Acceptance and Use of Information Technology in Guidance and Counseling Services by School Counselors in West Java Based on Gender

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Abstract. This study investigates the gender-based differences in technology acceptance and use among School Counselors in West Java, Indonesia, utilizing the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model. The research addresses the gap in understanding how male and female counselors differ in adopting digital tools, despite the high digital literacy observed among counselors in major cities. A descriptive statistical analysis was conducted on a sample of 430 School Counselors, consisting of 136 males and 284 females. The findings indicate high overall technology acceptance, with significant variations in behavioral intention and habit between genders. These results suggest the need for gender-specific strategies in technology training programs to enhance the adoption and effective use of digital tools in counseling services. Practical implications include the design of tailored training approaches that address these gender-specific differences to optimize the integration of technology in educational settings.

Keywords: UTAUT2, technology acceptance, gender differences, behavioral intention, digital literacy.

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INTRODUCTION

The rapid digital transformation in the educational sector has significantly reshaped how information is accessed, processed, and utilized by various stakeholders, including teachers, students, and School Counselors. This transformation has facilitated unprecedented access to information and enhanced communication across educational networks, empowering stakeholders to collaborate more effectively. However, it has also introduced new challenges, such as increased dependency on technology, concerns over physical and mental health, social isolation, and the growing problem of digital inequality. These challenges necessitate a deeper understanding of how technology is being integrated into educational practices, particularly by School Counselors who play a crucial role in the academic and emotional development of students.

Despite the widespread availability of digital tools, their adoption and effective use among School Counselors are not uniform. In major cities across Java, studies have reported that digital literacy among School Counselors is relatively high (Kurnianingsih et al., 2017; Kharisma, 2017; Satura, 2019; Alfiansyah, 2021). However, this does not necessarily translate into uniform technology acceptance or utilization, particularly when considering gender differences. The literature on technology integration within educational settings has often overlooked the impact of gender on technology acceptance and use, which presents a significant gap in our understanding of how digital tools can be more effectively implemented in counseling services.

The acceptance and use of information technology in educational environments are deeply influenced by various factors, including personal characteristics, the perceived usefulness of the technology, and the surrounding contextual environment. Previous research has highlighted that technology adoption is not solely dependent on the availability of digital tools but is also influenced by the user's readiness and willingness to engage with these tools (Davis, 1989; McCrickard & Butler, 2005; Becker et al., 2018). Moreover, there is evidence to suggest that male and female educators might differ in their approach to technology adoption, with potential implications for how training programs should be designed and implemented (Mills & Brown, 2021; Nasir, 2013).

To better understand these dynamics, the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model provides a comprehensive framework for analyzing the factors that influence technology acceptance and use. The UTAUT2 model, which has been widely validated and applied in various contexts, integrates multiple constructs, including performance expectancy, effort expectancy,

social influence, facilitating conditions, hedonic motivation, price value, habit, behavioral intention, and technology use behavior (Venkatesh et al., 2003; Marangunić & Granić, 2015). This model is particularly relevant in educational settings where the successful integration of technology depends on both the individual's motivation and the organizational support available to them.

Given the critical role that School Counselors play in the educational system, understanding their acceptance and use of technology is essential for improving the effectiveness of counseling services. Specifically, investigating gender-based differences in technology acceptance can provide valuable insights into how these differences affect the overall adoption and utilization of digital tools in counseling practices. This understanding can inform the development of targeted strategies and training programs that cater to the unique needs of both male and female School Counselors, ultimately leading to more effective and inclusive educational environments.

The purpose of this study is to explore the trends in technology acceptance and use among School Counselors in West Java, Indonesia, with a focus on gender-based differences. By employing the UTAUT2 model, this research aims to identify the key factors that influence technology adoption and to understand how these factors vary between male and female counselors. The findings of this study are expected to contribute to the broader discourse on technology integration in education by highlighting the importance of gender considerations in the design and implementation of technology training programs. Ultimately, this research seeks to provide practical recommendations for enhancing the effectiveness of guidance and counseling services through better technology adoption.

METHODS

This study employs a descriptive survey design to systematically investigate the acceptance and use of information technology among School Counselors in West Java, Indonesia, with a focus on gender differences. The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model serves as the theoretical framework for this research, allowing for a comprehensive analysis of the various factors influencing technology adoption. The methodology is designed to ensure that the data collected is representative, reliable, and robust, providing meaningful insights into the technology usage patterns among male and female counselors.

Sample Selection

The research sample consists of 430 School Counselors selected through stratified random sampling from 27 cities and regencies across West Java. The stratified sampling approach ensures that the sample is representative of the broader population of School Counselors in the region, considering the demographic and geographic diversity. The sample includes 136 male and 284 female School Counselors, reflecting the gender distribution among counselors in West Java. This sampling method is chosen to capture a wide range of experiences and attitudes toward technology use in counseling practices.

