

From Adoption to Knowledge Utilisation: Understanding the Role of Value, Usage, and Social Perception in Generative AI

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Abstract: Generative AI (GAI) has fundamentally transformed how individuals acquire, generate, and apply knowledge in digital environments. While information systems research has extensively explained why individuals adopt new technologies, considerably less attention has been devoted to understanding how initial adoption develops into meaningful knowledge utilisation. Existing post-adoption research has primarily focused on continued system use; however, continued use does not necessarily indicate that AI-generated knowledge has become embedded in users' learning, decision-making, or problem-solving activities. This limitation highlights the need for a broader post-adoption perspective to explain how generative AI supports meaningful knowledge utilisation. To address this gap, this study develops a conceptual framework that extends post-adoption theory by explaining the mechanisms through which adoption intention evolves into knowledge utilisation intention. Drawing upon information systems, knowledge management, post-adoption theory, and social psychology, the proposed framework suggests that utilitarian value and hedonic value jointly influence adoption intention. Rather than assuming that adoption naturally leads to knowledge utilisation, this study argues that users gradually develop post-adoption perceived value through accumulated interaction with generative AI, which subsequently facilitates knowledge utilisation intention. Furthermore, usage frequency and pluralistic ignorance are introduced as behavioural and socio-cognitive boundary conditions that respectively strengthen and weaken this transformation. Together, these mechanisms explain why individuals with similar adoption intentions may demonstrate substantially different levels of knowledge utilisation. By distinguishing knowledge utilisation from continued technology use, repositioning perceived value as a post-adoption evaluative mechanism, and integrating behavioural reinforcement with social perception, the proposed framework offers a more comprehensive explanation of post-adoption behaviour in the context of generative AI. The framework contributes to both information systems and knowledge management research by providing a theoretical foundation for understanding how generative AI becomes meaningfully embedded in users' everyday knowledge practices and offers directions for future empirical research.

Keywords: Generative AI, Knowledge utilisation, Adoption intention, Utilitarian value, Hedonic value, Pluralistic ignorance

1. Introduction

Generative AI (GAI) has rapidly moved from a novel technological development to an everyday tool shaping how individuals search for information, generate content, and engage in knowledge-related activities. Unlike earlier information systems, GAI does not simply provide access to information; it actively participates in processes such as summarisation, explanation, and idea generation. As a result, it is increasingly positioned not just as a tool, but as a collaborator in knowledge work. Given this shift, it is not surprising that a growing body of research has examined users' willingness to adopt generative AI. Much of this work draws on established frameworks such as the Technology Acceptance Model (TAM), which emphasise adoption intention as a key predictor of usage behaviour (Almusharraf & Bailey, 2025). Within this line of research, user decisions are often explained through value-based considerations. In particular, utilitarian value captures the functional and performance-related benefits of technology use, whereas hedonic value reflects the experiential and affective dimensions of interaction (Gu et al., 2010; Hanzaee & Rezaeyeh, 2013; Kim & Han, 2011; Chun et al., 2012). In the context of GAI, both dimensions appear especially relevant, as these tools are simultaneously task-oriented and experience-driven.

However, focusing on adoption alone leaves an important question insufficiently addressed. While it is now relatively well understood why individuals choose to adopt generative AI, it is far less clear whether adoption actually leads to meaningful use in knowledge practices. In everyday settings, users may try GAI tools out of curiosity or convenience, yet this does not necessarily imply that these tools become integrated into their ongoing ways of thinking, learning, or problem-solving. In other words, there is a noticeable gap between adopting a tool and using it in ways that meaningfully support knowledge utilisation. This gap becomes more evident when knowledge utilisation is considered as a broader and more complex process. Rather than a single act of use, knowledge utilisation involves the application, integration, and transformation of knowledge in ways that extend beyond initial access (Zheng & Pee, 2024). From this perspective, adoption represents only an early

stage, and further mechanisms are required to explain how individuals move from initial intention to sustained and meaningful engagement.

To better understand this transition, this study adopts a value-based and socio-cognitive perspective. First, utilitarian value and hedonic value are conceptualised as two primary drivers of adoption intention. However, instead of assuming a direct and automatic link between intention and utilisation, this study argues that individuals engage in an additional layer of evaluation. Perceived value, understood as an overall assessment of benefits relative to costs (Zeithaml, 1988; Lu & Wang, 2020), is therefore introduced as a key mechanism that helps explain whether adoption develops into deeper forms of use. At the same time, this transformation process is unlikely to occur in isolation. It is shaped not only by individual evaluations, but also by behavioural patterns and social perceptions. On the one hand, usage frequency may strengthen the internalisation of benefits, as repeated interaction allows individuals to become more familiar with the capabilities of GAI and incorporate them into their routines (Almusharraf & Bailey, 2025; Lu & Wang, 2020). On the other hand, social perception may also play a constraining role. In particular, pluralistic ignorance—where individuals misperceive others' attitudes—may lead users to hold back from fully utilising GAI, even when they personally perceive it as valuable. Against this background, the present study develops a conceptual framework that seeks to explain how adoption intention may evolve into knowledge utilisation intention in the context of generative AI.

