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The Factors For Choosing An Online Seller: Insights from a TAM-Based Study of Polish Online Consumers

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Abstract:

Purpose: *The purpose of this study is to identify and analyze the key factors influencing Polish consumers' preferences when choosing online sellers and to map these factors to the constructs of the Technology Acceptance Model (TAM), namely Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Behavioral Intention to Use (BI). The study aims to provide theoretical insights and practical recommendations for online retailers.*
Design/Methodology/Approach: *A quantitative research approach was employed, utilizing a survey of 1,117 respondents aged 18 and older in Poland. The data was collected using the CAWI (Computer-Assisted Web Interview) technique with probabilistic sampling. Quality control measures, including real-time monitoring and substantive analysis, were implemented to ensure data reliability. Statistical analysis of consumer preferences was conducted, with results stratified by gender, age, and place of residence. The findings were then integrated into the TAM framework for analysis.*
Findings: *Key Determinants: Low prices (72.9%) emerged as the most critical factor in online shopping preferences, followed by low delivery costs (59.2%) and a wide assortment of products (51.6%). Demographic Consistency: No statistically significant differences were found in preferences across gender, age groups, or place of living, indicating broadly uniform consumer behavior in the Polish market. TAM Insights: Factors such as affordability, ease of use, and trust-related elements (e.g., online reviews, positive experiences) align closely with TAM constructs, confirming their relevance in predicting online shopping behavior.*
Practical Implications: *Competitive Pricing: Online retailers should focus on maintaining competitive pricing to attract cost-sensitive consumers. User Experience: Enhancements to website usability, streamlined ordering processes, and fast delivery services are critical for improving customer satisfaction and retention, particularly among older demographics. Trust Building: Retailers should invest in strategies to build trust, such as encouraging positive online reviews and leveraging social proof through customer recommendations. Targeted Campaigns: Younger audiences respond more favorably to promotional activities, offering opportunities for age-specific marketing strategies..*
Originality/value: *The paper is based on own, primary research.*

Keywords: *Online shopping, Poland, TAM model.*

JEL classification: *D12, L81, M31.*

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1. Introduction

The rapid expansion of e-commerce has fundamentally transformed consumer behavior, with online shopping becoming a cornerstone of modern retail. Understanding the factors that influence consumers' preferences for online sellers is crucial for businesses aiming to thrive in this competitive environment. In Poland, where digital adoption has surged in recent years, consumer choices are shaped by a combination of economic, technological, and trust-related considerations.

The paper explores these preferences through the lens of the Technology Acceptance Model (TAM), a framework traditionally used to analyze user acceptance of technology. By examining determinants such as pricing, ease of use, and trust, this research provides a nuanced understanding of how Polish consumers navigate online marketplaces.

Leveraging a survey of 1,117 respondents, the study highlights the universal importance of affordability, streamlined experiences, and social proof in shaping shopping behavior, while also investigating demographic and regional consistencies.

Through this analysis, the paper not only reinforces TAM's applicability in e-commerce but also offers practical recommendations for online retailers to enhance their competitive positioning and customer satisfaction. The findings aim to bridge theoretical insights with actionable strategies, making them relevant for both academics and practitioners in the dynamic field of digital commerce.

2. Literature Review of the Use of Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is a widely used framework for understanding and predicting user acceptance of technology. TAM was introduced by Fred Davis in 1989 (Davis 1989) and is based on the premise that two primary factors influence whether individuals will accept and use a technology:

1. Perceived Usefulness (PU), which refers to the degree to which a person believes that using a particular technology will enhance their performance or productivity.

2. Perceived Ease of Use (PEOU), which refers to the degree to which a person believes that using the technology will be free of effort. If a technology is perceived as easy to learn and use, individuals are more likely to accept it.

TAM established the first widely recognized theoretical framework in information systems acceptance (Venkatesh and Davis 2000; Lee, Kozar, and Larsen 2003, Mohammad and Szigeti 2023).

Overtime, there were added some core theoretical extensions. The TAM2 (Venkatesh and Davis, 2000) validated addition of social influence (e.g., subjective norm) and cognitive instrumental processes (e.g., job relevance), reinforcing theoretical foundations through rigorous longitudinal testing. The TAM3 (Venkatesh and Bala, 2008) added integrated moderating variables like experience and gender.

