




“Factors influencing e-commerce adoption in Jordanian online insurance sector”

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FACTORS INFLUENCING E-COMMERCE ADOPTION IN JORDANIAN ONLINE INSURANCE SECTOR

Abstract

The study aims to evaluate the impact of organizational support, customer awareness, perceived security, and regulatory compliance on e-commerce adoption within the insurance sector of Jordan. A structured questionnaire was administered to 400 participants from executive management, IT, customer service, and compliance departments who worked in ten Amman-based insurance companies. Believing that a quantitative research design matched the analysis requirements, 372 valid responses were gathered and analyzed through structural equation modeling (SEM) operated by AMOS 24. Organizational support, along with customer awareness, was found to have strong effects on adoption behavior because perceived security functions as the primary determining factor. The research results indicated that regulatory compliance failed to have a direct effect on adoption behavior. The study validated construct reliability and validity through confirmatory factor analysis (CFA) since all Cronbach's alpha values surpassed 0.80 and the composite reliability and average variance extracted measurements fell within acceptable ranges. The study model demonstrated an acceptable fit, as indicated by RMSEA (0.045), CFI (0.942), TLI (0.930), and χ^2/df (2.18). Digital transformation in insurance requires organizational programs that provide team-based customer education while maintaining robust privacy measures.

Keywords

organizational support, awareness, security and privacy,
regulatory compliance, digital transformation

JEL Classification

I81, G22, M15, O33

INTRODUCTION

The rapid expansion of Internet technology has established e-commerce as a fundamental component that enhances operational efficiency, along with customer service, across various industrial sectors. Today's insurance companies worldwide use digital platforms for customer relations and transaction quickening and market penetration. Jordanian insurance companies face multiple barriers to implementing e-commerce, including organizational opposition, customer naivety about online services, monitoring limitations, and persistent customer anxieties regarding information safety.

Multiple obstacles stop the adoption process from advancing as planned. Insurance companies face difficulties in creating advanced digital infrastructure because of financial and structural limitations, and customers show doubts about online insurance because their digital experience is limited, and they lack knowledge about digital services. The slow advancement of current consumer protection rules fails to support digital insurance models, and it produces additional uncertainty for both provider companies and their consumer clients.

Scientific research exploring e-commerce adoption remains scarce, specifically in the insurance field of Jordan. It is interesting to evalu-

ate four essential factors that comprise organizational support, as well as customer awareness, alongside perceived security and regulatory compliance, to understand their effects on e-commerce solution adoption in Jordan's insurance field. This study combines the goals of extending academic knowledge about digital transformation in emerging markets with developing an evidence-based model to analyze insurance domain adoption behaviors.

1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The advancement of digital technology has revolutionized organizational operations by improving three key areas: workflow efficiency, customer engagement, and service delivery outcomes (Al Mashalah et al., 2024; Hendricks & Mwapwele, 2024). Insurance organizations across the world use digital systems to enhance business processes and boost service delivery operations. The adoption of e-commerce solutions shows limited progress in the insurance sector of Jordan because of existing organizational structure, technological infrastructure, regulatory framework, and customer adaptability challenges (Morić et al., 2024; Rane et al., 2024).

The readiness of organizations to deploy digital systems through strategic management, infrastructure development, and planning makes up organizational support. The adoption of successful e-commerce depends on three key factors: leadership involvement and financial investment alongside IT capability development (Alzubi, 2025; Anabila et al., 2024; Slobodník, 2023). Active organizational backing of digital transformation programs leads to better implementation results for new technology. Human resource resistance to transformation needs support from top leadership to achieve innovation success, according to Aljarboa (2024). Implementation failure can be prevented when new technologies are introduced into practice, as organizations require training programs accompanied by resource allocation support (Alt et al., 2021).

User awareness of digital insurance platforms encompasses the level of understanding customers have regarding services, policies, and platform functionalities. Insufficient customer understanding of digital tools stands as a leading impediment for companies to use e-commerce (Nizam

& Rashidi, 2025). Users tend to accept and use online services after gaining clarity about payment procedures, data security measures, and platform advantages (Ong et al., 2023). Customers are likely to avoid digital insurance platforms unless they receive personalized treatment, as they prefer conventional insurance services (Fatorachian et al., 2025; Liébana-Cabanillas et al., 2024; Alashqar et al., 2025). The development of awareness programs combined with educational initiatives for customers will boost faith in digital insurance systems and stimulate adoption, as per Asaithambi et al. (2024).

