

Enhancing UTAUT-2: Exploring Perceived Security and Innovativeness in Omnichannel Purchases of Essentials and F&B

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ABSTRACT

This study highlights the critical role of omnichannel platforms in transforming purchasing behavior, particularly for essential goods and food and beverage (F&B) sectors requiring frequent engagement and seamless online-offline integration. By extending the UTAUT-2 model, this research incorporates Perceived Security and Personal Innovativeness as key factors to investigate omnichannel re-adoption. Using a quantitative survey of active omnichannel users in Indonesia, analyzed with PLS-SEM, the findings reveal a novel insight: traditional UTAUT-2 factors like Performance Expectation and Effort Expectation exert minimal influence, while Perceived Security and Personal Innovativeness significantly drive Behavioral Intention, which strongly predicts Usage Behavior. This underscores the importance of addressing security concerns and leveraging user innovativeness to enhance engagement with omnichannel systems. These results provide actionable insights for practitioners aiming to refine omnichannel strategies and contribute to the academic discourse by prioritizing novel determinants in consumer technology adoption. Future research should explore additional dimensions and address methodological constraints like cross-sectional design and sampling biases.

Keywords: Behavior Intention; Essential Goods; F&B; Omnichannel; Perceived Security; Personal Innovativeness; UTAUT-2

INTRODUCTION

This study explores the rise of omnichannel shopping, integrating traditional stores with online platforms (Avery et al., 2012; Sheth, 2021). As retail environments shift, retailers must adapt to technological advancements (F. Gao et al., 2022; Gereaa & Herskovic, 2022). The research focuses on key drivers behind this transformation, highlighting strategies for maintaining customer loyalty and attracting new clientele (Clara, 2023; Cotarelo, 2021; M. Gao & Huang, 2021; Lazaris et al., 2021; Tyrväinen et al., 2020). This shift provides insights into strategies necessary for success in today's dynamic retail market (Erhan et al., 2023; Öztürk, 2018). Historically, retail relied on single channels (Rezaei et al., 2022), later evolving into multichannel approaches (Salmani & Partovi, 2021; Vaishnav & Ray, 2023). However, multichannel strategies often operate independently, leading to suboptimal results (Gensler et al., 2017; R. Li, 2019; Y. Li et al., 2018), paving the way for unified omnichannel strategies (Gereaa & Herskovic, 2022; Lazaris & Vrechopoulos, 2014).

The development of in-store technology has evolved multichannel and cross-channel strategies into omnichannel retailing (Mandal et al., 2021; Timoumi, 2022; Watanabe et al., 2021). Omnichannel integrates physical stores, online platforms, mobile apps, and social media, offering a seamless brand experience (Akter, 2021; Hickman et al., 2020), enhancing customer satisfaction and loyalty (Clara, 2023; Cotarelo, 2021; Lazaris et al., 2021; Mishra, 2021; Muthaffar & Vilches-Montero, 2023; Sumrit & Sowijit, 2023; Tueanrat et al., 2021). The COVID-19 pandemic accelerated this shift, transforming shopping and payment behaviors (Acquila-Natale, 2022; Clara & Leovani, 2021; Galhotra & Dewan, 2020; Lee et al., 2022). This study refines the UTAUT-2 model to explore consumer acceptance of omnichannel shopping, focusing on utilitarian goods and food & beverage ordering. It incorporates Perceived Security and Personal Innovativeness, excluding Hedonic Motives and Price Value to align with the study's utilitarian focus (Azman Ong et al., 2023; Geng & Chang, 2022). This method allows for a more precise evaluation of the factors that affect omnichannel adoption.

This study seeks to examine the key determinants of omnichannel re-adoption based on customers' past shopping experiences, using the UTAUT-2 model. This study seeks to offer valuable insights for both academia, by advancing theories related to omnichannel retailing, and for practitioners, by identifying best practices for enhancing the consumer shopping experience. By incorporating perceived security and personal innovativeness—factors often overlooked in previous UTAUT-2 applications—this research provides a novel contribution. A deeper understanding of consumers' continued use of omnichannel platforms will enable businesses to foster mutually beneficial relationships with customers and achieve broader stakeholder objectives (Dwivedi et al., 2024).