The sysmetaic review of 166 studies in 2020 (Matemba *et al.*, 2020) systematically proposed construct-driven enhancements (e.g., health, financial constraints) and categorized TAM-centric studies, advocating for practical relevance via structured approaches.

Beyond the application in the field of information systems management, TAM model has also been employed in various other disciplines, such as marketing and advertising (Gefen, Karahanna, and Straub, 2003; Dabholkar and Bagozzi 2002; Gentry and Calantone, 2002). Since information systems play a significant role in the marketing of products and services, the model has proven to be a valuable tool for analyzing consumer attitudes toward technologies like chatbots, e-commerce platforms, and online shopping tools that facilitate online transactions (Gefen, Karahanna, and Straub, 2003; Rocha *et al.*, 2020).

The paper will use the Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) for further analysis.

3. The Research Design and Results

The study population comprised individuals aged 18 and older residing in Poland. A total of 1,117 interviews were conducted, of which 26.3% were with individuals identifying as persons with disabilities or mobility impairments, and 9.3% with caregivers of such individuals. The application of a quantitative research method and a probabilistic sampling approach ensures the generalizability of findings to the adult population within a margin of error of ±3.0% at a 95% confidence level.

The study employed a random sampling methodology, utilizing a proprietary respondent selection system, which incorporated a mechanism to enforce a cooldown period for participation in surveys. The data were subsequently weighted to align the sample structure with the demographic composition of the general population, enhancing the representativeness and robustness of the findings.

The survey was conducted using the CAWI technique (Computer-Assisted Web Interview).

The quality control of the study was conducted using two methods:

Field control – During the data collection process, responses were continuously monitored in real time. This enabled the identification and elimination of cases where the data raised concerns, such as excessively short questionnaire completion times, undesirable response patterns, inconsistencies, or discrepancies in the answers. The questionnaire script was designed to ensure that respondents could not skip key questions, particularly those deemed critical to the study's objectives.

Non-field control – A substantive analysis was performed to identify and exclude incomplete or unreliable data. The quality control process encompassed 100% of the collected material, including an examination of response consistency, answer patterns, and records of responses to semi-open questions.

The results concerning the online shopping are presented in Tables 1 and 2.

Table 1. *The most important factors when choosing a specific online seller regarding gender and age*

Category	Unit	Total	Gender		Age		
			Male	Female	18-30	31-60	61 and more
Low prices	%	72,9	70,1	75,9	75,9	72,5	71,9
Promotional activities	%	28,9	30,6	27	39,1	28,4	23,8
Wide assortment of products	%	51,6	53,6	49,5	51	49,9	55,3
Product comparison	%	30	26,5	33,7	36,5	26	33,5
Easy contact with the seller	%	22,5	22,9	22,1	23,5	23,2	20,7
Simple ordering process	%	49,7	55,5	43,5	48	46	57,7
Low delivery costs	%	59,2	61,9	56,3	62,1	55	65,3
Fast delivery times	%	49	54,9	42,6	56,4	46,9	48,6
Appearance of the store's website/application	%	9,1	9,9	8,2	12,7	9,1	6,9
Selection of various payment methods	%	32,2	36,7	27,3	36,1	30,3	33,5
Location of the selling store	%	4,5	3,6	5,5	5,9	4,7	3,4
Positive opinions from acquaintances about the seller	%	25,5	27,9	22,8	28,8	23,5	27,2
Positive personal experiences	%	34,1	35,7	32,4	40,3	29,2	39,5
Reviews posted online	%	24,5	25	24	28,3	23,7	23,9

Position of the store in online search engines	%	4,1	4,9	3,2	7,1	2,4	5,4
Content of the store or auction regulations	%	4,6	4,1	5,1	6,5	4,1	4,2
Rewards for repeat purchases	%	9,1	10,4	7,7	12,6	9,3	6,7
Other	%	0,3	-	0,6	-	0,2	0,6
None of the above	%	0,2	0,1	0,3	-	0,2	0,3
Hard to say/I don't know	%	0,7	1,1	0,3	0,3	1,1	0,2

