



# **Analysis of Motivation for Continued Use of Meta AI on WhatsApp: Uses and Gratification Theory Approach**

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## **Abstract**

Advances in AI technology have brought innovations such as the Meta AI chatbot integrated on WhatsApp that are changing the way users interact digitally. However, there is little understanding of the factors that motivate the continued use of AI chatbot technology on messaging platforms. Adapting McLean & Osei-Frimpong's (2019) model, this study examines the motivations for using Meta AI on WhatsApp by analyzing the influence of utilitarian, hedonic, symbolic, social (social presence & social attractiveness) benefits, as well as the moderating role of perceived privacy risks. A quantitative survey was conducted on 100 respondents aged 20-29 years, Meta AI WhatsApp users, and domiciled in Surabaya, and then the data was analyzed using PLS-SEM. The results showed that hedonic benefits and social attractiveness significantly influenced the use of Meta AI, while utilitarian benefits, symbolic, social presence, and privacy risk moderation were not significant.

*Keywords: Artificial Intelligence, Meta AI, Gratification Theory.*

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## **1. Introduction**

Artificial Intelligence is a technique or science that enables computers to perform tasks like humans [16]. Artificial Intelligence/AI is a field within computer science focused on developing machines with human-like capabilities, such as the ability to learn, think logically, and make decisions independently by leveraging data collection and storage processes [8]. Over the past few decades, AI-based systems have radically transformed how humans interact with information and with newer, more integrated technologies [1], and in line with this, Meta AI has emerged as an artificial intelligence technology developed by Meta to enhance various services under its umbrella, including WhatsApp [21]. The integration of Meta AI into WhatsApp marks an important step in making AI accessible to a wider range of users, such as those who may not interact with other AI platforms like ChatGPT. This development underscores the need for in-depth research on the acceptance of AI chatbot technology. A chatbot is an abbreviation for "Chat Robot," which is an artificial intelligence program designed to communicate directly with humans [20]. The growth of AI can be observed across various aspects of life, including law, finance, education, and healthcare [7].

Despite the rapid growth of AI technology, academic understanding of the factors motivating individuals to use this chatbot technology remains limited. The nature of AI chatbot interactions, which rely more on natural conversation than conventional interfaces, raises questions about the relevance of existing technology acceptance models such as the Technology Acceptance Model (TAM) or the Unified Theory of Acceptance and Use of Technology (UTAUT). McLean and Osei-Frimpong [13] argue that these two models may not fully explain the motivation for using AI technology, especially for in-home voice assistants. To address this gap, this study adopts the Uses and Gratification Theory (U&GT), which emphasizes that people who use media are active in choosing which media to select to meet their needs [6]. This user-centered approach makes U&GT highly suitable for understanding motivations in interacting with AI conversational agents.

Following the framework of McLean and Osei-Frimpong [13], this study empirically investigates the influence of utilitarian, hedonic, symbolic, and social gratifications (social presence and social attractiveness) and the moderating effect of perceived privacy risk on the intention to continue using Meta AI on WhatsApp. Applying this framework to the Meta AI context in WhatsApp, compared to in-home voice assistants which were the focus of the original study, directly implies a comparative objective. The authors aim to test the theory on another AI integration model. This study seeks to determine whether the same gratifications will yield similar user motivations or whether chatbots, as a different AI model, will alter the hierarchy of user motivations. This suggests that understanding the drivers of AI adoption may be insufficient, necessitating contextual research to develop relevant design and marketing strategies.

## 2. Literature Review

### 2.1. Uses and Gratification Theory (U&GT)

U&GT is a fundamental communication theory that explains why individuals actively choose and use certain media or technologies to meet their needs, rather than passively receiving information [10]. This theory views users as active participants with specific goals, combining the social and psychological attributes of needs [13]. Its axiomatic nature allows U&GT to be applied across various media, from traditional forms such as radio and television to interactive media such as the internet, social networks, and virtual reality [13]. For AI, U&GT helps understand why individuals choose to interact with conversational agents. Unlike other communication theories that focus more on how much media is consumed, the uses and gratifications approach emphasizes that society has full power to choose the media they want to use. In this approach, society plays an active role in understanding media content and relating it to daily life [19]. Uses and gratifications explains sociologically why people use a particular medium to fulfill social and psychological needs [5]. McLean and Osei-Frimpong [13] identified four main categories of gratification relevant to AI adoption: utilitarian, hedonic, symbolic, and social benefits. This categorization builds on previous work by Rauschnabel et al. [17], which initially outlined three categories but omitted social benefits. This study adopts all four categories.