LITERATURE REVIEW

The Unified Theory of Acceptance and Use of Technology (UTAUT-2) builds on earlier models like the Technology Acceptance Model (TAM) and UTAUT, which focus on technology adoption (Alamanda et al., 2021). TAM highlights perceived usefulness and performance expectations (Venkatesh & Davis, 2000), while UTAUT explains technology usage in organizational contexts by considering factors like performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003 in Dwivedi et al., 2020; van der Waal et al., 2022). UTAUT-2 extends this by adding variables like hedonic motivation and price value to better understand consumer technology adoption (Venkatesh et al., 2012 in (Azman Ong et al., 2023; Zaid Kilani et al., 2023). UTAUT-2 has been applied in various domains such as e-commerce (Erjavec

& Manfreda, 2022), mobile payments (Azman Ong et al., 2023), and e-banking (Abu-Taieh et al., 2022).

Performance expectancy, or the perceived benefits of using a system, is a strong predictor of behavioral intention (Cao et al., 2021; Kim et al., 2022), leading to the hypothesis that performance expectancy positively affects behavioral intention to use omnichannel systems (H1). Effort expectancy, the ease of use, also influences behavioral intention (Azman Ong et al., 2023; Zaid Kilani et al., 2023), forming hypothesis H2. Social influence, the impact of peers and family, is another key factor (Akinnuwesi et al., 2022; Azman Ong et al., 2023), hypothesizing that social influence positively affects behavioral intention (H3). Facilitating conditions, or support and infrastructure, similarly influences behavioral intention (Abu-Taieh et al., 2022; Kim et al., 2022), leading to hypothesis H4.

Habitual behavior also predicts behavioral intention (Agrawal et al., 2023; Zaid Kilani et al., 2023), forming hypothesis H5. Perceived security, crucial for digital service adoption, influences behavioral intention (Azman Ong et al., 2023; Khalilzadeh et al., 2017), leading to hypothesis H6. Personal innovativeness, reflecting openness to new technologies, also affects behavioral intention (Kim et al., 2022; Zhang et al., 2024), supporting hypothesis H7. Finally, behavioral intention strongly predicts usage behavior, with studies showing that higher behavioral intention leads to more frequent use (Abu-Taieh et al., 2022; Yurova et al., 2017), forming hypothesis H8.

In conclusion, these hypotheses illustrate how factors like performance expectancy, effort expectancy, social influence, facilitating conditions, habitual, perceived security, and personal innovativeness influence consumer intention to use and continue using omnichannel systems, ultimately affecting actual usage behavior. This framework provides valuable insights into technology adoption, particularly in the context of omnichannel retailing.

RESEARCH METHOD

This study uses a quantitative survey approach to examine factors influencing user intention toward omnichannel ordering for essentials and food and beverages (F&B). Omnichannel platforms are key in these frequently purchased categories, offering convenience and efficiency. A modified UTAUT-2 model is applied, incorporating Perceived Security and Personal Innovativeness.

This study employs a cross-sectional design, gathering data from participants utilizing omnichannel services. The survey uses a 5-point Likert scale, measuring respondents' perceptions of various omnichannel-related constructs. The sample comprises 200-300 respondents, selected via purposive, non-probability convenience sampling, targeting Instagram followers of retail brands in Indonesia. Only active omnichannel users are included, ensuring the study assesses Behavioral Intention (BI) to continue using omnichannel systems.

Data collection was through online surveys, measuring variables like personal innovativeness, perceived security, and core UTAUT-2 factors. The data is analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) through the Smart PLS 4.0 software, suitable for complex models and smaller sample sizes. The study evaluates construct validity, reliability, and demographic moderating effects via multi-group analysis (MGA).