Questionnaire Development

A questionnaire was meticulously developed based on the UTAUT2 model, which has been widely recognized for its effectiveness in predicting technology acceptance and use. The questionnaire includes constructs such as Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), Hedonic Motivation (HM), Price Value (PV), Habit (H), Behavioral Intention (BI), and Technology Use Behavior (UB). Each construct is measured using a 5-point Likert scale, with response options ranging from "strongly disagree" (1) to "strongly agree" (5). The questionnaire was pre-tested with a small group of School Counselors to ensure clarity, relevance, and reliability of the items. Adjustments were made based on feedback to refine the questions and improve the overall validity of the instrument.

Data Collection

Data collection was conducted online using Google Forms, a platform chosen for its accessibility and ease of use. The online distribution of the questionnaire allowed for a broad reach, ensuring that counselors from various regions could participate. Respondents were informed that their participation was voluntary and anonymous, which helped to reduce potential biases and encourage honest responses. The online format also facilitated the efficient collection and management of data, enabling the researchers to quickly compile and analyze the results.

Data Analysis

Given the ordinal nature of the data collected, the analysis focused on measures of central tendency, particularly the median, to provide a robust understanding of the general trends in technology acceptance and use. The Median Absolute Deviation (MAD) was employed as a measure of variability, offering insights into the consistency of responses around the median. This approach is particularly useful for identifying any significant differences in technology acceptance between male and female School Counselors.

The analysis involved several key steps:

1. **Calculation of Median Scores**: Median scores were calculated for each UTAUT2 construct, providing a central value that represents the general attitude of the sample toward each aspect of technology acceptance.

2. **Calculation of MAD**: The MAD was calculated to assess the variability around the median scores, helping to identify any deviations or inconsistencies in the responses.

3. **Comparative Analysis**: A comparative analysis was conducted to compare the median and MAD scores between male and female School Counselors. This analysis aimed to identify any significant gender-based differences in the acceptance and use of technology.

4. **Identification of Variability**: The study further explored the variability within the constructs of Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Price Value, Habit, and Behavioral Intention between male and female counselors. This step involved a detailed examination of the data to understand the underlying psychological dynamics and contextual factors influencing technology acceptance.

Ethical Considerations

This study adhered to ethical research standards, ensuring that all participants were fully informed about the purpose of the research and their rights as respondents. Consent was obtained from all participants, and their anonymity was guaranteed throughout the research process. The data collected was securely stored and used solely for the purpose of this study, with no personal identifiers being recorded or disclosed.

RESULTS AND DISCUSSION

The analysis of the survey data reveals significant insights into the acceptance and use of information technology among School Counselors in West Java, with particular emphasis on gender-based differences. The findings are structured around the key constructs of the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model, namely Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), Hedonic Motivation (HM), Price Value (PV), Habit (H), and Behavioral Intention (BI).

Performance Expectancy (PE)

The median score for Performance Expectancy was 4.000 for both male and female counselors, indicating a high level of expectation regarding the effectiveness of technology in enhancing their job performance. This finding aligns with the Technology Acceptance Model (TAM) and UTAUT2 theories, which suggest that higher perceived performance leads to greater technology adoption. The robust Median Absolute Deviation (MAD) value of 0.741 further confirms the consistency in this expectation across genders. This suggests that both male and female counselors perceive technology as a beneficial tool that can significantly improve their counseling services, reflecting the growing recognition of the role of digital tools in educational settings.

Effort Expectancy (EE)

Effort Expectancy, which measures the ease of use associated with technology, also had a median score of 4.000 for both groups. However, female counselors reported slightly lower minimum scores (2.250) compared to their male counterparts (2.750), indicating that they perceive the technology as somewhat more challenging to use. This finding is consistent with existing literature, which often highlights that women may experience more difficulties in adopting new technologies due to perceived complexity or lack of familiarity. The UTAUT2 model underscores the importance of perceived ease of use in technology adoption, suggesting that additional support and training may be necessary to address these concerns among female counselors.

Social Influence (SI)

The Social Influence construct, which reflects the impact of social factors on technology acceptance, also showed a median score of 4.000 for both genders. However, the higher MAD value (0.988) for this construct indicates greater variability in responses, particularly among female counselors. This variability may be influenced by differences in organizational culture, leadership styles, and individual socialization processes within schools. The results suggest that social pressure or the influence of colleagues and superiors plays a significant role in the adoption of technology, especially for female counselors who may be more sensitive to these social dynamics.

Facilitating Conditions (FC)

The median score for Facilitating Conditions was slightly lower at 3.833, suggesting that while the infrastructure and support for technology use are generally adequate, they are not as robust as other factors. This is a critical finding, as the availability of adequate technical support and resources is essential for the successful integration of technology in educational settings. Previous studies have highlighted the importance of facilitating conditions in overcoming barriers to technology adoption, particularly in environments where resources may be limited (Nguyen et al., 2018). The findings indicate that schools and educational authorities need to invest more in improving the technological infrastructure and providing ongoing support to ensure that counselors can effectively utilize digital tools in their work.

