

THE INTERPLAY OF DEMOGRAPHIC FACTORS IN CHANGING FEMALE BUYING BEHAVIOR

AHMED H. HELAL¹, IYAD A. AL-NSOUR^{* 2}

¹ ASSOCIATE PROFESSOR, COLLEGE OF MEDIA & COMMUNICATION, PUBLIC RELATIONS AND MARKETING COMMUNICATION DEPARTMENT, IMAM MOHAMMAD IBN SAUD ISLAMIC UNIVERSITY (IMSIU), RIYADH, SAUDI ARABIA. EMAIL: ahhelal@imamu.edu.sa.

² FULL PROFESSOR, COLLEGE OF MEDIA & COMMUNICATION, PUBLIC RELATIONS AND MARKETING COMMUNICATION DEPARTMENT, IMAM MOHAMMAD IBN SAUD ISLAMIC UNIVERSITY (IMSIU), RIYADH, SAUDI ARABIA. EMAIL: iaalsnour@imamu.edu.sa.

Abstract: This study aimed to measure the demographic factors that influence the Buying process of Jordanian families. These factors include age, education, occupation, income, number of children, years of marriage, family life cycle, and family origin. The research focuses on two main variables: Buying decisions and the criteria used by women in making these decisions within Jordanian families. A quantitative approach was deemed appropriate for this study, which falls under the category of descriptive analytical research. The research population comprises all Jordanian women aged 15 to 64 years, totaling approximately 3.251 million. The snowball sampling method was used to select a sample of 387 Jordanian women for the study. A five-point Likert scale was employed to gather data. The findings indicate a positive effect of women on Buying roles within Jordanian families, revealing a significant positive impact of women on Buying decisions. The statistical analysis identified that certain modified variables, specifically occupation and location, significantly affected women's Buying roles in Jordanian families. In contrast, factors such as age, education, income, number of family members, years of marriage, and family origin did not show a significant effect. Additionally, there was a moderate impact on the criteria for product selection among Jordanian families. The difference tests further revealed that the adjusted variables (age, education, occupation, income, number of children, years of marriage, family life cycle, and family of origin) did not influence the Buying criteria of Jordanian women. Overall, the buying criteria were found to be consistent among Jordanian women in general.

Key Words: Female Consumer, Buying Behavior, Family, Jordan.

1. INTRODUCTION:

Society recognizes the significant influence of family on its members, particularly over extended periods. Families play a crucial role in acquiring various skills and buying behaviors for their members, thereby enhancing their learning and experience (Al-Nsour, 2023; Vazquez & Greenfield, 2021). In the buying decision process, the family is the core of an interactive approach that allows all members to share their experiences and expertise by expressing their interests and aspirations (Wang & Wang, 2024; Al-Nsour, 2024). This interaction occurs through various roles that reflect individual preferences, leading to maximized benefits for both the group family and its members (Shah & Asghar, 2023). Despite early research back to the 1950s (Ryan, 2015), there has not been a consensus on how buying roles are distributed among family members (Carstensen et al., 2024; Al-Nsour, 2024). This lack of agreement arises from the numerous behavioral differences that influence individuals, such as taste, color preferences, design choices, levels of knowledge, and perception. These factors create the complexity and ambiguity of the buying decision process in the family (Al-Sayyed et al., 2025).

Current studies affirm that each family member has specific roles that they act based on their duties and responsibilities within the family (Chen et al., 2022). These roles and obligations toward other family members are clearly defined, and individual psychological traits significantly influence these responsibilities (Beaulieu et al., 2022). For instance, women often seek buying decisions that enhance their feminine identity by focusing on traditionally feminine products such as furniture, food, household items, and cosmetics. In contrast, men typically take charge of searching for information related to masculine products, such as cars and their accessories (Al-Nsour, 2023; Ricciardelli et al., 2010).

1960 is recognized as the official starting point of the consumer research movement. Since this date, the role of women in buying decisions has evolved significantly, becoming more inclusive and influential within families at all stages of the buying process. This involvement begins with problem recognition, continues through the search for information, and culminates in the final buying decision (Al-Nsour & Al-Sahli, 2022; Kandemir et al., 2019). Women's impact on buying decisions has expanded and included

the products traditionally considered masculine, such as cars, financial services, and savings plans (Ben-Shmuel et al.,2024). Additionally, the merging of women's buying roles has become a sign of evolving interests, practices, and priorities, which is largely due to their increasing independence and improved economic status (Adanzounon et al.,2024). For example, a study found that while 80% of men purchased only 25% of their family's fruit and vegetables, women have a more active role in buying cars, financial services, and insurance (Al-Nsour & Hasnin,2024; Al-Nsour, 2019).