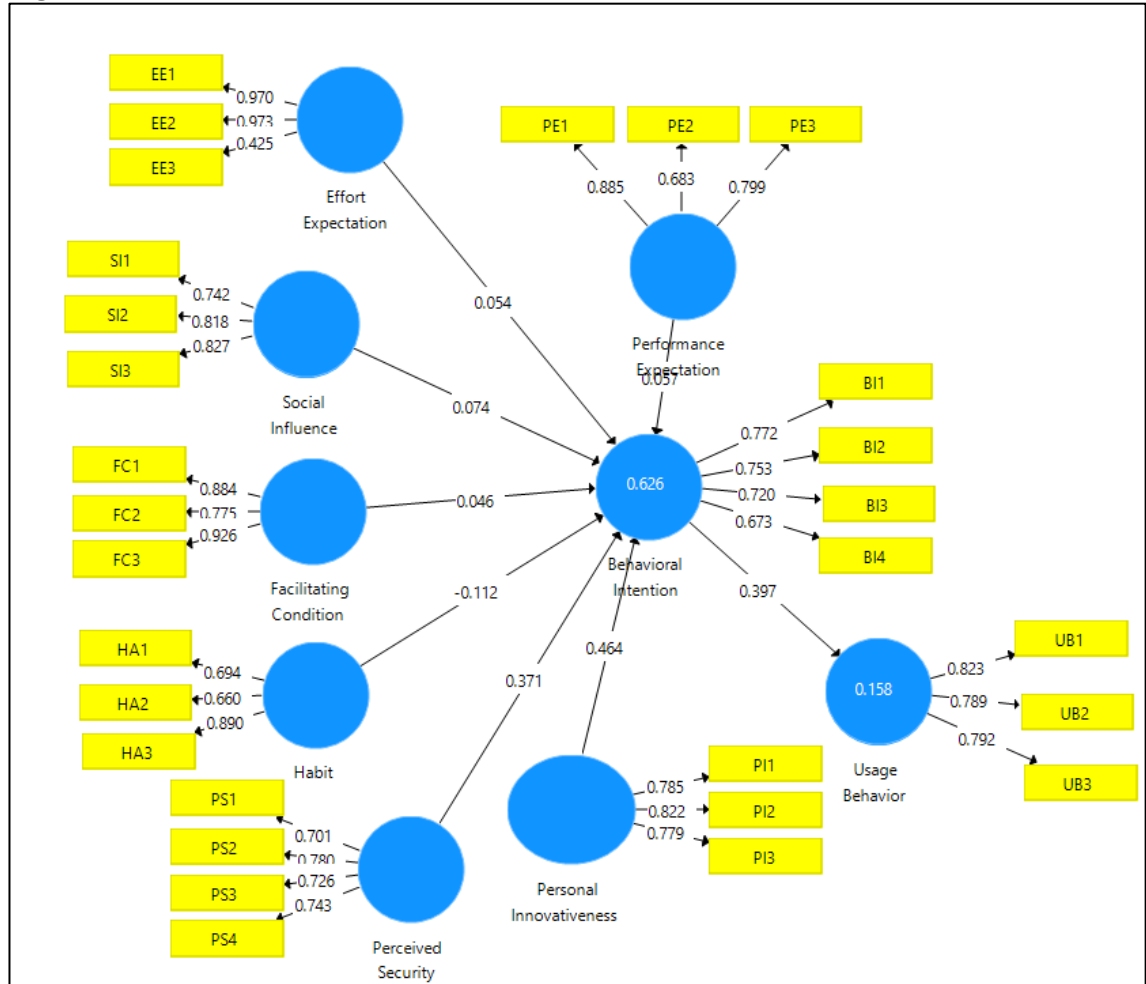
Ethical considerations ensure participants' consent, confidentiality, and anonymity

throughout the research (Caudill & Murphy, 2000; Hajli, 2018).

RESULTS

The Measurement Model

Figure 1. Full Outer Model



Source: Data Processed

Note: EE (Effort Expectation), SI (Social Influence), FC (Facilitating Condition), HA (Habit), PS (Perceived Security), PE (Performance Expectation), BI (Behavioral Intention), PI (Personal Innovativeness), UB (Usage Behavior)