Note: *N=1117.*
Source: *Own elaboration based on the research results.*

Table 2. *The most important factors when choosing a specific online seller regarding the place of living*

Category	Unit	Place of living				
		Rural area	Town up to 20 000 inhabitants	Town of 20 001 - 100 000 inhabitants	Town of 100 001 - 400 000 inhabitants	Town 400 001 or more inhabitants
Low prices	%	73,3	70,9	72,1	71,9	75,8
Promotional activities	%	31,2	33,1	22,4	24,5	31,7
Wide assortment of products	%	47	49,4	55,5	52	61,7
Product comparison	%	31,4	25	26,9	27,3	37,6
Easy contact with the seller	%	23,9	24,1	19,3	19,7	24,2
Simple ordering proces	%	46,9	47,1	45,8	55,8	59,4
Low delivery costs	%	56,6	54,5	59,7	60,8	69
Fast delivery Times	%	47,9	50	47,5	56,8	45
Appearance of the store's website/application	%	9,2	5,6	7,7	13,4	9,1
Selection of various payment methods	%	35	22,9	28,7	35,7	33,8
Location of the selling store	%	4,9	7,1	2	4,1	4,8
Positive opinions from acquaintances about the seller	%	25,7	26,1	18,5	26,2	33
Positive personal experiences	%	34,1	30,7	35,5	35,9	33,5
Reviews posted online	%	24,5	19,8	30,6	25,3	20,2
Position of the store in online search engines	%	4,5	6,3	1,6	6,6	1,4
Content of the store or auction regulations	%	6,2	4	4,3	1,6	3,8
Rewards for repeat purchases	%	7,9	5,5	8,6	7,7	18,5
Other	%	0,1	-	0,4	0,9	0,2
None of the above	%	-	0,4	0,4	0,4	0,2
Hard to say/I don't know	%	0,3	0,5	2,5	0,4	-

Note: *N=1117.*
Source: *Own elaboration based on the research results.*

The analysed factors were chosen basing on own experience and literature review (Chang and Chen 2008; Pappas 2016; Petcharat and Leelasantitham 2021; Croes and Bartels 2021; Vazquez *et al.,* 2020; Kukar-Kinney and Close 2009).

4. The Adoption of the Research Results for TAM Model

In order to to proceed with the analysis based on TAM model, the variables relevant to TAM model had to be identified. It was performed after analysis of relevant literature (Malatjia *et al.,* 2020; Mathieson 1991; Chau 1996; Scherer *et al.,* 2018; Wallace and Sheetz 2014)

Perceived Usefulness (PU): Low prices, promotional activities, wide assortment of products, product comparison, and positive opinions were chosen to reflect the user's perception of how the technology or platform improves their shopping experience.

Perceived Ease of Use (PEOU): Simple ordering processes, easy contact with the seller, fast delivery times, and selection of various payment methods were chosen to reflect to how effortless users find the system.

Behavioral Intention to Use (BI): reviews posted online, positive personal experiences, rewards for repeat purchases were chosen to reflect to the intention to use or recommend the retailer.

5. Findings

Key findings concerning the factors include:

- Low prices (72.9%) are the most critical factor, suggesting that users prioritize affordability.
- Promotional activities (28.9%) and wide assortments of products (51.6%) appeal more to younger audiences (18-30 years).
- Simple ordering processes and fast delivery times show gender and age-related preferences, being more critical for older demographics (61+).
- Visual factors, such as the appearance of the store's website/application, are relatively insignificant overall (9.1%).
- Social proof elements like positive opinions from acquaintances (25.5%) and reviews posted online (24.5%) indicate trust factors that correlate with higher TAM model adoption.

Gender Differences:

Across all categories, no statistically significant differences were identified between males and females in their reported preferences. This indicates that gender does not

play a substantial role in determining the importance of specific factors when choosing an online seller.

Age Group Differences:

Similarly, the analysis of preferences across the three age groups (18-30, 31-60, and 61+) revealed no statistically significant differences for any of the evaluated factors. This suggests that age groups exhibit consistent preferences when selecting an online seller.