The fundamental building blocks of customer trust within digital insurance systems are security and protection of privacy. The growth of e-commerce remains limited by consumer concerns about data breaches, identity theft, and fraudulent transactions (Tao et al., 2024; Alobaydi et al., 2025). Research shows that encryption components alongside multi-factor authentication enabled with public privacy statements help businesses to lower customer uncertainty and create security guarantees (Aburbeian & Fernández-Veiga, 2024). The use of insufficient digital security investments by insurance firms creates vulnerability to cyber threats that diminish customer trust in the organization (Morić et al., 2024; Chaput, 2024; Zhang, 2025).

Digital transformation activities in the insurance sector must comply with multiple strict regulations that control their implementation speed and method. The implementation of consumer protection laws and data privacy regulations, together with industry-specific requirements, creates operational complexity, according to Elgargouh et al. (2024), Albshaier et al. (2024), Farao et al. (2024), and Gupta et al. (2023). The ambiguous legal stance toward contemporary digital insurance business concepts results in slowdowns of both adoption and implementation durations (Maswadeh, 2024; Nguyen et al., 2024; Tubishat, 2024; Aswani, 2024; Panda & Khatua, 2025). The protected digital en-

environment standard promotes secure digital technology implementation by regulatory standards.

The current scarcity of research on e-commerce adoption within Jordan's insurance industry highlights an urgent need to examine the four key aspects: organizational backing, customer understanding, information security protocols, and compliance with the legal framework. This study develops the following research hypotheses based on the literature review:

- H1: *Organizational support positively influences the adoption of e-commerce technologies in Jordan's online insurance sector.*
- H2: *Customer awareness positively influences the adoption of e-commerce technologies in Jordan's online insurance sector.*
- H3: *Security and privacy positively influence the adoption of e-commerce technologies in Jordan's online insurance sector.*
- H4: *Regulatory compliance positively influences the adoption of e-commerce technologies in Jordan's online insurance sector.*

2. METHOD

The survey design used a quantitative method to study the adoption factors of e-commerce technology in Jordan's online insurance industry. The measurement tool consisted of a structured questionnaire, which examined the four essential constructs that included organizational support, together with customer awareness, security and privacy measures, and regulatory compliance. Persons holding positions throughout multiple executive management departments and information technology departments, as well as compliance teams and customer service teams from Jordanian insurance companies, made up the target demographics. The analysis implemented stratified random sampling to achieve equal distribution of participants according to their jobs. Job functions served as strata to divide participants, and respondents were chosen from every group through randomized selection methods (Sekaran, 2016; Ibrahim et al., 2021).

A total of 400 questionnaires were distributed to participants through face-to-face delivery, email communications, and secure electronic links. The analysis included 372 valid questionnaires from the 400 distributed surveys, which produced a response rate of 93%. The study employed a sample population that exceeded the AMOS SEM minimum requirement of 200–300 observations, according to (Hair Jr. et al., 2014; Alqudah et al., 2025). Over three months, the data collection procedures were conducted. The survey contained two main parts (Appendix A). Personal attributes of participants and their career background in insurance were gathered in the first section of the questionnaire, along with demographic details such as their age, job position, and their education level and experience. The assessment items within the second section employed validated scales through a five-point Likert scale that ran from 1 (Strongly Disagree) to 5 (Strongly Agree).

Organizational support consisted of indicators that included financial investments, infrastructure development, and leadership backing. The assessment of customer awareness examined how much respondents thought customers understood digital insurance platforms and related services. The security and privacy construct evaluated participants' beliefs about data protection, together with their perception of cybersecurity threats, as well as fraudulent activities. The adoption of digital insurance technologies depended on compliance with legal policies that combined with industry standards as well as governmental frameworks.

Statistical data analysis was performed using the software combination of SPSS and AMOS version 24. The analysis implemented a two-step procedure. The paper used confirmatory factor analysis (CFA) as part of its construct validity assessment process. The analysis consisted of two stages, with structural equation modeling (SEM) used to evaluate the linkages between various study variables. Ali et al. (2024) and Ibrahim and Alzubi (2024) suggest that acceptable factor loadings should exceed 0.70. The study applied Fornell and Larcker's (1981) methodology for assessing construct validity by using composite reliability (CR) and average variance extracted (AVE). The model

fit assessment relied on standard criteria, which included RMSEA, CFI, and TLI, together with chi-square/df ratio measurements. The analysis of hypotheses required interpretation of path coefficients in combination with *p*-values to determine how the independent and dependent variables interacted with each other. All constructs achieved internal reliability standards through Cronbach's alpha and CR indicators of greater than 0.80. Each construct achieved discriminant validity through a validation process where its square root AVE exceeded other construct correlations. Harman's single-factor test confirmed that common method bias was negligible, as the total variance remained below 50% during analysis.