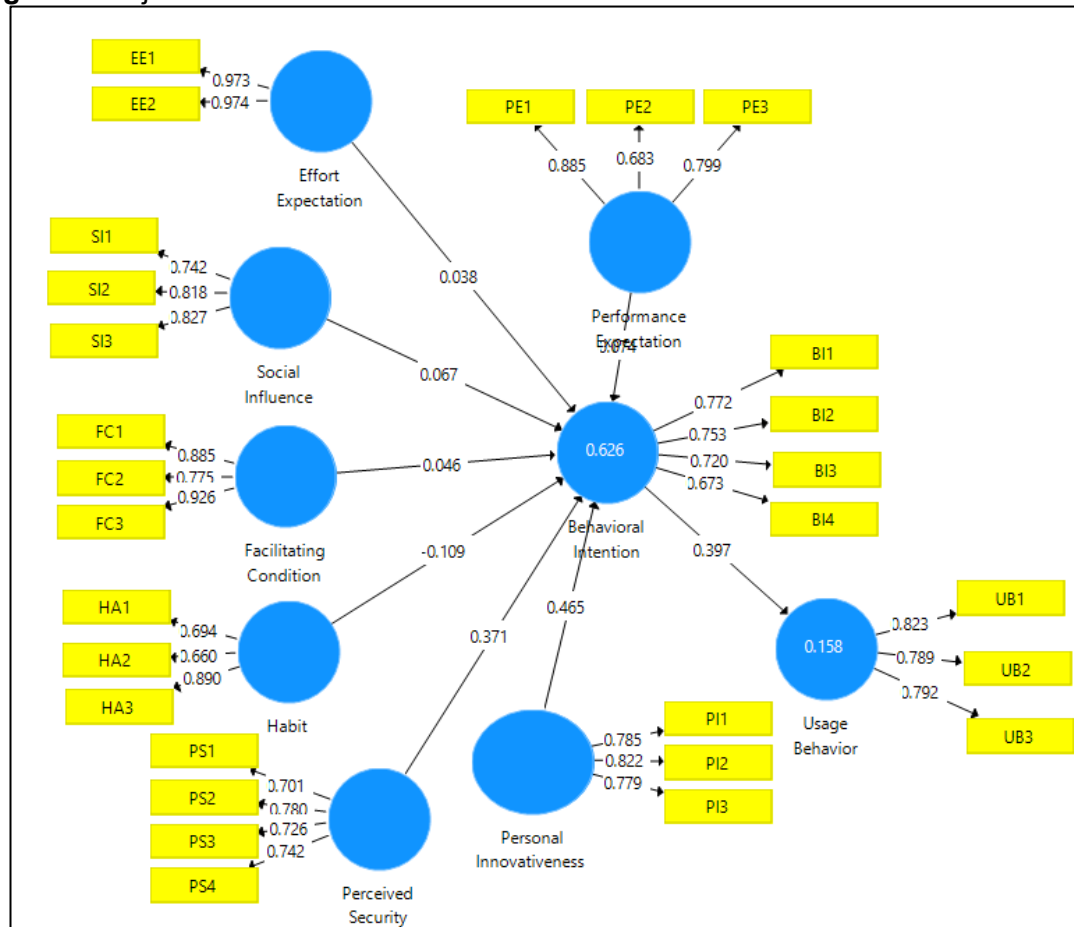
Table 1. Extracted Components and Corresponding Loadings of Measured Variables

Construct/ Variable and Measured Scale		Component Loading Coefficient	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Behavioral Intention (BI)	BI1	0.772	0.709	0.717	0.820	0.589
	BI2	0.753				
	BI3	0.720				
	BI4	0.673				
Effort Expectation (EE)	EE1	0.973	0.944	0.944	0.973	0.980
	EE2	0.974				
	EE3	0.425				
Facilitating Condition	FC1	0.885	0.828	0.844	0.898	0.786
	FC2	0.775				

(FC)	FC3	0.926				
Habit (HA)	HA1	0.694	0.659	0.824	0.796	0.604
	HA2	0.660				
	HA3	0.890				
Performance Expectation (PE)	PE1	0.885	0.734	0.856	0.834	0.760
	PE2	0.683				
	PE3	0.799				

The assessment of the measurement model yielded robust results across multiple constructs, confirming both the validity and reliability of the scales employed. Key findings from the analysis are summarized in Figure 1 and Table 1.

Figure 2. Adjusted Outer Model of Extended UTAUT-2



Source: Processed Data

Note: EE (Effort Expectation), SI (Social Influence), FC (Facilitating Condition), HA (Habit), PS (Perceived Security), PE (Performance Expectation), BI (Behavioral Intention), PI (Personal Innovativeness), UB (Usage Behavior)

Table 2. Extracted Components and Corresponding Loadings of Measured Variables

Construct/ Variable and Measured Scale		Component Loading Coefficient	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Personal Innovativeness (PI)	PI1	0.785	0.712	0.775	0.838	0.687
	PI2	0.822				
	PI3	0.779				
Perceived	PS1	0.701	0.729	0.725	0.827	0.639

Security (PS)	PS2	0.780				
	PS3	0.726				
	PS4	0.742				
Social Influence (SI)	SI1	0.742	0.716	0.796	0.838	0.664
	SI2	0.818				
	SI3	0.827				
Usage Behavior (UB)	UB1	0.823	0.724	0.790	0.844	0.701
	UB2	0.789				
	UB3	0.792				

