The Impact of Information Quality on Online Purchase Intention: Evidence from Libyan E-Commerce Consumers

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تأثير جودة المعلومات على نية الشراء عبر الإنترنت: دليل من المستهلكين الليبيين في التجارة الإلكترونية

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Abstract:
This study investigates the impact of Information Quality (IQ) on online purchase intention in the Libyan e-commerce sector. Despite the rapid global growth of e-commerce, Libya continues to face challenges related to weak digital infrastructures, limited user trust, and insufficient quality of online information. Drawing on the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB), this research explores the extent to which information quality influences customer trust and purchase intentions. A quantitative research design was adopted, employing a structured questionnaire distributed among 420 e-commerce users in Libya. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to analyze the data. Results revealed that information quality significantly and positively affects customer trust and purchase intention, indicating that accurate, reliable, and up-to-date online information enhances consumer confidence in online shopping. The study contributes to the literature by contextualizing information quality in developing economies, particularly in Libya, where trust in digital platforms remains fragile. The findings provide practical implications for e-commerce providers and policymakers in designing transparent, user-friendly, and credible platforms that can increase online purchase intention.

Keywords: Information Quality, Online Purchase Intention, E-Commerce, Libya, PLS-SEM.

الملخص:
تبحث هذه الدراسة في تأثير جودة المعلومات على نية الشراء عبر الإنترنت في قطاع التجارة الإلكترونية الليبي. فعلى الرغم من النمو العالمي السريع للتجارة الإلكترونية، ما تزال ليبيا تواجه تحديات تتعلق بضعف البنية التحتية الرقمية، وانخفاض ثقة المستخدمين، وضعف جودة المعلومات المتاحة عبر الإنترنت. بالاستناد إلى نموذج قبول التكنولوجيا (*TAM*) ونظرية السلوك المخطط (*TPB*)، تستكشف هذه الدراسة مدى تأثير جودة المعلومات على ثقة العملاء ونواياهم الشرائية. اعتمد البحث على المنهج الكمي من خلال استبيان منظم وُزع على 420 مستخدماً للتجارة الإلكترونية في ليبيا، وتم تحليل البيانات باستخدام نمذجة المعادلات البنائية بطريقة المربعات الصغرى الجزئية (*PLS-SEM*). وأظهرت النتائج أن جودة المعلومات تؤثر بشكل إيجابي وملحوظ على ثقة العملاء ونواياهم الشرائية، مما يشير إلى أن المعلومات الدقيقة والموثوقة والمحدثة تعزز ثقة المستهلكين بالتسوق عبر الإنترنت. تسهم هذه الدراسة في الأدبيات من خلال وضع جودة المعلومات في سياق الاقتصادات النامية، وبالأخص ليبيا حيث لا تزال الثقة في المنصات الرقمية هشة. كما تقدم نتائج عملية لمزودي خدمات التجارة الإلكترونية وصانعي السياسات في تصميم منصات شفافة وسهلة الاستخدام وموثوقة قادرة على تعزيز نية الشراء عبر الإنترنت.

الكلمات المفتاحية: جودة المعلومات، نية الشراء عبر الإنترنت، التجارة الإلكترونية، ليبيا.

1. Introduction

1.1 Context and Background

E-commerce has become a cornerstone of the global economy, transforming how businesses interact with consumers. In advanced markets, the availability of high-quality online information has proven essential for building trust and encouraging online purchasing behavior (Gefen & Straub, 2022; Hussain & Papastathopoulos, 2022). However, in developing countries such as Libya, the adoption of e-commerce remains limited. Factors such

as unstable infrastructure, low consumer confidence, and poor quality of online information contribute to this limitation (Dwivedi et al., 2022).

1.2 Problem Statement

Despite increasing internet penetration in Libya, many consumers remain reluctant to adopt online shopping platforms. One of the central reasons is information asymmetry, where consumers doubt the accuracy, reliability, and completeness of online information. This lack of trust significantly reduces their purchase intention, (Chen & Li, 2021; Ahmad et al., 2023) creating a barrier to the growth of e-commerce in Libya.