Rather than empirically testing predefined hypotheses, this study adopts a proposition-based approach and outlines a theoretical structure that can guide future empirical work. In doing so, it contributes to the knowledge management literature by moving beyond adoption-focused explanations and highlighting the conditions under which generative AI becomes meaningfully embedded in knowledge practices. Based on the above discussion, this study addresses the following research questions: **RQ1.** How do utilitarian value and hedonic value shape individuals' adoption intention toward generative AI? **RQ2.** How does perceived value influence the transition from adoption intention to knowledge utilisation intention? **RQ3.** How does usage frequency affect the relationship between adoption intention and knowledge utilisation? **RQ4.** How does pluralistic ignorance constrain the transformation from adoption intention to knowledge utilisation?

2. Literature Review

2.1 From Adoption to Knowledge Utilisation: A Conceptual gap

Since the emergence of the Technology Acceptance Model (Davis, 1989), information systems research has predominantly focused on explaining technology adoption. Subsequent post-adoption studies shifted attention towards continuance intention, emphasising why users sustain technology use after initial adoption (Bhattacharjee, 2001). Although this stream has substantially advanced understanding of post-adoption behaviour, its primary concern remains continued system use rather than the extent to which technologies become embedded in users' knowledge practices. This limitation becomes particularly salient in the context of generative AI. Unlike conventional information systems, generative AI functions not merely as a productivity tool but as an active cognitive partner capable of generating, synthesising, and transforming knowledge. Consequently, continued use alone provides only a partial explanation of users' post-adoption behaviour. Users may repeatedly interact with generative AI without incorporating its outputs into learning, decision-making, or knowledge creation. Understanding this distinction therefore requires moving beyond continuance intention towards the concept of knowledge utilisation.

2.2 Utilitarian and Hedonic Value as Drivers of Adoption

A substantial body of literature suggests that user behaviour is shaped by value perceptions. In particular, utilitarian value and hedonic value represent two distinct but complementary dimensions. Utilitarian value is associated with functional and task-oriented benefits, such as efficiency, productivity, and goal achievement (Gu et al., 2010; Hanzaee & Rezaeyeh, 2013; Kim & Han, 2011). In the context of GAI, this includes capabilities such as text generation, grammar correction, and information synthesis, which directly enhance task performance (Almusharraf & Bailey, 2025). In contrast, hedonic value reflects experiential and affective aspects, including enjoyment, curiosity, and emotional engagement (Chun et al., 2012; Hanzaee & Rezaeyeh, 2013; Kim & Han, 2011). GAI systems, through their interactive and conversational nature, can provide a sense of engagement that extends beyond purely functional use. Importantly, these two value dimensions often coexist in multipurpose systems, and both contribute to shaping users' adoption intention (Gu et al., 2010; Chun et al., 2012). Rather than operating independently, they jointly influence how users perceive the attractiveness and relevance of a technology.

Proposition 1. Utilitarian value positively influences adoption intention.

Proposition 2. Hedonic value positively influences adoption intention.

2.3 Adoption Intention as a Necessary but Insufficient Condition

Adoption intention has long been regarded as the most immediate predictor of technology use in established behavioural theories such as TAM, TPB, and UTAUT (Davis, 1989; Ajzen, 1991; Venkatesh et al., 2003). However, this assumption becomes less sufficient in the context of generative AI. Although users may readily adopt AI tools, adoption alone does not necessarily indicate that these technologies become embedded in everyday knowledge practices. Rather, adoption intention should be viewed as an entry point that enables subsequent interaction with GAI. Accordingly, adoption intention represents a necessary but insufficient condition for knowledge utilisation. Through repeated interaction, users accumulate experience and gradually evaluate whether generative AI genuinely contributes to learning, problem solving, and knowledge application. This post-adoption evaluation provides the theoretical foundation for the role of perceived value discussed in the following section.

Proposition 3. Adoption intention positively influences perceived value.