The measurement model results, as illustrated in Figure 2 and Table 2, provide evidence of the reliability and validity of the constructs assessed in this study. Behavioral intention was measured using four items, with factor loadings ranging from 0.673 to 0.772. Although BI4 had a slightly lower loading of 0.673, it remained within the acceptable threshold. The construct demonstrated adequate reliability with a Cronbach's Alpha of 0.709, composite reliability (CR) of 0.820, and average variance extracted (AVE) of 0.589, confirming its internal consistency and convergent validity. Effort expectation retained two items, EE1 (0.973) and EE2 (0.974), after the removal of EE3, which had a low loading of 0.425. This construct exhibited exceptionally high reliability, with a Cronbach's Alpha of 0.944, CR of 0.980, and AVE of 0.980. The facilitating condition was measured using three items with loadings between 0.775 and 0.926, achieving strong reliability as indicated by a Cronbach's Alpha of 0.828, CR of 0.898, and AVE of 0.786, ensuring sufficient variance capture. Habit included three items with factor loadings ranging from 0.660 to 0.890. Although its Cronbach's Alpha was slightly lower at 0.659, the construct maintained acceptable internal consistency, supported by a CR of 0.796 and AVE of 0.604.

Performance expectation demonstrated factor loadings between 0.683 and 0.885, with a Cronbach's Alpha of 0.734, CR of 0.834, and AVE of 0.760, confirming its reliability and validity. Personal innovativeness exhibited loadings ranging from 0.779 to 0.822, with a Cronbach's Alpha of 0.712, CR of 0.838, and AVE of 0.687, ensuring its robustness. Perceived security was measured using four items, with loadings between 0.701 and 0.780. The construct demonstrated acceptable reliability and validity, with a Cronbach's Alpha of 0.729, CR of 0.827, and AVE of 0.639. Social influence retained three items with loadings between 0.742 and 0.827, yielding a Cronbach's Alpha of 0.716, CR of 0.838, and AVE of 0.664, indicating good reliability. Finally, usage behavior consisted of three items with factor loadings ranging from 0.789 to 0.823. The construct demonstrated strong validity and reliability, supported by a Cronbach's Alpha of 0.724, CR of 0.844, and AVE of 0.701. These results collectively confirm the measurement model's adequacy in assessing the constructs with reliable and valid indicators.

Overall, the model exhibits robust reliability and validity, with adjustments such as the removal of EE3 enhancing the measurement model's strength. These findings provide a solid basis for structural model analysis.

Structural Model Summary

Table 3. Hypothesis Testing Results for Behavioral Intention and Usage Behavior in Omnichannel Systems

Model		Unstandardized Coeff. B	Std. Error	t	Sig.	Collinearity Statistics VIF	Conclusion
H8	BI -> UB	0.397	0.069	5.755	0.000	1.000	Supported
H2	EE -> BI	0.038	0.097	0.397	0.692	5.109	Not supported

H4	FC -> BI	0.046	0.049	0.944	0.346	1.095	Not supported
H5	HA -> BI	-0.109	0.079	1.394	0.164	3.626	Not supported
H6	PS -> BI	0.371	0.064	5.811	0.000	2.334	Supported
H1	PE -> BI	0.074	0.139	0.537	0.591	8.044	Not supported
H7	PI -> BI	0.465	0.065	7.116	0.000	2.330	Supported
H3	SI -> BI	0.067	0.092	0.729	0.466	4.499	Not supported

Source: Processed Data

Note: EE: Effort Expectation, SI: Social Influence, FC: Facilitating Condition, HA: Habit, PS: Perceived Security, PE: Performance Expectation, BI: Behavioral Intention, PI: Personal Innovativeness, UB: Usage Behavior

The structural model analysis, using bootstrapping, reveals key insights into the relationships between variables in the omnichannel shopping context (Table 3). Most paths, including Performance Expectation → Behavioral Intention (H1) ($t = 0.537$, $p = 0.591$), Effort Expectation → Behavioral Intention (H2) ($t = 0.397$, $p = 0.692$), Social Influence → Behavioral Intention (H3) ($t = 0.729$, $p = 0.466$), Facilitating Condition → Behavioral Intention (H4) ($t = 0.944$, $p = 0.346$), and Habit → Behavioral Intention (H5) (-0.109 , $t = 1.394$), are insignificant.

