. Emphasizing the long-term benefits and competitive advantages of AI adoption can mitigate concerns about upfront costs and facilitate buy-in from decision-makers.

Habit, representing the regular and automatic use of AI, was also a strong predictor of adoption intention. This underscores the need for organizations to support consistent AI engagement among IT managers by embedding AI tools into everyday workflows. Facilitating ongoing training and opportunities for hands-on use can reinforce habitual behavior, promoting a workplace culture centered on innovation, flexibility, and sustained digital transformation success.

Together, the insights suggest that technical solutions alone are insufficient. Organizations must also focus on cultivating a supportive environment, investing in training, and reinforcing AI usage over time. By addressing these human-centered factors, companies can strengthen their digital transformation efforts and enhance long-term success.

Implications and Conclusion

This study reveals key insights for managerial practices regarding AI adoption. Performance and effort expectancy are strong predictors of IT managers' intention to adopt AI. Organizations should emphasize the productivity and efficiency benefits of AI and ensure its user-friendliness, supported by comprehensive training. Social influence and facilitating conditions also play important roles,

with peer endorsements and influential advocates helping create a supportive AI culture. Additionally, investing in infrastructure and resources is crucial for successful AI implementation. Price value and habit are significant factors in adoption; therefore, organizations should assess AI's cost-effectiveness and communicate long-term benefits to justify the investment. Finally, integrating AI into daily routines and offering continuous learning opportunities can encourage sustained use and drive digital transformation.

This study confirms the efficacy of the UTAUT2 model in predicting AI adoption intention, offering practical implications for AI adoption, digital transformation, and IT decision-making. By understanding the drivers of adoption intention, organizations can develop targeted strategies to overcome barriers, leverage opportunities, and maximize the benefits of AI adoption.

Future research should explore additional constructs, such as trust, algorithmic transparency, and digital literacy, to deepen insights into AI adoption decision-making within the UTAUT2 model. Another area of interest is the post-adoption phase, including usage patterns, satisfaction, and outcomes like efficiency gains and cost savings. Finally, future studies should examine how top management support, leadership vision, and organizational culture influence AI adoption among IT managers.

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