Place of living differences:

With one exception no statistically significant differences were found across residential groups. This suggests that place of living has no impact on choosing an online seller.

To synthesise the findings it can be stated that low prices emerged as the most critical factor (72.9%), underscoring the importance of affordability in online shopping decisions. Ease-related factors such as simple ordering processes and fast delivery times were particularly valued, especially among older demographics. Social proof elements, including positive reviews and personal recommendations, were significant indicators of trust and behavioral intention.

6. Conclusion

This study investigated the factors influencing the choice of online sellers in Poland, leveraging the Technology Acceptance Model (TAM) as a theoretical framework. By analyzing survey data from 1,117 respondents, we identified key determinants of consumer behavior and mapped them to TAM constructs: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Behavioral Intention to Use (BI). The findings provide both theoretical insights and practical implications for e-commerce platforms and online retailers.

Low prices emerged as the most critical factor (72.9%), underscoring the importance of affordability in online shopping decisions. Ease-related factors such as simple ordering processes and fast delivery times were particularly valued, especially among older demographics. Social proof elements, including positive reviews and personal recommendations, were significant indicators of trust and behavioral intention.

Demographic Insights: Preferences were largely consistent across gender, age groups, and place of living, with no statistically significant differences, suggesting a broadly uniform approach to online shopping in Poland.

Relevance to TAM: Variables like low prices and wide product assortments highlight the perceived usefulness of online platforms in enhancing shopping efficiency. Ease-related variables, such as fast delivery and diverse payment options, emphasize the importance of a seamless user experience. Behavioral intention, reflected through trust-related factors (e.g., reviews and positive personal experiences), underscores the critical role of credibility and customer satisfaction.

Implications for Theory Extension of TAM: This study demonstrates the applicability of TAM in analyzing consumer behavior in e-commerce contexts, suggesting that PU and PEOU can be effectively operationalized with variables related to shopping preferences. However, the consistency of preferences across demographic groups raises questions about potential boundary conditions of TAM's constructs in culturally or economically homogenous populations.

Implications for Practice:

Price Competitiveness: Online retailers should prioritize competitive pricing strategies, as affordability remains the primary driver of consumer choices.
Streamlined User Experience: Investing in user-friendly interfaces, simple ordering processes, and efficient delivery systems can enhance perceived ease of use, especially among older consumers.
Building Trust: Retailers should focus on obtaining positive reviews, leveraging word-of-mouth marketing, and ensuring customer satisfaction to strengthen consumer trust and increase retention.
Targeted Marketing: Despite demographic similarities in preferences, younger audiences showed a higher sensitivity to promotional activities, suggesting opportunities for age-specific marketing campaigns.

Future Research Directions:

Cultural Comparisons: Future studies could compare the factors influencing online shopping behavior across different cultural or economic contexts to explore how TAM constructs vary in global e-commerce.
Longitudinal Studies: Tracking consumer preferences over time can provide insights into how technological advancements or market changes impact TAM's predictive power.
Integration of Emerging Factors: Future research could examine the role of emerging variables, such as environmental sustainability or data privacy concerns, in influencing online shopping behavior.
Advanced Analytics: Employing machine learning techniques to analyze consumer behavior could reveal complex, nonlinear relationships between variables not captured in traditional TAM models.

References:

Chau, P.Y.K. 1996. An Empirical Assessment of a Modified Technology Acceptance Model. Journal of Management Information Systems, 13(2), 185-204. doi:10.1080/07421222.1996.1151812.

Croes, E., Bartels, J. 2021. Young adults' motivations for following social influencers and their relationship to identification and buying behavior. Computers in Human Behavior, 124, Article 106910. doi: 10.1016/j.chb.2021.106910.

Dabholkar, P.A., Bagozzi, R.P. 2002. An Attitudinal Model of Technology-Based Self-Service: Moderating Effects of Consumer Traits and Situational Factors. Journal of the Academy of Marketing Science, 30(3), 184-201. doi:10.1177/0092070302303001.

Davis, F.D. 1989. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly, 13(3), 319. doi:10.2307/249008.