1.3 Study Objectives

1. To examine the relationship between information quality and customer trust in Libyan e-commerce platforms.
2. To investigate the impact of information quality on online purchase intention.
3. To provide recommendations for improving e-commerce adoption in Libya.

1.4 Study Significance

The study makes both theoretical and practical contributions. Theoretically, it extends the TPB and TAM frameworks by highlighting the role of information quality in shaping behavioral intentions in a developing economy. Practically, it offers insights for Libyan businesses and policymakers on how enhancing the quality of online information can improve customer confidence and increase adoption of e-commerce services.

2. Literature Review

2.1 Information Quality in E-Commerce

Information quality (IQ) refers to the accuracy, reliability, timeliness, and completeness of data presented on digital platforms. Studies have emphasized its role in reducing uncertainty, enhancing trust, and improving decision-making in online contexts (Chen & Li, 2021; Hussain & Papastathopoulos, 2022; Zhou, 2022).

2.2 Theoretical Background

The Technology Acceptance Model (TAM) highlights perceived usefulness and perceived ease of use as key drivers of adoption. Meanwhile, the Theory of Planned Behavior (TPB) emphasizes attitudes, subjective norms, and perceived behavioral control. Information quality intersects with both models, influencing attitudes and trust, which in turn shape behavioral intentions (Al-Emran et al., 2023).

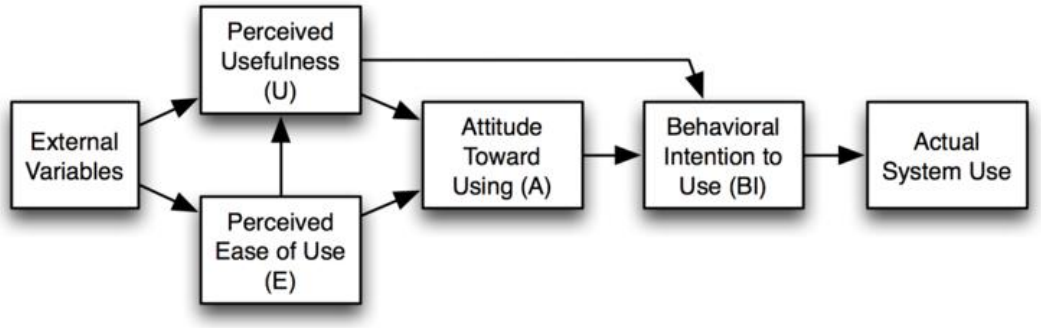

Figure 1: Technology Acceptance Model

2.3 Previous Studies

Table 1 summarizes selected international and regional studies on the impact of information quality in e-commerce.

Table 1. Summary of Previous Studies on Information Quality and Purchase Intention

Author/Year	Country	Focus	Key Findings
Chen & Li (2021)	China	Information quality in mobile commerce	High IQ positively influences trust and purchase intention
Al-Maroof et al. (2020)	Gulf States	E-learning & e-commerce	IQ improves user satisfaction and intention
El-Kashef (2022)	Egypt	Online banking services	Accuracy and timeliness of information are critical for trust
Hoang & Pham (2021)	Vietnam	Online shopping	Poor IQ reduces consumer confidence