The research procedures operated according to ethical guidelines. All participants were given complete study details before they received official consent forms to participate freely without any personal identification. Participants gave no identifying information during the data collection process, and all their answers remained completely confidential. The study obtained institutional review board (IRB) clearance from the university before beginning its data collection process. Methodological rigor, together with ethical standards, resulted in the production of valid, reliable, generalizable findings related to the drivers affecting e-commerce adoption within Jordan's online insurance sector.

The analysis reveals which elements primarily affect the acceptance rate of e-commerce in Jordan's online insurance environment. The analysis of support from organizations and their influence on customer e-commerce awareness, as well as security requirements, was conducted through three SEM tests. Table 1 displays the characteristics of the analyzed target demographic. The sample of 372 respondents included 38.4% participants from the age range of 30

to 39 years, and 51.1% held Bachelor's degrees or higher. A large percentage, 56.2%, of educated professionals report weekly e-commerce activities. Previous scholarly works demonstrate that digitally active educated persons typically integrate e-commerce solutions into their business operations.

Table 1. Demographic profile of respondents

| Demographic Variable | Category | Frequency | Percentage (%) |
|----------------------------|------------------------------------|-----------|----------------|
| Gender | Male | 214 | 57.5% |
| | Female | 158 | 42.5% |
| Age Group | 18–29 years | 92 | 24.7% |
| | 30–39 years | 143 | 38.4% |
| | 40–49 years | 85 | 22.8% |
| | 50+ years | 52 | 14.1% |
| Educational Level | High School | 45 | 12.1% |
| | Bachelor's Degree | 190 | 51.1% |
| | Master's Degree | 110 | 29.6% |
| | Ph.D. | 27 | 7.2% |
| E-Commerce Usage Frequency | Rarely (Less than once a month) | 35 | 9.4% |
| | Occasionally (1–3 times per month) | 128 | 34.4% |
| | Frequently (Once a week or more) | 209 | 56.2% |

3. RESULTS AND DISCUSSION

The paper used confirmatory factor analysis (CFA) to determine construct reliability and assess convergent validity along with discriminant validity of the measurement model. Table 2 displays CT and Cronbach's alpha values, which exceeded 0.70 for each construct, thus verifying internal consistency (Hair et al., 2019). Each construct achieved average variance extracted (AVE) values above 0.50 per the methodology established by Fornell and Larcker (1981), thus demonstrating adequate convergent validity. The analyzed measurement items successfully portrayed their corresponding latent constructs according to the obtained results.

Table 2. Reliability assessment

| Construct | Number of Items | Factor Loadings | AVE | CR | Cronbach's alpha (α) |
|------------------------|-----------------|-----------------|------|------|-------------------------------|
| Organizational Support | 4 | 0.71–0.89 | 0.62 | 0.85 | 0.82 |
| Customer Awareness | 4 | 0.68–0.85 | 0.61 | 0.84 | 0.80 |
| Security and Privacy | 5 | 0.72–0.91 | 0.66 | 0.88 | 0.85 |
| Regulatory Compliance | 4 | 0.70–0.87 | 0.63 | 0.86 | 0.84 |
| Adoption of E-Commerce | 4 | 0.73–0.88 | 0.65 | 0.87 | 0.83 |

Table 3. Hypothesis testing results

| Hypothesis | Path Coefficient (β) | S.E. | C.R. | p-value | Result |
|--|------------------------------|------|------|---------|---------------|
| H1: Organizational Support \rightarrow E-Commerce Adoption | 0.35 | 0.05 | 7.0 | < 0.001 | Supported |
| H2: Customer Awareness \rightarrow E-Commerce Adoption | 0.45 | 0.06 | 7.5 | < 0.001 | Supported |
| H3: Security and Privacy \rightarrow E-Commerce Adoption | 0.41 | 0.07 | 5.9 | < 0.001 | Supported |
| H4: Regulatory Compliance \rightarrow E-Commerce Adoption | 0.28 | 0.05 | 5.6 | 0.12 | Not Supported |

SEM analysis was used to validate the theoretical model that explained the relationships between organizational support, customer awareness, security and privacy, and regulatory compliance with the adoption of e-commerce technologies. The statistical findings listed in Table 3 demonstrate that organizational support generated $\beta = 0.35$ ($p < 0.001$), customer awareness yielded $\beta = 0.45$ ($p < 0.001$), and security and privacy generated $\beta = 0.41$ ($p < 0.001$); these aspects had a positive and significant effect on e-commerce adoption. The statistical analysis indicated that e-commerce adoption remains unaffected by regulatory compliance measures ($\beta = 0.28$) since the p -value reached 0.12.