Hedonic Motivation (HM) and Price Value (PV)

Both Hedonic Motivation and Price Value had a median score of 4.000, indicating that School Counselors find using technology enjoyable and perceive it as valuable relative to the cost or effort involved. This suggests that counselors are motivated not only by the practical benefits of technology but also by the intrinsic enjoyment they derive from its use. The higher MAD value for Price Value (0.988) suggests that perceptions of value may differ more widely among counselors, potentially reflecting differences in their individual experiences with technology or the resources available to them. These findings highlight the need for cost-effective solutions that maximize both the utility and enjoyment of technology use in educational settings.

Habit (H) and Behavioral Intention (BI)

There were slight differences in the median scores for Habit and Behavioral Intention between male and female counselors, with males showing higher scores in both constructs (Habit: 3.750 vs. 3.500; Behavioral Intention: 2.750 vs. 2.500). The greater variability in these constructs among males (MAD: 1.112) compared to females (MAD: 0.741) suggests that habitual use of technology and the intention to continue using it are more deeply ingrained among male counselors. This finding is significant, as it indicates that male counselors may be more likely to incorporate technology into their daily routines, while female counselors may require more encouragement or structured support to develop similar habits. The results also suggest that interventions aimed at increasing technology use should consider these gender differences, focusing on reinforcing positive habits and intentions, particularly among female counselors.

Implications

The findings of this study underscore the importance of considering gender differences in research on technology acceptance and use among School Counselors. The results indicate that while there is generally high acceptance of technology across both genders, significant differences exist in constructs such as Facilitating Conditions, Habit, and Behavioral Intention. These differences highlight the need for gender-sensitive approaches in the design and implementation of technology training programs. Specifically, schools and educational authorities should consider developing targeted strategies that address the unique needs of male and female counselors, ensuring that both groups are equally equipped to leverage digital tools in their counseling practices.

Furthermore, the study confirms the significant role of Facilitating Conditions, Hedonic Motivation, and Price Value in influencing technology acceptance, consistent with the existing literature on the UTAUT2 model. These findings contribute to the broader understanding of technology adoption in educational contexts, providing practical guidance for improving the integration of digital tools in counseling services. The research also suggests avenues for future studies, particularly in exploring the underlying factors that drive gender differences in technology acceptance and how these can be mitigated to promote more inclusive and effective use of technology in education.

CONCLUSION

This study provides valuable insights into the gender-based differences in the acceptance and use of information technology among School Counselors in West Java, Indonesia. Utilizing the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model, the research highlights both the overall high levels of technology acceptance and the subtle yet significant variations between male and female counselors.

The findings reveal that both male and female School Counselors exhibit a strong acceptance of technology, with high median scores across constructs such as Performance Expectancy, Effort Expectancy, Social Influence, Hedonic Motivation, and Price Value. These results suggest that School Counselors generally recognize the benefits of integrating digital tools into their counseling practices, perceiving them as both effective and enjoyable.

However, the study also uncovers notable gender differences in Facilitating Conditions, Habit, and Behavioral Intention. Male counselors demonstrated a higher tendency to develop habitual use of technology and a stronger intention to continue using it, compared to their female counterparts. These differences indicate that while female counselors are equally aware of the benefits of technology, they may face more challenges in fully integrating it into their daily routines. Factors such as perceived ease of use, social influence, and the availability of supportive infrastructure play critical roles in shaping these gender-specific outcomes.

The implications of these findings are significant for the design and implementation of technology training programs in educational settings. To enhance the effectiveness of these programs, it is crucial to adopt a gender-sensitive approach that addresses the unique challenges faced by female counselors. Tailored training initiatives, improved access to resources, and ongoing support systems are essential to ensure that all counselors, regardless of gender, can effectively leverage technology in their work.

Moreover, the study underscores the importance of facilitating conditions and social influence in promoting technology adoption. Schools and educational authorities must prioritize investments in technological infrastructure and foster a supportive organizational culture that encourages the use of digital tools among School Counselors. By addressing these factors, the overall effectiveness of counseling services can be significantly enhanced, leading to better educational outcomes for students.

In conclusion, this research contributes to the broader understanding of technology acceptance in the educational sector, emphasizing the need for personalized approaches to technology training and support. The study's findings not only provide a foundation for future research on gender differences in technology adoption but also offer practical recommendations for improving the integration of technology in school counseling services. By recognizing and addressing the specific needs of male and female counselors, educational institutions can create a more inclusive and effective environment for the use of digital tools, ultimately benefiting both the counselors and the students they serve.

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