Moreover, women have begun to engage in joint buying decisions (Al-Nsour & Al-Shaibani,2024), and children have started to play many roles in this process, including direct demand, satisfaction, emotional influence, and providing references to others (Liu et al.,2024). Women tend to make buying decisions based on emotional considerations and are significantly influenced by the opinions and recommendations of others (Al-Nsour, 2018). In this context, women's buying decisions are objective, comprehensive, and sensory, driven by the desire to gather extensive information to inform their choices (AlNsour et al., 2025; Bessouh et al., 2017). In contrast, men often focus on utilitarian aspects of products and rely on clear information when making decisions. They tend to use analytical criteria but exhibit limited capacity for processing information when selecting specific items (Zhi-Xuan et al., 2025).

Consequently, women interpret marketing and advertising messages differently from men. While women strive to resolve challenges through participation, discussion, and further exploration, men often show less interest in problem recognition. Instead, they may emphasize traditional notions of masculinity, power, and authority, which can be less effective in problem-solving (Al-Nsour, 2018). In this framework, the study aims to assess the women's contributions to the buying decision process within Jordanian families. The businesses are looking to enhance their marketing strategies directed at women. The research highlights that women play a crucial and influential role in buying decisions in Jordanian households, aligning with their evolving position in the broader social and economic landscape of the local society.

2. LITERATURE REVIEW:

2.1 Factors Affecting the Women's Buying Decisions:

Research indicates that consumption, acquisition, and preference for products are influenced by personal factors that determine individuals' buying behaviors and their perceived cognition (Wang et al.,2023). Consumption patterns and the strategies employed in buying decisions vary accordingly (Carlos et al., 2020). Differences in these behaviors are largely attributed to various factors, with gender being one of the most prominent (Al-Nsour et al.,2024; Boada et al.,2023). In societies with strong masculine traits, men often feel a heightened sense of authority and responsibility, which leads to decision-making based on sacrifice and limited market knowledge (Bessouh et al., 2017). Male power is defined as an individual's access to resources that establish dominance in household decision-making processes (Sambo & Huseby-Lie,2025). As a result, the structure of buying decisions varies significantly between categories, such as cars and furniture. Buying conflicts often arise in selecting specific details like model, industry, color, quantity, and time of purchase (Gharib et al.,2025). Factors such as the family life cycle, social class, women's working status, social networks, and priorities in buying decisions all play a role in influencing family members when selecting preferred products (Amirtha & Sivakumar, 2018).

Other studies have categorized products based on the roles of family members in the buying relationship. For example, children are typically interested in toys and sweets, while parents focus on items like coffee and rice. Joint decisions among family members often involve products such as toothpaste, shampoo, and food (Bessouh et al., 2017). The differentiation in buying roles of couples within families stems from a variety of values, attitudes, and opinions that shape these roles (Walser-Luchesi et al., 2024). Personal and cultural factors significantly influence the selection of certain products and impact the time and mechanisms of decision-making for individuals (Joya,2025). The presence of progressive husbands in a family often enhances female roles in buying decisions, whereas traditional female roles can reduce their influence in this area (Lin,2024). Additionally, in families with traditional wives, the differences in decision-making between parents and children tend to be more pronounced than the differences between spouses (Xu et al., 2025; Al-Nsour & Al-Sahli,2024).

Cultural references and the nationalities of spouses affect the buying roles within families, leading to variations in how joint decisions are made (Nain, 2021). Studies categorize these influential factors into two main groups. The first group includes culture and gender, which significantly affect spontaneous and automatic buying decisions, particularly for low-risk products (Szakal et al., 2024). Kancheva and Marinov (2014) emphasized the notion of equality in Western societies, which fosters consensual and joint buying decisions between spouses. This shift moves away from patriarchal structures characterized by unilateral control, promoting justice and equality between men and women. The second group consists of the owners of resources and their impact on buying decisions (Jafari et al., 2022). These resources are influenced by factors such as education level, marital status, and occupation (Al-Qahtani & Al-Nsour, 2025; Zhang & Liang,2022).