The research model demonstrated a good fit with data based on the RMSEA = 0.045 and CFI = 0.942, with TLI = 0.930 and a Chi-square/df ratio of 2.18 according to Hair et al. (2019) as shown in Table 4. The validation through these indices demonstrates that the proposed structural model has sufficient reliability in measuring its concepts.

Table 4. Model fit assessment

| Fit Index | Obtained Value | Threshold | Decision |
|-----------|----------------|-----------|----------|
| RMSEA | 0.045 | < 0.08 | Good |
| CFI | 0.942 | > 0.90 | Good |
| TLI | 0.930 | > 0.90 | Good |
| ChiSq/df | 2.18 | < 3.00 | Good |

The adoption of e-commerce among insurance companies in Jordan depends on strong organizational commitment, together with effective customer understanding procedures and advanced security measures. The absence of direct regulatory compliance effects demonstrates that security frameworks set by regulations fail to drive adoption independently without additional organizational approach and customer participation plans. The adoption of e-commerce technologies by insurance firms requires leadership support for digital initiatives, along with customer education strategies and advanced security systems to boost adoption rates. The proposed measures aim to en-

hance trust levels and user participation, thereby supporting the digital transformation of insurance businesses throughout Jordan.

The insurance sector in Jordan must accept e-commerce through organizational backing and requires customers to understand its benefits and protect user privacy effectively. Research data showed that compliance regulations alone did not generate significant adoption outcomes while various other adoption factors remained active. Companies without in-house development experience and customer service skills often fail to adopt e-commerce, despite practicing security management for digital progress.

The research findings established that support structures within organizations directly lead to e-commerce acceptance (H1). The research findings support Jackson and Allen (2024), who stated that digital transformation requires effective leadership with financial resources and appropriate IT systems for success. Organizational digital initiatives achieve better e-commerce execution performance under digital executive leadership compared to when leaders do not participate in digital initiatives.

Research findings indicate that awareness among customers is a primary factor responsible for adoption, thus validating H2. According to Al-Tit (2020), individuals who both understand digital services and trust online networks are more likely to utilize these digital solutions. Users who grasp both elements of digital insurance platforms and their related advantages demonstrate a stronger willingness toward the adoption of such digital solutions. Individuals who do not understand digital systems show reduced willingness to use such solutions because of concerns about digital protection procedures as well as insurance protocols.

The study results showed that H3 demonstrated security risks and privacy issues as deterrents for people to adopt new behavioral patterns. Sadab et

al. (2024) revealed that online consumer conduct meets many barriers due to privacy risks as well as cyber threats. The development of encryption systems must be a primary mission for insurance organizations to build multilevel security protocols and create clear privacy policies, as these functions ensure customer trust in their operations.

Statistics gathered during the study rejected *H4* because regulatory compliance functions showed no self-sustainable role in adoption drivers. This study showed an opposite result from Ezmigna et al. (2024), as regulatory compliance proves to be independent of e-commerce adoption processes. Organizations and security trust systems must collaborate to develop effective behavioral modifications of end-users based on security requirements that function as fundamental operational standards. Akin (2024) shows that regulatory frameworks support innovation development in new ways by requiring organizations to perform operational transformations for disruptive changes.

Theoretical e-commerce adoption models saw improvements because the outcomes validated that insurance sector organizations need security trust integration with ready customers and internal

organizational support to run an electronic business successfully. The paper provides applicable data that can benefit insurance firms along with their stakeholders while aiding governing organizations. Organizations should employ leadership funds to construct IT infrastructure while training their workforce and creating plans that focus on users. The achievement of digital adoption requires public educational initiatives and clear online procedures, which can be achieved through information campaigns in order to meet the established goals.

To establish digital security measures, users require government control and technological investments in developing protected platforms. Accomplishing flexible insurance coverage schemes within the digital space requires public and private entities to pair up with regulatory authorities to construct collaborative testing frameworks alongside such insurance programs. Organizations work cooperatively to defend users, which leads to the establishment of simultaneous business creation. Researchers must study the combined effects of organizational practices, laws, and customer trust to evaluate their influence on insurance market adoption of digitalization.

CONCLUSION

The study aimed to assess the intricate relationships between Jordanian online insurance e-commerce adaptation, organizational support, customer awareness, security conditions, and regulatory standards. The results showed that user knowledge about protective measures, coupled with organizational Internet-based business support, directly impacts e-commerce user adoption, but government regulations fail to have a direct impact on user adoption behavior. Digital transformation achievement depends on the combination of leader-driven initiatives, well-supported IT investments, and customer education programs. The factor determining security measures allows users to accept technology, as it helps them feel confident about the system processes. User adoption trends for e-commerce platforms increase through enabling regulatory conditions instead of data protection capabilities and authentic operational conduct.