### 2.2. Application of U&GT in Chatbot and AI

In the context of conversation-based technologies such as chatbots, the U&GT approach has been used to understand various user motivations [11]. Morsi [14] explains that the application of Uses and Gratification Theory can help understand user motivations in interacting with AI-based chatbots on messaging platforms such as WhatsApp, especially in meeting users' social and technical needs. This reflects that users are not only seeking functional efficiency but also expecting an enjoyable and interactive experience. In line with this, a study by Rice [18] emphasizes that social media users often seek various gratifications such as social validation, emotional connection, and psychological support. These findings are relevant for analyzing how users perceive AI features in conversation apps, such as Meta AI on WhatsApp, as a means to fulfill their social and emotional needs. These studies reinforce that U&GT can be widely applied in the context of modern communication technology, including in explaining the continued use of AI-based features [9].

### 2.3. Social and Psychological Factors in the Use of AI

In addition to individual motivational approaches, various studies show that the use of AI technology in communication platforms is also influenced by social and psychological factors. Research from UIN Jakarta [15] shows that social capital—including a sense of belonging, user support, and emotional connection—plays an important role in the subjective well-being of social media users. These findings suggest that users may continue to use technologies like Meta AI not only for personal benefits but also because of the sense of digital social connection formed through interactions with AI. The presence of responsive, friendly, and easily accessible AI chatbots can create the perception that users are “interacting” with a social entity that understands their needs. This fosters a sense of pseudo-intimacy (parasocial interaction) that influences motivation for continued use. In the context of WhatsApp, where communication is personal and private, the presence of AI that can respond naturally can reinforce the perception that AI is part of the user's digital social space. Meanwhile, Solehudin et al. [21] found that the use of Meta AI on WhatsApp facilitates access to information and improves communication efficiency. However, they also noted that high dependence on AI has the potential to reduce students' critical thinking skills, especially when discussing in an academic environment. These findings indicate that although AI can provide convenience and efficiency, users also need to be aware of the psychological and cognitive impacts that may arise. Furthermore, social and psychological motivations encompass not only emotional comfort but also the desire to appear “up-to-date” socially. In the context of using new technologies such as Meta AI, some users may be motivated to use it as a form of digital identity expression or to show that they are not technologically behind. This reinforces the relevance of the symbolic and social dimensions of benefit in Uses and Gratification Theory as a framework for understanding user motivation.

### 2.4. Utilitarian Benefits (H1)

Utilitarian benefits refer to the perceived usefulness, convenience, and efficiency of using technology [13]. AI assistants, for example, offer hands-free task completion, information retrieval, and multitasking capabilities, which make everyday life easier and more efficient [13]. In the context of Meta AI on WhatsApp, similar benefits are expected, such as quick information retrieval or task management in a familiar messaging environment. Therefore, it is hypothesized that:

H1: Utilitarian benefits have a positive effect on the intention to continue using Meta AI.

### 2.5. Hedonistic Benefits (H2)

Hedonistic benefits relate to the emotional experiences gained from using technology, such as pleasure, enjoyment, or entertainment [13]. Although utilitarian factors are fundamental, hedonistic motivations are often crucial for the success and sustainable adoption of technology [13]. For AI chatbots, the novelty of interaction or the entertainment value of conversations can be significant hedonistic drivers. Therefore, it is hypothesized that:

H2: Hedonic benefits have a positive effect on the intention to continue using Meta AI.

### 2.6. Symbolic Benefits (H3)

Symbolic benefits refer to the extent to which individuals perceive symbolic rewards, such as increased social status or self-image, from adopting or using new technology [13]. Owning or using advanced technology can signal technological sophistication or “modernity” within social circles [13]. Thus, it is hypothesized that:

H3: Symbolic benefits have a positive effect on the intention to continue using Meta AI.

### 2.7. Social Benefits

Social benefits are divided into two main dimensions:

#### 2.7.1. Social Presence (H4)

Social presence is the perception that technology makes individuals feel as if they are interacting with other social entities [13]. AI's natural language processing capabilities and real-time interactions can trigger human-like responses, leading users to treat AI as a social entity [13]. Therefore, it is hypothesized that:

H4: Social Presence positively influences the intention to continue using Meta AI.