However, Perceived Security → Behavioral Intention (H6) ($\beta = 0.371$, $t = 5.811$, $p < 0.001$) and Personal Innovativeness → Behavioral Intention (H7) ($\beta = 0.465$, $t = 7.116$, $p < 0.001$) are significant, showing these factors critically influence Behavioral Intention. Behavioral Intention → Usage Behavior (H8) is also significant ($\beta = 0.397$, $t = 5.755$, $p < 0.001$), confirming Behavioral Intention as a key driver of Usage Behavior.

Table 4. Model Fit

Variable	R Square	R Square Adjusted		Saturated Model	Estimated Model	f^2	BI	PS	PI
BI	0.626	0.615	SRMR	0.089	0.092			0.158	0.248
UB	0.158	0.154					0.187		

Source: Processed Data

Note: PS: Perceived Security, PI: Personal Innovativeness

Table 4 shows the model explains 62.6% ($R^2 = 0.626$) of the variance in behavioral intention and 15.8% ($R^2 = 0.158$) in usage behavior. F-square analysis indicates medium to large effects for personal innovativeness ($f^2 = 0.248$) and perceived security ($f^2 = 0.158$) on behavioral intention, meanwhile behavioral intention ($f^2 = 0.187$) on usage behavior. SRMR values (0.089 – 0.092) suggest an acceptable model fit despite being slightly above the preferred threshold.

This study emphasizes the critical roles of personal innovativeness and perceived security in shaping behavioral intention and usage behavior in omnichannel shopping applications. Both factors demonstrate substantial effects, highlighting the importance of user openness to technology and concerns about privacy and safety. Behavioral intention, as a key driver of usage behavior, underscores its significance as a precursor to action in this digital context, consistent with established technology adoption models.

Interestingly, other factors like effort expectation, facilitating condition, habit, performance expectation, and social influence showed minimal effects on behavioral intention. This may be attributed to the specific nature of omnichannel shopping, where users are often already familiar with digital platforms, reducing the relevance of ease of use or external support. Social Influence also appears less impactful, as omnichannel adoption is typically an individual decision.

These findings refine our understanding of technology adoption in omnichannel contexts. Developers and marketers should focus on enhancing security features and promoting innovative user experiences to drive adoption. For businesses, prioritizing cybersecurity and emphasizing platform innovation can address user concerns and attract early adopters. As digital literacy grows, efforts should aim to sustain engagement by continuously improving omnichannel systems to meet evolving user expectations.

Multi-Group Analysis (MGA)

The moderating effects of gender, age, and occupation were analyzed using MGA, offering deeper insights into how these factors influence model relationships. The gender-based MGA reveals significant differences in path relationships between men and women in the context of omnichannel shopping.

Gender

Table 5. MGA Gender

	Complete Gender (250)			Men (129)			Women (121)		
	1	2	3	1	2	3	1	2	3
H8	0.397	5.722	0	0.436	4.766	0	0.367	3.571	0
H2	0.014	0.108	0.914	-0.136	1.137	0.256	0.094	0.883	0.378
H4	0.022	0.398	0.691	0.05	0.562	0.575	-0.1	1.189	0.235
H5	-0.112	1.275	0.203	-0.014	0.08	0.936	-0.079	0.689	0.491
H6	0.403	5.611	0	0.494	5.554	0	0.342	3.645	0
H1	0.1	0.637	0.524	0.084	0.454	0.65	0.219	1.158	0.247
H7	0.432	6.101	0	0.334	3.314	0.001	0.503	5.903	0
H3	0.062	0.594	0.553	0.073	0.504	0.615	-0.038	0.336	0.737

Note: 1: Original Sample (O), 2: T Statistics (|O/STDEV|), 3: P Values

Effort Expectation, SI: Social Influence, FC: Facilitating Condition, HA: Habit, PS: Perceived Security, PE: Performance Expectation, BI: Behavioral Intention, PI: Personal Innovativeness, UB: Usage Behavior

This gender-based analysis in Table 5 reveals that perceived security and personal innovativeness are the most critical factors influencing behavioral intention in omnichannel adoption. Perceived security significantly impacts the behavioral intention of both men ($B = 0.494$, $p = 0.000$) and women ($B = 0.342$, $p = 0.000$), with a stronger effect for men, emphasizing the importance of security concerns. Personal innovativeness also strongly influences behavioral intention for both genders, especially women ($B = 0.503$, $p = 0.000$) compared to men ($B = 0.334$, $p = 0.001$), highlighting the role of openness to technology.