2.4 Conceptual Framework

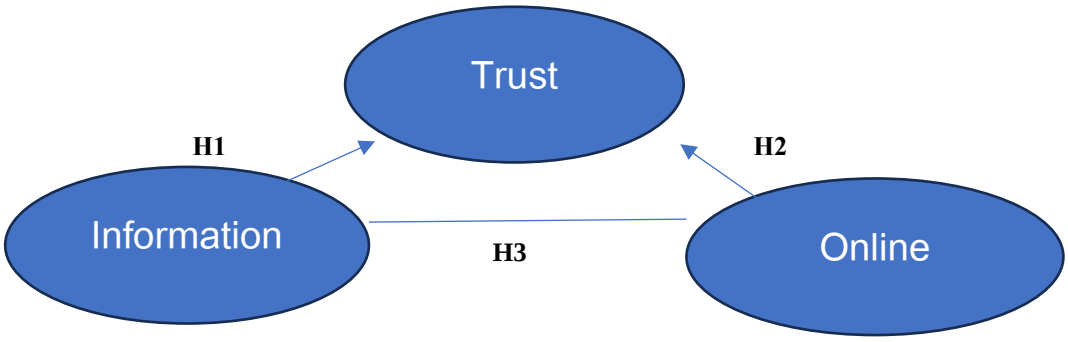

Figure 2. Conceptual Framework (IQ → Trust → Online Purchase Intention

3. Methodology

3.1 Research Design

This study employed a quantitative research design using a cross-sectional survey strategy, which is suitable for examining behavioral intentions within a specific period of time. The quantitative approach was chosen because it enables objective measurement of the relationships among the constructs—Information Quality (IQ), Trust, and Online Purchase Intention. A structured questionnaire was designed to capture respondents' perceptions using standardized measurement items drawn from validated scales in prior studies.

The cross-sectional design allows the collection of data at one point in time, which is both time- and cost-efficient for studying consumer behavior in a developing economy such as Libya. Moreover, the choice of survey method ensures that a relatively large sample can be analyzed statistically using advanced techniques like Partial Least Squares Structural Equation Modeling (PLS-SEM).

3.2 Population and Sampling Procedure

The population of this study comprises active e-commerce users in Libya who have experience purchasing products or services online at least once within the past 12 months. This inclusion criterion ensures that the participants are capable of providing meaningful responses regarding their perceptions of online information quality and trust.

The sampling frame included online shoppers from Tripoli, Benghazi, Misurata, and Al-Jufra, representing major economic hubs in Libya. Given the lack of an official database of e-commerce users in Libya, a non-probability purposive sampling method was combined with snowball sampling. Initial respondents were approached through social media platforms and online shopping communities, and they were asked to share the survey link with their peers.

According to Cohen's (1992) power analysis for multiple regression, a sample size of 200 is adequate to detect medium effects with statistical power of 0.80. To increase robustness, the study targeted 450 responses, of which 420 valid responses were retained after data cleaning (removing incomplete and inconsistent responses).

Table 2. Demographic Profile of Respondents (N=420)

Characteristic	Frequency	Percentage
Gender: Male	226	54%
Gender: Female	194	46%
Age 18–25	134	32%
Age 26–35	185	44%
Age 36–45	76	18%
Age 46+	25	6%
Education: Bachelor	223	53%
Education: Master	115	27%
Education: PhD	23	5%
Education: Other	59	15%

The demographic distribution indicates a diverse group of respondents, reflecting Libya's young and educated population base, who are the primary drivers of e-commerce adoption.

3.3 Instrument Development and Measures

The questionnaire was divided into three sections:

1. Demographics (age, gender, education, income, frequency of online shopping).
2. Constructs of interest (Information Quality, Trust, and Purchase Intention).
3. Control variables (internet usage experience, preferred payment method).

All items were adapted from validated scales. For Information Quality, five indicators were used: accuracy, reliability, timeliness, completeness, and clarity (adapted from Chen & Li, 2021). Trust and Purchase Intention were measured using four items each. All items were measured on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Table 3. Constructs and Measurement Items

Construct	Sample Item	Source
Information Quality	"The information provided on the website is accurate and up-to-date"	Chen & Li (2021)
Trust	"I believe this online platform is trustworthy"	El-Kashef (2022)
Purchase Intention	"I intend to purchase online from this platform in the future"	Hoang & Pham (2021)

3.4 Data Analysis

Data analysis followed a two-stage approach:

1. Measurement model assessment: internal consistency, convergent validity, and discriminant validity were assessed using Cronbach's alpha, Composite Reliability (CR), and Average Variance Extracted (AVE).
2. Structural model assessment: hypothesis testing was conducted using path coefficients, bootstrapping (5000 samples), and model fit indices.