2.4 Perceived Value as a Conversion Mechanism

Perceived value has traditionally been conceptualised as an overall evaluation of the benefits and sacrifices associated with using a product or service (Zeithaml, 1988). Within value-based adoption models, perceived value is commonly treated as an antecedent of behavioural intention because users evaluate expected benefits before deciding whether to adopt a technology (Kim & Han, 2011; Lu & Wang, 2020). However, this assumption primarily reflects a pre-adoption decision-making process. In the context of generative AI, adoption often occurs rapidly due to curiosity, accessibility, or organisational encouragement. Consequently, adoption does not necessarily indicate that users have fully evaluated the technology's contribution to their knowledge practices. Instead, this study argues that value evaluation continues after initial adoption. As users repeatedly interact with generative AI, they gradually assess whether its outputs genuinely enhance learning, decision-making, problem solving, and knowledge creation. Perceived value therefore represents a post-adoption evaluative judgement rather than merely a pre-adoption expectation. From this perspective, adoption intention provides opportunities for meaningful interaction, whereas perceived value reflects users' accumulated evaluation of those interactions. Such post-adoption evaluation determines whether initial adoption develops into sustained knowledge utilisation.

Proposition 4. Perceived value positively influences knowledge utilisation intention.

2.5 Knowledge Utilisation: Beyond Use Toward Integration

Knowledge utilisation represents a post-adoption knowledge outcome that extends beyond continued system use. Rather than reflecting technology use itself, it refers to the extent to which individuals integrate and apply AI-generated knowledge within their ongoing knowledge practices (Alavi & Leidner, 2001; Grant, 1996; Nonaka & Takeuchi, 1995). In the context of generative AI, users do not merely retrieve information but actively interact with AI-generated explanations, ideas, and solutions. Meaningful utilisation therefore requires users to critically evaluate and apply these outputs to support learning, decision-making, and problem solving. Accordingly, knowledge utilisation should be understood as the process through which AI-generated knowledge becomes embedded in users' knowledge practices rather than simply representing continued technology use. Based on this perspective, the present study conceptualises knowledge utilisation intention as individuals' willingness to integrate generative AI into their ongoing knowledge activities. This conceptualisation extends post-adoption research by distinguishing meaningful knowledge utilisation from continued system use (Almusharraf & Bailey, 2025; Zheng & Pee, 2024).

2.6 Usage Frequency as Behavioural Reinforcement

Usage frequency reflects the extent to which individuals repeatedly interact with generative AI over time. Prior post-adoption research suggests that repeated technology use reinforces familiarity, reduces uncertainty, and gradually develops habitual behaviours (Limayem et al., 2007). Rather than simply indicating how often a system is used, frequent interaction enables users to better understand the capabilities of generative AI and incorporate AI-assisted practices into their everyday work and learning activities. In the context of generative AI, repeated interaction provides opportunities for users to refine prompting strategies, evaluate AI-generated outputs, and recognise their value in different knowledge-related tasks. As these experiences accumulate, users become more likely to translate their initial adoption intention into meaningful knowledge utilisation. Accordingly, usage

frequency is expected to strengthen the relationship between adoption intention and knowledge utilisation intention.

Proposition 5. Usage frequency positively moderates the relationship between adoption intention and knowledge utilisation intention.

2.7 Pluralistic Ignorance as a Socio-cognitive Constraint

Pluralistic ignorance refers to a situation in which individuals privately hold favourable attitudes while mistakenly believing that others hold less favourable views, leading them to suppress behaviours that would otherwise be personally acceptable (Allport, 1924; Miller & McFarland, 1987; Prentice & Miller, 1993). As a result, individuals often conform to perceived social norms rather than their own beliefs. In the context of generative AI, users may recognise the benefits of AI-assisted knowledge work but hesitate to integrate AI into their learning or professional practices because they believe that others may regard extensive AI use as inappropriate or unacceptable. Such misperceived social expectations may not prevent initial adoption but can discourage users from fully incorporating AI into their knowledge-related activities. Accordingly, pluralistic ignorance is expected to weaken the relationship between adoption intention and knowledge utilisation intention by reducing users' willingness to openly integrate generative AI into their everyday knowledge practices. This perspective extends previous studies on pluralistic ignorance in knowledge-sharing contexts to the emerging context of generative AI (Chung et al., 2024; Chung et al., 2025).

Proposition 6. Pluralistic ignorance negatively moderates the relationship between adoption intention and knowledge utilisation intention.