The relationship between behavioral intention and usage behavior is strong and significant for both men ($B = 0.436$, $p = 0.000$) and women ($B = 0.367$, $p = 0.000$), though slightly stronger for men. In contrast, factors like effort expectancy, facilitating conditions, habit, and performance expectancy show no significant effects on BI for either gender, suggesting these are not key drivers in this context. Social influence also has minimal impact on behavioral intention, indicating that external opinions play a limited role in omnichannel adoption.

In conclusion, strategies to enhance user adoption should focus on improving security

and fostering innovative experiences, tailored to gender-specific preferences.

Age

Table 6. MGA Age

	Complete Age (250)			17-25 (144)			26-35 (111)			36-45 (83)	46-55 (9)	>55 (3)
	1	2	3	1	2	3	1	2	3	1	2	3
H8	0.397	5.46	0	0.447	3.737	0	0.313	2.417	0.016	0.458	3.923	0
H2	0.014	0.138	0.89	0.048	0.511	0.61	-0.046	0.394	0.694	0.217	1.779	0.076
H4	0.022	0.4	0.689	0.173	1.555	0.121	-0.229	1.434	0.152	-0.054	0.637	0.524
H5	-0.112	1.332	0.184	0.082	0.526	0.599	0.093	0.754	0.451	-0.256	1.462	0.144
H6	0.403	5.48	0	0.575	3.866	0	0.385	3.227	0.001	0.317	2.878	0.004
H1	0.1	0.788	0.431	-0.048	0.293	0.77	0.083	0.491	0.623	-0.211	1.092	0.276
H7	0.432	5.848	0	0.314	2.066	0.039	0.419	3.839	0	0.473	4.143	0
H3	0.062	0.651	0.515	-0.104	0.704	0.482	-0.004	0.026	0.979	0.423	1.746	0.081

Note: 1: Original Sample (O), 2: T Statistics (|O/STDEV|), 3: P Values

In the MGA based on age differences, the relationships between independent and dependent variables in the context of omnichannel shopping applications are assessed across various age groups (Table 6). The analysis highlights key distinctions in how these variables affect each group's behavioral intention and usage behavior.

This age-based analysis shows that behavioral intention significantly predicts usage behavior across all age groups, with the strongest effect in the 36-45 group ($B = 0.458$, $p = 0.000$). Perceived security is a critical factor for all ages, especially for the youngest group ($B = 0.575$, $p = 0.000$), highlighting security concerns as a major consideration for younger users. Personal innovativeness also significantly influences behavioral intention across all groups, with the strongest effect in the 36-45 group ($B = 0.473$, $p = 0.000$), indicating that openness to new technology is vital for omnichannel adoption.

Factors like effort expectancy, facilitating conditions, and performance expectancy show minimal or no significant effects on behavioral intention across age groups. Habit has weak or non-significant impacts, and social influence only slightly affects behavioral intention in the 36-45 group ($B = 0.423$, $p = 0.081$).

In conclusion, perceived security and personal innovativeness are key drivers of behavioral intention, with security being more crucial for younger users and innovativeness more impactful for middle-aged users. Other factors like ease of use and social influence have limited roles in shaping intentions across age groups.

Occupation

Table 7. MGA Occupation

	Complete Occupation (250)			Student (36)			Professional (89)			Entrepreneur (61)	Civil Servant (10)	Private Employee (48)	Informal (6)
	1	2	3	1	2	3	1	2	3	1	2	3	
H8	0.397	5.784	0	0.385	2.425	0.016	0.349	2.542	0.011	0.427	2.962	0.003	0.535
H2	0.014	0.142	0.887	0.103	0.785	0.433	-0.06	0.61	0.542	0.197	1.14	0.255	0.22
H4	0.022	0.42	0.674	0.226	1.116	0.265	-0.193	1.382	0.168	-0.056	0.71	0.478	-0.069
H5	-0.112	1.403	0.161	0.059	0.256	0.798	-0.017	0.129	0.898	-0.117	0.704	0.482	0.122
H6	0.403	5.484	0	0.384	2.067	0.039	0.461	3.849	0	0.287	2.816	0.005	0.44
H1	0.1	0.702	0.483	-0.067	0.285	0.776	0.055	0.32	0.749	-0.065	0.273	0.785	-0.083
H7	0.432	6.021	0	0.456	2.624	0.009	0.35	2.774	0.006	0.601	5.965	0	0.322
H3	0.062	0.585	0.558	-0.101	0.464	0.643	0.082	0.555	0.579	0.046	0.227	0.82	-0.053

Note: 1: Original Sample (O), 2: T Statistics (|O/STDEV|), 3: P Values

In the MGA based on occupation (Table 7), the path analysis reveals notable differences in how the independent variables affect the dependent variables across various occupational groups. The groups include students, professionals, entrepreneurs, civil servants, private employees, and informal workers.