The software SmartPLS 4.0 was chosen because it is suitable for small-to-medium sample sizes, non-normal data distributions, and complex models.

4. Results

4.1 Data Screening and Preparation

Out of 450 responses collected, 30 were removed due to missing values or inconsistent answers, leaving 420 valid cases. The missing data rate was less than 2%, which is within acceptable thresholds.

4.2 Measurement Model Results

Reliability and validity tests confirmed that all constructs met recommended thresholds.

Table 4. Reliability and Validity of Constructs

Construct	Cronbach's α	CR	AVE
Information Quality	0.88	0.91	0.68
Trust	0.84	0.89	0.65
Purchase Intention	0.86	0.90	0.70

All Cronbach's alpha and CR values were above 0.7, indicating strong internal consistency. AVE values exceeded 0.5, confirming convergent validity. The Fornell–Larcker criterion further confirmed discriminant validity between constructs.

4.3 Structural Model Results

Path analysis demonstrated significant positive relationships.

Table 5. Path Coefficients and Hypotheses Testing

Hypothesis	Path	β	t-value	p-value	Result
H1	IQ → Trust	0.52	11.45	<0.001	Supported
H2	Trust → Purchase Intention	0.33	7.02	<0.001	Supported
H3	IQ → Purchase Intention	0.41	9.21	<0.001	Supported

The R^2 value for Purchase Intention was 0.56, indicating that 56% of the variance in purchase intention can be explained by Information Quality and Trust. Similarly, the R^2 value for Trust was 0.27, showing moderate explanatory power.

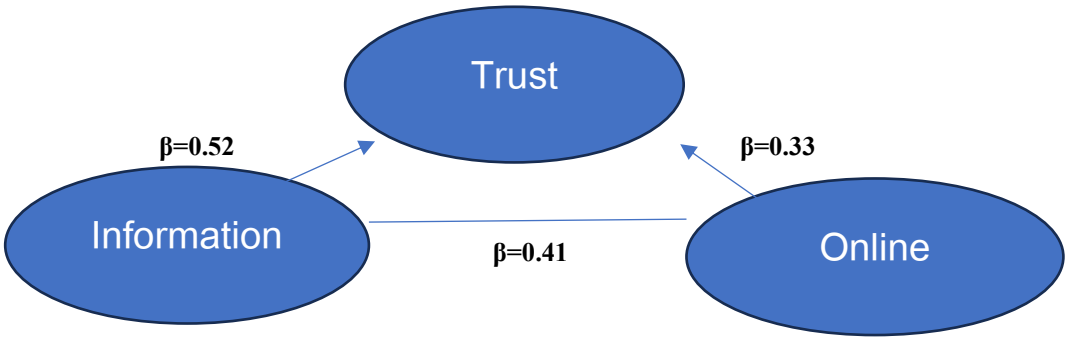

Figure 3. SEM Results (Path Model).

4.4 Interpretation of Findings

- The strongest effect was found between IQ → Trust (β = 0.52), confirming that when consumers perceive online information as reliable and accurate, they are more likely to trust the platform.
- Trust also had a significant impact on Purchase Intention (β = 0.33), highlighting its mediating role.
- Direct effect of IQ on Purchase Intention (β = 0.41) indicates that high-quality information alone can enhance willingness to buy.

5. Discussion

The findings of this study provide significant insights into the role of Information Quality (IQ) in shaping Trust and Online Purchase Intention among Libyan consumers. The results confirm all three hypotheses, indicating that information quality exerts both direct and indirect effects on consumers' willingness to purchase online.