The research on the underdeveloped insurance market in Jordan yields specific theoretical findings regarding digital transformation within regulated sectors, which finalize the research project. Digital transformational strategy design should prioritize both user trust enhancement and organizational readiness enhancement as primary objectives for managers. Policy institutions must create adaptable regulations that ensure technology advancement instead of setting any barriers to progress. Longitudinal studies predicting adoption trajectories rely on time-based analysis, as they enable researchers to measure the effects of technology on digital insurance adoption in both regulated and unregulated markets.

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 Writing – review & editing: Mohammad Mahmoud Saleem Alzubi.

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APPENDIX A

Table A1. Questionnaire: E-commerce adoption in Jordan’s online insurance sector

| Section 1: Demographic information | | | | | |
|--|---|--|--|------------------------------------|---|
| Gender | <input type="checkbox"/> Male | | <input type="checkbox"/> Female | | |
| Age Group | <input type="checkbox"/> 18-29 years | <input type="checkbox"/> 30-39 years | <input type="checkbox"/> 40-49 years | <input type="checkbox"/> 50+ years | |
| Educational Level | <input type="checkbox"/> High School | <input type="checkbox"/> Bachelor’s Degree | <input type="checkbox"/> Master’s Degree | <input type="checkbox"/> Ph.D. | |
| E-Commerce Usage Frequency | <input type="checkbox"/> Rarely (Less than once a month) | <input type="checkbox"/> Occasionally (1-3 times per month) | <input type="checkbox"/> Frequently (Once a week or more) | – | |
| Section 2: Organizational support | | | | | |
| Statement | 1 | 2 | 3 | 4 | 5 |
| Our organization fully encourages digital transformation programs throughout the organization | | | | | |
| The leadership from my company actively supports employees in adopting e-commerce solutions | | | | | |
| Regarding e-commerce technology implementation, the organization provides enough financial support | | | | | |
| The IT infrastructure supplied by my company satisfies the requirements for adopting e-commerce systems | | | | | |
| Workers in our company get complete guidance on using digital insurance platforms | | | | | |
| Section 3: Customer awareness | | | | | |
| Statement | 1 | 2 | 3 | 4 | 5 |
| I already have experience using digital insurance services | | | | | |
| I see no difference between my trust in online insurance services and traditional insurance services | | | | | |
| The transaction process for insurance through online channels provides clear explanations that are easily readable | | | | | |
| The marketing efforts show me the advantages of digital insurance | | | | | |
| E-commerce platforms provide me with confidence to choose appropriate insurance policies | | | | | |
| Section 4: Security and privacy concerns | | | | | |
| Statement | 1 | 2 | 3 | 4 | 5 |
| Initialized insurance services worry me because of their potential lack of data protection | | | | | |
| The online transactions at my organization employ powerful cybersecurity protocols | | | | | |
| The encryption protocols provide me with confidence that my financial account information remains secure whenever I make payments online | | | | | |
| Online insurance services give me cause for worry because of their susceptibility to cyber threats and fraud | | | | | |
| The combination of encryption technology and multi-factor authentication provides me with security when completing digital transactions | | | | | |
| Section 5: Regulatory compliance | | | | | |
| Statement | 1 | 2 | 3 | 4 | 5 |
| Acceptable regulatory systems create security frameworks that protect the transactions executed online | | | | | |
| The requirements that ensure digital security enhance the reliability of digital insurance services | | | | | |
| Our organization strictly adheres to each requirement that applies to e-commerce insurance law | | | | | |
| Current governmental rules present challenges that block businesses from adopting e-commerce models | | | | | |
| The implementation of new regulations leads to better credibility within digital insurance platforms | | | | | |
| Section 6: E-commerce adoption | | | | | |
| Statement | 1 | 2 | 3 | 4 | 5 |
| I regularly utilize the insurance services that operate through online channels | | | | | |
| Customers of my organization receive encouragement from us to utilize digital insurance services | | | | | |
| The online insurance platforms deliver convenient services to users | | | | | |
| I will maintain my usage of digital insurance services as my primary insurance option | | | | | |
| Electronic insurance operations enhance both business performance and customer service availability | | | | | |

Note: For each statement given, please indicate your level of agreement based on the given scale below. Circle only ONE option. 1 = Strongly Disagree, 2 = Disagree 3 = Neutral, 4 = Agree, 5 = Strongly Agree.