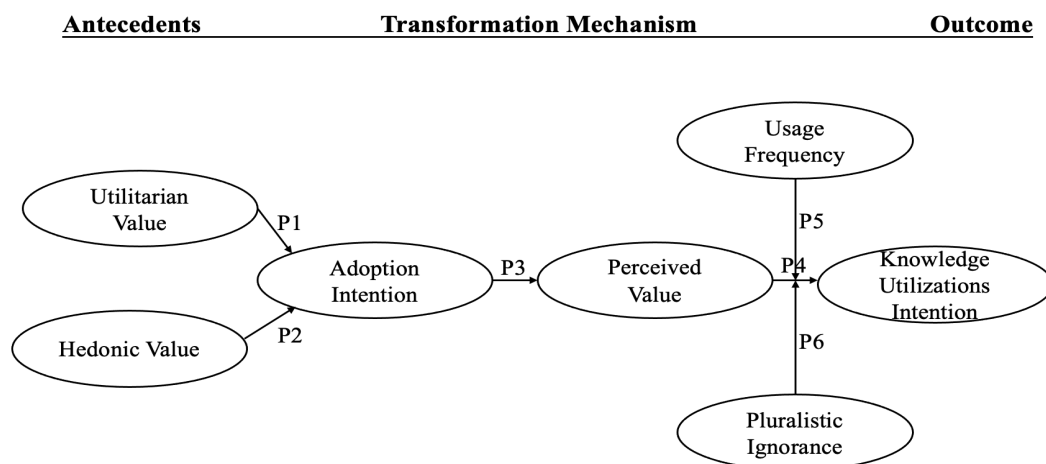


Figure 1: Research Model

3. Conceptual Framework Development

This study adopts a conceptual research approach to develop a theoretically grounded framework explaining how generative AI adoption evolves into knowledge utilisation. Following established approaches to conceptual research (Jaakkola, 2020), the proposed framework was developed through the critical integration and reinterpretation of literature from information systems, knowledge management, post-adoption theory, and social psychology. Rather than generating new empirical evidence, the objective is to synthesise existing theoretical perspectives and identify the mechanisms through which adoption intention develops into meaningful knowledge utilisation.

The proposed framework suggests that utilitarian value and hedonic value shape adoption intention, whereas post-adoption perceived value functions as the key evaluative mechanism linking adoption intention to knowledge utilisation intention. Furthermore, usage frequency and pluralistic ignorance are incorporated as behavioural and socio-cognitive boundary conditions that respectively strengthen and weaken this transition. Together, these relationships provide a more comprehensive explanation of why technology adoption does not necessarily result in meaningful knowledge utilisation. The proposed framework offers a theoretical foundation

for future empirical research across different generative AI contexts and may be examined using quantitative, qualitative, or mixed-method approaches.

4. Discussion and Contributions

4.1 Theoretical Contributions

This study makes three theoretical contributions. First, it extends post-adoption research by arguing that continued technology use does not necessarily result in meaningful knowledge utilisation. Instead, knowledge utilisation is conceptualised as a distinct post-adoption outcome that reflects how generative AI becomes embedded in users' knowledge practices. Second, this study reconceptualises perceived value as a post-adoption evaluative mechanism rather than a pre-adoption determinant of technology adoption. This perspective provides a theoretical explanation of how adoption intention gradually develops into knowledge utilisation through users' accumulated interaction experiences with generative AI. Third, this study integrates behavioural and socio-cognitive perspectives by incorporating usage frequency and pluralistic ignorance into a unified post-adoption framework. This integration explains why individuals with similar adoption intentions may differ substantially in their willingness to incorporate generative AI into everyday knowledge practices.

4.2 Practical Implications

From a practical perspective, organisations and educational institutions should recognise that encouraging initial adoption of generative AI is only the first step. Greater attention should be devoted to helping users integrate AI into meaningful knowledge activities while fostering an environment in which AI-assisted knowledge work is viewed as acceptable and valuable. Such efforts may facilitate deeper knowledge utilisation rather than merely increasing technology use.

4.3 Limitations and Future Research

As a conceptual study, this research does not provide empirical evidence to validate the proposed framework. Future research may examine the proposed relationships across different organisational, educational, and professional contexts using quantitative, qualitative, or mixed-method approaches. Further studies may also explore additional post-adoption mechanisms that influence how generative AI becomes embedded in users' knowledge practices. In conclusion, this study shifts the focus of generative AI research from technology adoption to knowledge utilisation by extending post-adoption theory. By integrating value evaluation, behavioural reinforcement, and social perception, the proposed framework provides a new perspective for understanding how generative AI becomes meaningfully embedded in users' knowledge practices and offers a foundation for future empirical research.

Ethics Declaration: This paper is conceptual in nature and does not involve human participants, personal data, or animal subjects.

AI Declaration: No generative AI was used in the preparation of this manuscript.

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