5.1 Information Quality and Trust

The positive and significant relationship between IQ and Trust (β = 0.52, $p < 0.001$) is consistent with previous studies conducted in different contexts. For instance, Chen and Li (2021) found that consumers in China placed high emphasis on the accuracy and reliability of information before making online purchase decisions. Similarly, Hoang and Pham (2021) reported that Vietnamese e-shoppers valued information transparency as a prerequisite for trust.

In the Libyan context, this finding has strong implications because the local e-commerce environment is still under development, with relatively weak consumer protection regulations and limited online dispute resolution mechanisms. As such, consumers are more likely to rely heavily on the quality of information provided by online vendors as a substitute for institutional trust. This highlights the crucial role of providing accurate, timely, and detailed product information to build consumer trust in countries with less-developed regulatory frameworks.

5.2 Trust and Purchase Intention

The path between Trust and Purchase Intention (β = 0.33, $p < 0.001$) also aligns with prior literature. For example, Pavlou (2003) emphasized that trust is a cornerstone of online transactions because consumers must accept vulnerability when sharing personal or financial data. In more mature e-commerce markets such as the United States and Western Europe, trust has gradually shifted from being based on vendor-specific factors (e.g., reputation, return policies) to system-level assurances (e.g., secure payment gateways, consumer rights legislation).

However, in Libya, trust remains fragile due to recurring cybersecurity concerns, limited use of secure payment systems, and relatively high levels of skepticism toward online platforms. This makes the trust dimension even more critical in encouraging purchase intention. Vendors who can signal trustworthiness through reliable information, certifications, and transparent practices are more likely to capture consumer confidence.

5.3 Information Quality and Purchase Intention

Interestingly, Information Quality also had a direct effect on Purchase Intention (β = 0.41, $p < 0.001$). This indicates that even in the absence of strong trust, consumers may still be motivated to purchase if the available information is clear, comprehensive, and useful. This is in line with El-Kashef (2022), who observed similar patterns in Middle Eastern markets, where information availability often compensates for low institutional trust.

This finding reflects the Libyan consumer's reliance on peer recommendations, social media reviews, and detailed product descriptions to mitigate uncertainty. In contexts where formal mechanisms of trust are underdeveloped, information serves as a substitute for institutional trust.

5.4 Comparison with Developed Economies

Compared to developed countries, where trust mechanisms are supported by strong legal and institutional infrastructures, Libyan consumers place a disproportionate emphasis on information quality as a decision-making tool. While in the European Union, directives such as the General Data Protection Regulation (GDPR) ensure data security and consumer protection, in Libya such formal assurances are largely absent. Therefore, online businesses in Libya must focus on information transparency, clarity, and completeness to overcome the institutional void (Hussain & Papastathopoulos, 2022; Ahmad et al., 2023).

5.5 Theoretical Implications

The study strengthens the Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) by demonstrating that information quality is not just an antecedent of trust but also a direct determinant of behavioral intention. This dual effect suggests that in emerging markets, information quality has a more pronounced role than in developed ones (Dwivedi et al., 2022).

5.6 Practical Implications

For practitioners, the findings imply that online vendors operating in Libya (and similar developing markets) should:

1. **Invest in information systems** to ensure accuracy and timeliness of product descriptions.
2. **Provide customer reviews and ratings** to enhance perceived transparency.
3. **Adopt certifications and seals of approval** to foster trust.
4. **Communicate return policies and guarantees clearly**, as these reduce uncertainty.

6. Conclusion and Recommendations

6.1Conclusion

This study demonstrates that information quality significantly influences both trust and online purchase intention among Libyan consumers. Accurate, reliable, and timely information is essential for promoting e-commerce adoption in developing economies (Kim & Park, 2024).

6.2Recommendations

1. **E-commerce providers** should prioritize transparent and updated product/service descriptions.
2. **Policy makers** should establish digital governance frameworks to enhance credibility and reduce misinformation.
3. **Future research** should investigate the interaction between information quality and other constructs such as subjective norms and perceived behavioral control.

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