Research has demonstrated that the influence of income on buying decisions varies in countries like Greece, Yugoslavia, and Western and Arab countries. Specifically, men tend to have more power in families within lower socioeconomic classes (Conger et al., 2010). Studies conducted after 2000 have produced different conclusions compared to earlier research. Recent findings confirm women's independence in thought, economic, and financial autonomy (Sundarason et al., 2023). Businesses are increasingly recognizing women as vital economic partners in making buying decisions, aided by improved education, awareness, and evolving social customs that embrace their contemporary identities. This shift has allowed women to extend their roles beyond traditional ones, previously dominated by men in selecting certain products, such as cars and related supplies, as well as insurance, financial planning, and travel arrangements (Lwamba et al., 2022). Previously, women's roles were often restricted to buying groceries, kitchen supplies, clothing, and small appliances like gas ovens (da Silva Oliveira, 2021). Based on this information, we can formulate the following hypothesis:

- **It is expected a statistically significant differences in the factors influencing the buying decisions of Jordanian women, according to demographic factors (Age, Education, Occupation, Income, Number of Children, Years of Marriage, Family Life Cycle, and Family Origin).**

2.2 Buying Criteria of Consumer Women:

Since 1974, women's control in buying has primarily focused on problem recognition and searching buying decisions, especially concerning traditional feminine products such as home furniture and food (Alem et al., 2023). In contrast, men have been dominant in the information search stage for masculine products such as cars, televisions, and razors (Kirkwood et al., 2024). Another study found that women have become more involved in buying decisions compared to men, with evaluations often linked to their emotional perspectives (Mehta, 2020). Men, on the other hand, tend to focus on competence (Teoh & Kriwangko, 2022), and products traditionally marketed to men have increasingly become joint decisions between spouses (Alem et al., 2023). Women often exhibit emotional traits in their buying decisions and rely heavily on the opinions and recommendations of others (Al-Sahli & Al-Nsour, 2022; Al-Nsour, 2018).

From this perspective, women's buying decisions can be described as objective, comprehensive, and sensory, aiming to gather a substantial amount of information to inform their choices (Alsahli et al., 2025; Bessouh et al., 2017). In contrast, men tend to make decisions based on utilitarian aspects of preferred products, using clearer information and analytical criteria to make specific selections (Liu et al., 2024; Bin Khunin & Al-Nsour, 2024). Buying criteria also differ between spouses within families. Women often prefer personal interaction with salespeople and show little interest in automated services or pre-recorded messages, as they seek personal attention (Jain et al., 2024). They feel satisfied when they find customer service numbers on company websites, as noted by Ashi in 2012 (Wang et al., 2023).

Studies indicate that women are influenced by customer service dimensions, discounts, promotion offers, and pricing in shaping their buying decisions (Albashtawi et al., 2025; Tania et al., 2023). Furthermore, women are particularly interested in the benefits and advantages of products (Al-Nsour & Alshaibani, 2024; Akter et al., 2024), value interaction and integration into consumption and shopping groups, and seek to forge genuine friendships while searching for products (Moodhi Raid et al., 2024; Guo & Li, 2022). Their past buying patterns reveal a set of criteria to express themselves and manage others under their responsibility (Maddah et al., 2023). Additionally, women show interest in pricing, quality, and store cleanliness (Mortimer & Clarke, 2011), although they sometimes prioritize price over quality (Zamfirache et al., 2025; Al-Nsour & Alsahli, 2025).

Furthermore, there is a strong tendency for women to show loyalty towards their preferred products (Malkawi et al., 2025; Myrzabekkyzy et al., 2021), and this loyalty increases when they find the purchased goods are highly suitable (Yum & Kim, 2024). Additional services such as credit, transportation, and free shipping enhance this loyalty (Al-Nsour & Al-Saleh, 2025; Maddah et al., 2023). The growing interest in products consistent with brand perception, as studies confirm that perception significantly influences women's buying decisions (Naqrash et al., 2025; Valerie & Rodhiah, 2025). Furthermore, research indicates that marketers strategically use payment options to attract women, as these strategies create distinct points of preference and attraction that lead to increased interest in the products (Zamfirache et al., 2025). It is also important to note that when women perceive the benefits of a product to outweigh its price, their interest is significantly piqued (Naqrash et al., 2025; Samoggoia et al., 2025). Based on this information, we can formulate the second hypothesis as follows:

- **It is expected that be statistically significant differences in the criteria used by women to evaluate the purchase decisions of a Jordanian family according to demographics (age, education, Occupation, income, Number of Children, years of marriage, family life cycle, and family origin).**

After reviewing the existing literature, we were able to establish a conceptual framework for the study and determine the nature and direction of the relationship between the independent and dependent variables.

Independent Variable

Independent Variable

Demographics: Age, Education , Job , Income, B. of Children , Years of Marriage , Family Life Cycle, Family of origin .

Changing Women's Buying Behavior

3. RESEARCH METHODOLOGY:

3.1 Research Design and Type: The quantitative approach is suitable for this study. It involves collecting data and converting it into numerical formats, allowing for statistical operations and drawing conclusions. This study also falls under the category of descriptive analytical studies, which aim to describe specific situations, conditions, and circumstances.