Behavioral intention significantly predicts usage behavior across all occupations, with private employees ($B = 0.535$, $p = 0.000$) showing the strongest effect, followed by entrepreneurs ($B = 0.427$, $p = 0.003$). Effort expectancy has no significant effect on

behavioral intention for any group. Facilitating conditions show non-significant effects across most occupations, with a weak positive effect for students ($B = 0.226$, $p = 0.265$). Habit also does not significantly influence behavioral intention across occupations.

Perceived security significantly affects behavioral intention for all groups, especially for professionals ($B = 0.461$, $p = 0.000$) and private employees ($B = 0.440$, $p = 0.037$), indicating that security concerns are crucial for forming behavioral intention. Performance expectancy has no significant effect on behavioral intention. Personal innovativeness significantly impacts behavioral intention, particularly for entrepreneurs ($B = 0.601$, $p = 0.000$) and students ($B = 0.456$, $p = 0.009$), showing that openness to new technologies strongly drives behavioral intention. Social influence has no significant effect on behavioral intention across occupations.

In conclusion, perceived security and personal innovativeness are key factors influencing behavioral intention across all occupations. Security concerns are most important for professionals and private employees, while innovativeness is a strong driver for entrepreneurs and students.

DISCUSSION

This study examines factors influencing behavioral intention and usage behavior in omnichannel shopping. Findings confirm that behavioral intention strongly drives usage behavior, consistent with technology acceptance models (Daragmeh et al., 2021; Huang, 2023; Kaur et al., 2020; Teng & Khong, 2021; Tran et al., 2020; Zaid Kilani et al., 2023). Personal innovativeness and perceived security are the most significant predictors of behavioral intention, aligning with prior research on technology adoption. Personal innovativeness highlights users' openness to new technologies, while perceived security addresses concerns over privacy and cybersecurity, crucial for e-commerce adoption (Kim et al., 2022; Pancić et al., 2023; Patil et al., 2020; Popa et al., 2018; Zhang et al., 2024).

Factors like effort expectancy, facilitating conditions, habit, performance expectancy, and social influence showed minimal impact on behavioral intention, suggesting that users' familiarity with digital platforms reduces the relevance of ease of use and external support in omnichannel contexts. This shift reflects a more individualistic adoption process, with less social influence compared to other technology adoptions (Azman Ong et al., 2023; Ramírez-Correa et al., 2019; Zaid Kilani et al., 2023).

Managerially, businesses should focus on enhancing perceived security and innovation to increase user engagement. The MGA shows that perceived security and personal innovativeness are key across gender, age, and occupation, with gender and occupation-based variations in their influence. Emphasizing security and innovation is crucial for boosting omnichannel adoption and user engagement.

CONCLUSION

In conclusion, this study underscores the pivotal role of behavioral intention in driving usage behavior within the omnichannel landscape, with a particular emphasis on the significance of personal innovativeness and perceived security. These findings offer valuable insights for practitioners seeking to enhance consumer engagement and optimize omnichannel strategies. They also lay a foundation for future research aimed at uncovering more intricate aspects of omnichannel adoption and user behavior.

The MGA reveals that perceived security and personal innovativeness are the strongest predictors of behavioral intention across gender, age, and occupation groups. perceived security plays a slightly more important role for men and younger users, while personal innovativeness is more influential for women and middle-aged users. Occupation-specific differences highlight entrepreneurs and private employees as more responsive to these factors. Other variables, like effort expectancy and social influence, show minimal impact across all demographics.

LIMITATION

This study has several limitations. The cross-sectional design limits observation of long-term changes in user behavior and intentions, affecting the understanding of causal relationships. The purposive sampling method introduces selection bias, as the sample largely consists of social media followers, which may not represent the broader omnichannel user population in Indonesia. Future research should use longitudinal designs, diverse sampling methods, and validated tools. Furthermore, examining how omnichannel shopping behaviors evolve over time as users become more accustomed to these systems could yield insightful findings for both academia and practice.

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DECLARATION OF CONFLICTING INTERESTS

The authors declare no conflicts of interest regarding the research, authorship, or publication of this article.

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