Dulcic, Z., Pavlic, D., Silic, I. 2012. Evaluating the Intended Use of Decision Support System (DSS) by Applying Technology Acceptance Model (TAM) in Business Organizations in Croatia. Procedia - Social and Behavioral Sciences, 58, 1565-1575. doi:10.1016/j.sbspro.2012.09.1143.

Gefen, D., Karahanna, E., Straub, D. 2003. Trust and TAM in Online Shopping: An Integrated Model. MIS Quarterly, 27(1), 51. doi:10.2307/30036519.

Gentry, L., Calantone, R. 2002. A comparison of three models to explain shop-bot use on the web. Psychology and Marketing, 19(11), 945-956. doi:10.1002/mar.10045.

Hsin Chang, H., Wen Chen, S. 2008. The impact of online store environment cues on purchase intention. Online Information Review, 32(6), 818-841. doi:10.1108/14684520810923953.

Kukar-Kinney, M., Close, A.G. 2009. The determinants of consumers' online shopping cart abandonment. Journal of the Academy of Marketing Science, 38(2), 240-250. doi:10.1007/s11747-009-0141-5.

Lee, Y., Kozar, K., Larsen, K. 2003. The Technology Acceptance Model: Past, Present, and Future. Communications of the Association for Information Systems, 12. doi:10.17705/1CAIS.01250.

Malatjia, W.R., Van Eck, R., Zuva, T. 2020. Understanding the usage, Modifications, Limitations and Criticisms of Technology Acceptance Model (TAM) Adv. Sci. Technol. Eng. Syst. J., 5(6), 113-117. doi: 10.25046/aj050612.

Matemba, E.D., Guoxin, L., Gogan, I.C.W., Maiseli, B.J. 2020. Technology acceptance model: recent developments, future directions, and proposal for hypothetical extensions. International Journal of Technology Intelligence and Planning (IJTIP), Vol. 12, No. 4. doi:10.1504/ijtip.2020.109769.

Mathieson, K. 1991. Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behavior. Information Systems Research, 2(3), 173-191. doi:10.1287/isre.2.3.173.

Mohammad, M., Szigeti, O. 2023. Relationship Between Attitude and Online Purchase Intention of Dairy Functional Foods in Hungary: An Extended TAM Approach European Research Studies Journal, Volume XXVI, Issue 1, 545-559. doi: 10.35808/ersj/3128.

Pappas, N. 2016. Marketing strategies, perceived risks, and consumer trust in online buying behaviour. Journal of Retailing and Consumer Services, 29, 92-103. doi:10.1016/j.jretconser.2015.11.007.

Petcharat, T., Leelasantitham, A. 2021. A retentive consumer behavior assessment model of the online purchase decision-making process. A retentive consumer behavior assessment model of the online purchase decision-making process. Heliyon, Volume 7, Issue 10. doi: 10.1016/j.heliyon.2021.e08169.

Rocha, Á., Reis, J.L., Peter, M.K., Bogdanović, Z. (Eds.). 2020. Marketing and Smart Technologies. Smart Innovation, Systems and Technologies. doi:10.1007/978-981-15-1564-4.

Scherer, R., Siddiq, F., Tondeur, J. 2018. The technology acceptance model (TAM): A meta-analytic structural equation modeling approach to explaining teachers' adoption of digital technology in education. Computers & Education. doi:10.1016/j.compedu.2018.09.009.

Vazquez, D., Wu, X., Nguyen, B., Kent, A., Gutierrez, A., Chen, T. 2020. Investigating narrative involvement, parasocial interactions, and impulse buying behaviours within a second screen social commerce context. International Journal of Information Management, 53, 102135. doi:10.1016/j.ijinfomgt.2020.102135.

Venkatesh, V., Bala, H. 2008. Technology Acceptance Model 3 and a Research Agenda on Interventions. Decision Sciences, 39(2), 273-315. doi:10.1111/j.1540-5915.2008.00192.x.

Venkatesh, V., Davis, F.D. 2000. A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. Management Science, 46(2), 186-204. doi:10.1287/mnsc.46.2.186.11926.

Wallace, L.G., Sheetz, S.D. 2014. The adoption of software measures: A technology acceptance model (TAM) perspective. Information & Management, 51(2), 249-259. doi:10.1016/j.im.2013.12.003.