#### 2.7.2. Social Attraction (H5)

Social appeal refers to the attractive qualities of AI that make it desirable to interact with, such as a pleasant attitude or the potential to provide companionship [13]. AI's ability to “help” users in a friendly manner can increase its social appeal, motivating continued engagement [13]. Thus, it is hypothesized that:

H5: Social Attractiveness positively influences the intention to continue using Meta AI.

### 2.8. The Moderating Effect of Privacy Risk Perception (H6)

Privacy risk perception refers to concerns about potential threats to individual privacy and data security due to the information-gathering capabilities of technology AI assistants, which often require extensive software permissions and handle personal data, can raise significant privacy concerns, potentially reducing the positive impact of perceived benefits of technology use [13]. Therefore, it is hypothesized that:

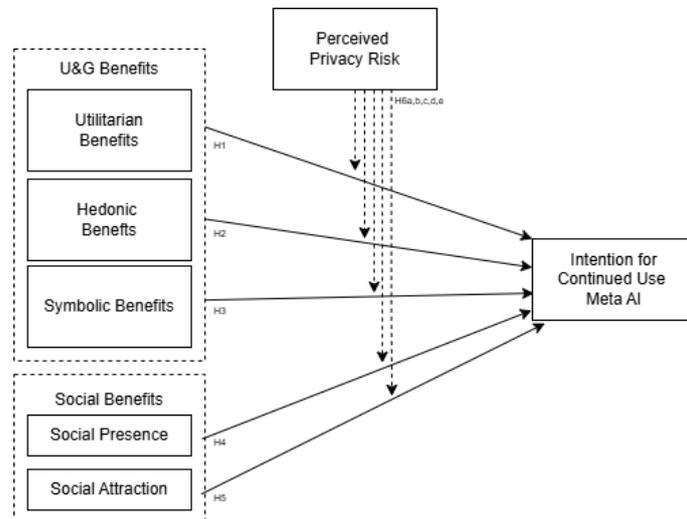


Fig. 1: Conceptual Model of Intention for Continued Meta AI Use in WhatsApp

H6: Privacy risk perception moderates (weakens) the positive influence of:

- a. Utilitarian Benefits on Sustainable Use Intentions.
- b. Hedonic Benefits on Sustainable Use Intentions.
- c. Symbolic Benefits on Sustainable Use Intentions.
- d. Social Presence on Sustainable Use Intentions.
- e. Social Attractiveness on Sustainable Use Intentions.

### 2.9. Hypothesis Development

Based on McLean and Osei-Frimpong's [13] conceptual model, the following hypotheses are proposed for the context of Meta AI on WhatsApp.

Table 1: Research Hypotheses

Hypothesis	Statements
H1	Utilitarian benefits have a positive effect on the intention to use Meta AI sustainably.
H2	Hedonistic benefits have a positive effect on the intention to use Meta AI sustainably.
H3	Symbolic benefits have a positive effect on the intention to use Meta AI sustainably.
H4	Social Presence has a positive effect on the intention to continue using Meta AI.
H5	Social Attractiveness has a positive effect on the intention to use Meta AI continuously.
H6	Perceived Privacy Risk moderates (weakens) the positive influence of H1-H5 on the intention to continue using Meta AI.

### 3. Research Method

#### 3.1. Flowchart

This study was conducted using a quantitative approach to measure the acceptance of Meta AI among WhatsApp users, in accordance with predetermined respondent criteria. The study involved several stages, namely: conceptual model and hypothesis development; questionnaire design; data collection; data analysis; and final report writing, as commonly used in technology acceptance studies.

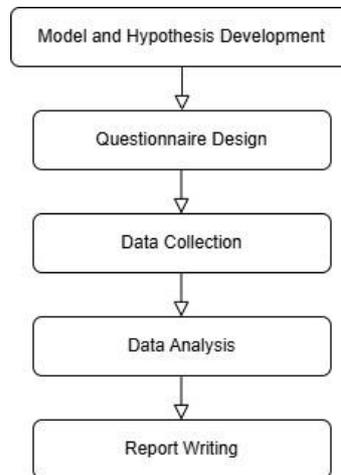


Fig. 2: Research Stages

Figure 2 shows the systematic stages of this research, starting with the development of models and hypotheses based on the Uses and Gratification theory, followed by the design of a relevant questionnaire, data collection from WhatsApp users who have used Meta AI, data analysis using a quantitative approach with the PLS-SEM method, and finally the preparation of the research report. These stages ensure that the research process is conducted in a structured manner and that the results obtained are scientifically accountable.

#### 3.2. Data collection

This study employed a quantitative research approach, which involves the use of numbers, from data collection and processing up to the final numerical results [3], focusing on Meta AI users within WhatsApp. The research population consisted of individuals aged 20-29 years residing in Surabaya, who actively use WhatsApp and have interacted with Meta AI within the platform. A convenience sampling method was utilized to select 100 respondents. The sample size was determined using the Slovin formula with a 10% margin of error for a population of 436,756 people, based on data from the Surabaya city statistics agency from 2021-2022 [4]. Data were collected through an online questionnaire using a 5-point Likert scale, where 1 indicated "strongly disagree" and 5 indicated "strongly agree". It is important to note that this sample size is significantly smaller compared to the comparative study by McLean and Osei-Frimpong [13] (N=724), which potentially limits the detection of subtle moderation effects and the generalizability of findings.

#### 3.3. Questionnaire Design

Referring to previous research, the questionnaire used to collect data was designed to measure a number of latent variables from seven main variables. Each question item was answered using a five-point Likert scale, namely: 'strongly disagree', 'disagree', 'neutral', 'agree', and 'strongly agree', each of which was given a score between 1 and 5. Respondents could choose their level of agreement with each statement based on the available indicators. The list of questions in the questionnaire is presented in Table 2.

Table 2: Questionnaire Items

Hypothesis	Statements
Utilitarian Benefits (UB)	(UB1) Using Meta AI on WhatsApp is a convenient way to complete tasks/search for information.
	(UB2) Completing tasks/obtaining information with Meta AI on WhatsApp makes my life easier.
	(UB3) Using Meta AI on WhatsApp suits my daily information/task needs.
	(UB4) Interacting with Meta AI on WhatsApp is an efficient use of my time.
Hedonic Benefits (HB)	(HB1) I find using Meta AI on WhatsApp enjoyable.
	(HB2) The process of using Meta AI on WhatsApp is entertaining.
	(HB3) I find it exciting to use Meta AI on WhatsApp.
Symbolic Benefits (SB)	(SB1) Using Meta AI on WhatsApp improves my image in the eyes of my friends.
	(SB2) Using Meta AI on WhatsApp makes me look cooler/more up-to-date among my friends.
	(SB3) Using Meta AI on WhatsApp is like a status symbol for me.
	(SB4) Using Meta AI on WhatsApp makes me look more modern than those who don't use it.
Social Presence (SP)	(SP1) When I interact with Meta AI on WhatsApp, it feels like there is 'someone' present in the conversation.
	(SP2) My interaction with Meta AI on WhatsApp feels similar to interacting with a human.
	(SP3) While communicating with Meta AI on WhatsApp, I feel like I'm interacting with an intelligent entity (like a human).
	(SP4) I communicate with Meta AI on WhatsApp in a way that is similar to how I communicate with humans (for example, using natural language).

Social Attractiveness (SA)	(SA1) I feel that Meta AI on WhatsApp can be a helpful ‘friend’ or virtual assistant. (SA2) I feel happy (have a good time) when interacting with Meta AI on WhatsApp.
Perceived Privacy Risk (PPR)	(PPR1) I have concerns about the confidentiality of my conversations/interactions with Meta AI on WhatsApp. (PPR2) I am concerned about providing highly personal information through Meta AI on WhatsApp. (PPR3) I am concerned that my personal data that may be associated with my use of Meta AI on WhatsApp could be misused.
Intention for Continued Use (ICU)	(ICU1) I plan to continue using the Meta AI feature on WhatsApp in the future. (ICU2) I intend to continue using the Meta AI feature on WhatsApp in the future. (ICU3) I predict that I will continue to use the Meta AI feature on WhatsApp in the future.

These questionnaire items collectively form the instrument used for data collection, designed to capture respondents' perceptions across the various latent variables. The responses gathered through this structured instrument then serve as the foundational data for subsequent quantitative analysis.

### 3.4. Data analysis technique

The data collected were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. This model was chosen because it is a non-parametric, variance-based statistical approach that does not require assumptions of normal data distribution. This makes it highly suitable for research models with a relatively small sample size [12]. The analysis was conducted in two stages: (1) Assessment of the Measurement Model (reliability and validity of constructs) and (2) Assessment of the Structural Model (hypothesis testing). It is important to note the methodological difference between this study's use of SmartPLS and McLean and Osei-Frimpong's use of AMOS, The PLS-SEM method was chosen for its predictive capabilities, suitability for complex models, and less stringent assumptions regarding data distribution and sample size. Conversely, CB-SEM is selected for theory confirmation [2]. Both are powerful SEM techniques operating on different statistical principles.

In the measurement model assessment stage, all constructs showed excellent internal consistency. Cronbach's Alpha values ranged from 0.799 (Social Attractiveness) to 0.930 (Symbolic Benefits), all exceeding the conventional threshold of 0.7. Similarly, Composite Reliability (CR) values ranged from 0.908 (Social Attractiveness) to 0.950 (Intention for Continued Use and Symbolic Benefits), also well above the 0.7 threshold. Convergent validity was also established, with Average Variance Extracted (AVE) values ranging from 0.723 (Social Presence) to 0.864 (Intention for Continued Use), all exceeding the 0.5 threshold, and outer loadings mostly above 0.8, providing strong evidence for convergent validity. Discriminant validity was also met using the Fornell-Larcker Criterion (where the square root of AVE for each construct was greater than its highest correlation with any other construct) and Heterotrait-Monotrait Ratio (HTMT), with all HTMT values below the conservative threshold of 0.85 (or 0.9), providing strong further evidence of discriminant validity between constructs. Multicollinearity was assessed through Inner VIF (Variance Inflation Factor) values, all of which were well below the common threshold of 5 (and even 3), confirming the absence of multicollinearity issues in the structural model.

## 4. Results

### 4.1. Research Validity

**Table 3: Construct Reliability and Validity Assessment**

Variable	Cronbach's Alpha	Composite Reliability	AVE	Description
Hedonic Benefit	0.892	0.932	0.822	Reliable
Intention for Continued Use (Meta AI)	0.922	0.950	0.864	Reliable
Perceived Privacy Risk	0.898	0.931	0.819	Reliable
Social Attractiveness	0.799	0.908	0.831	Reliable
Social Presence	0.872	0.912	0.723	Reliable
Symbolic Benefits	0.930	0.950	0.825	Reliable
Utilitarian Benefits	0.914	0.939	0.795	Reliable

Explanatory Power (R-square): The R2 value for "Intention for Continued Use (Meta AI)" is 0.741, with an adjusted R2 of 0.708. This indicates that the independent variables collectively explain 74.1% of the variance in intention for continued use, representing a substantial level of explanation, comparable to or even slightly higher than the 0.69 reported by McLean and Osei-Frimpong. Predictive Relevance (Q2): The model demonstrates strong predictive relevance, as indicated by a Predictive Q2 value of 0.642, which is significantly above zero. This suggests that the model can accurately predict out-of-sample observations for the dependent variable.

### 4.2. Assessment of the Structural Model

The estimated structural model affirmed good model fit. The results of the hypothesis testing, based on standardized path coefficients ( $\beta$ ), t-statistics, and p-values, are as follows:

**Table 4: Structural Model Path Coefficients and Hypothesis Test Results**

Hypothesis	Path Relationship	Original Sample (O)	T Statistics (O/STDEV)	P-Values	Hypothesis Support	Effect Size (f2)
H1	Utilitarian Benefits -> Intention for Continued Use	0.185	1.786	0.074	Not Supported	0.064 (Small-Medium)
H2	Hedonic Benefits -> Intention for Continued Use	0.416	4.563	0	Supported	0.311 (Large)
H3	Symbolic Benefits -> Intention for Continued Use	0.112	1.243	0.214	Not Supported	0.026 (Very Small)

H4	Social Presence -> Intention for Continued Use	0.089	0.866	0.387	Not Supported	0.013 (Very Small)
H5	Social Attractiveness -> Intention for Continued Use	0.21	2.042	0.041	Supported	0.060 (Small-Medium)
H6a	PPR x Utilitarian -> Intention for Continued Use	-0.017	0.163	0.871	Not Supported	0.001 (Very Small)
H6b	PPR x Hedonic -> Intention for Continued Use	0.142	1.563	0.118	Not Supported	0.061 (Very Small)
H6c	PPR x Symbolic -> Intention for Continued Use	0.015	0.149	0.882	Not Supported	0.001 (Very Small)
H6d	PPR x Social Presence -> Intention for Continued Use	-0.12	0.967	0.334	Not Supported	0.017 (Very Small)
H6e	PPR x Social Attractiveness -> Intention for Continued Use	0.05	0.393	0.694	Not Supported	0.003 (Very Small)

## 5. Discussion

### 5.1. Interpretation of Findings

This study provides empirical evidence that user motivation for an AI chatbot integrated into a messaging application, specifically Meta AI in WhatsApp, is predominantly driven by hedonic benefits and social attractiveness. This highlights the significant role of pleasure and engaging interaction in fostering engagement with AI within a more casual communication context. Conversely, utilitarian benefits, symbolic benefits, and social presence were not found to be significant influences on continued use in this context. Furthermore, perceived privacy risk did not significantly moderate the relationship between gratifications and continued use. Nevertheless, the model's high explanatory power ( $R^2 = 0.741$ ) and strong predictive relevance ( $Q^2 = 0.642$ ) affirm that the identified factors effectively explain user behavior in this specific AI chatbot context, despite some results differing from previous research.

### 5.2. Comparison with McLean and Osei-Frimpong [13] Research

#### Key Similarities

Both studies successfully utilized U&GT as a robust theoretical framework to understand AI adoption across different models. Both achieved high explanatory power for intention for continued use. Social attractiveness consistently emerged as a significant influencing factor in both contexts (Meta AI in WhatsApp and in-home voice assistants), indicating a general human desire for pleasant and engaging AI interactions regardless of model variation.

#### Key Differences and Explanations

**Hedonic Benefits:** This study found a strong positive effect (H2 supported,  $\beta=0.416$ ,  $p=0.000$ ), contrasting with McLean and Osei-Frimpong (2019) where hedonic benefits were not significant ( $\beta=0.142$ ,  $p=0.142$ ). This difference is likely due to the distinct nature of AI. Meta AI operates as a chatbot in a casual communication platform (WhatsApp), where users might engage for novelty, entertainment, or enjoyable conversation. In contrast, in-home voice assistants (e.g., Alexa) might be perceived more as utility-driven devices. This suggests that user motivation for AI is highly context-dependent.

**Utilitarian Benefits and Social Presence:** The lack of significant influence from Utilitarian Benefits ( $p=0.074$ ) and Social Presence ( $p=0.387$ ) in this study differs from McLean and Osei-Frimpong, where both variables were crucial. For Utilitarian Benefits, users might already perceive WhatsApp as highly functional for communication, making additional utility from Meta AI insufficient to drive continued use. For Social Presence, the text-based nature of the chatbot, active only upon use, may not evoke the same sense of presence as always-listening voice assistants. This underscores the importance of differentiating between AI modalities and their contexts.

**Perceived Privacy Risk as a Moderator:** The non-significant moderating effect of Perceived Privacy Risk (all  $p$ -values  $> 0.1$ ) is a notable contradiction to McLean and Osei-Frimpong's findings, where privacy concerns significantly impacted perceived user benefits. A possible explanation is that WhatsApp users tend to view AI interactions as part of daily conversation, thus additional privacy risks from Meta AI do not significantly affect their decision for continued use. Furthermore, the characteristic of AI in messaging apps being active only when used differs from "always-listening" in-home voice assistants, which might lead to higher privacy concerns in the latter. This finding implies that privacy concerns are contextual and may not be a primary barrier in platforms with established trust relationships.

## 6. Conclusions

This research provides new insights into factors influencing user motivation for AI chatbots integrated into messaging applications, specifically Meta AI in WhatsApp. Unlike in-home voice assistants, where usage is more task-oriented, findings indicate that continued use of Meta AI is predominantly driven by hedonic benefits and social attractiveness. This highlights the critical role of pleasure and engaging interaction in fostering user engagement with AI within informal communication contexts.

Practically, these findings have important implications for AI technology developers. For Meta AI in WhatsApp, development should focus on enhancing entertaining and interactive user experiences, including features that support more interactive and humorous conversations. Developing a friendly and appealing AI persona that can foster a sense of companionship will be key to increasing user loyalty. Additionally, findings on perceived privacy risk suggest that such concerns may not act as a universal barrier across all AI modalities, particularly in established ecosystems like WhatsApp where users may have a certain tolerance for additional risks. However, privacy

remains an important issue requiring a contextual approach, and developers must ensure data security and transparency in information collection and use processes.

Despite its contributions, this study has several limitations. The limited focus on specific demographics (20-29 years old in Surabaya) and a relatively small sample size (N=100) may limit the generalizability of results. Therefore, future research can broaden the demographic and geographical scope. Furthermore, a qualitative approach could explore why utilitarian benefits and social presence were not significant in this context, and how users truly perceive and manage privacy risks in daily AI chatbot use.

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