3.2 Research Population: According to the population survey results, the total number of women in Jordan is approximately 5.14 million, representing 47.1% of the total Jordanian population in 2023. The study population includes all Jordanian women aged between 15 and 64 years, as this group accounts for the productive segment identified by the Department of General Statistics. Of all females, 60.6% fall into this age range, amounting to 3.251 million Jordanian women. Out of this number, 1.116 million women, or 20.6%, are part of the workforce (Department of Statistics, Labor Force Survey, 2022).

3.3 Sampling Technique: The snowball sampling method was employed on social media platforms, particularly Facebook, which is the most widely used platform in Jordan. The 387 Jordanian women were selected for the study. Gathering data by electronic questionnaire using Google Drive, which was distributed randomly through e-channels, including Facebook Messenger, email, social networking sites, and mobile applications. All distributed questionnaires were returned, and their responses were analyzed. The unit of analysis includes both working and non-working Jordanian women, regardless of their marital status, who reside in any city in Jordan and are over 15 years of age, as per the Department of Statistics (2022).

3.4 Measurement: The study utilized a five-point Likert scale to measure the variables in the research: the independent variable (sports sponsorship), the dependent variable (Jordanian audience behavior), and the modified variable (brand immersion). The response levels were rated from 1 to 5 to indicate the degree of agreement with the statements provided. A score of 5 indicates "very high," 4 indicates "high," 3 indicates "medium," 2 indicates "low," and 1 indicates "very low." Consequently, the relative scale for assessing response levels is defined as follows: (1) 5 - 4.2 indicates a "very high" level, (2) less than 4.2 - 3.6 indicates a "high" level, (3) less than 3.6 - 2.4 indicates an "average" (acceptable) level, (4) less than 2.4 - 1.6 indicates a "weak" level, and (5) less than 1.6 indicates a "very weak" level.

3.5 Research Instrument and Data Collection Methods: The questionnaire serves as the main tool for collecting data from a randomly selected sample. It consists of various questions and prompts that require participants to express their levels of agreement or disagreement. For this study, a survey was conducted among Jordanian women via Messenger on Facebook, social media, websites, and email. The researcher developed the questionnaire using Google Drive and consulted multiple specialists and local university professors to evaluate the clarity and relevance of the questionnaire items. This consultation ensured the external validity, internal validity, and overall effectiveness of the tool in meeting the study's objectives. The final version of the questionnaire was distributed electronically to participants, and all completed questionnaires were collected for final analysis.

3.6 Data Analysis: To analyze the responses from the sample, descriptive analysis tools such as the arithmetic mean, standard deviation, and relative frequencies were utilized to assess perceptions of sports sponsorship activities and brand value dimensions. Data analysis was conducted using the Structural Equation Modeling (SEM) method in PLS Smart. This methodology relies on various statistical indicators to evaluate the study data. The P-value was used to indicate a directional relationship between the study variables, while the standard beta value helped to determine the strength and direction of that relationship. The impact factor (f^2) and the determination factor (R^2) were employed to measure the strength and capacity of the independent variable to explain the dependent variable. Lastly, the Q^2 value provided predictions regarding the behavior of the study variables, and the final GoF test assessed the performance of the regression model.

4. Validity and Reliability:

4.1 Discriminant Validity: This measures the degree of overlap between items in the scale (Hair et al., 2020). Discriminant validity includes the Cross Loading load distribution test, indicating that each statement's value in the latent variable should be higher than the values of other variables (Hair et al., 2020). Table 1 shows that the load distribution values for each item in the latent variables exceed those of the other variables, demonstrating a clear distinction.

4.2 Convergent Validity: This refers to the extent of agreement among multiple items measuring the same variable (Ringle et al., 2024) and consists of three subtests:

- Individual Item Validity: This assesses the level of agreement among several items measuring the same phenomenon, where respondents provide similar answers. The accepted statistical threshold is a value higher than 0.7. According to Table 1, most statements exceed this threshold, making them statistically acceptable. However, some items, particularly those related to women's contributions to Buying decisions, did not meet this standard and were consequently removed from the structural model.
- Composite Alpha: The statistical benchmark states that a latent variable is acceptable if the test achieves a value higher than 0.7. Table 1 shows that all latent variables exceeded this threshold and met the required statistical conditions (Hair et al., 2021). Nevertheless, some items failed this test and were removed from the structural model.
- Average Variance Extracted (AVE): The minimum acceptable value for this test is 0.5. Table 1 indicates that most latent variables had an AVE higher than 0.5, thereby satisfying the statistical evaluation criteria for testing the study hypotheses, after removing items that did not perform adequately (Ringle et al., 2024).
- Rho_A Reliability and Validity Test: The benchmark for this test is a value greater than 0.7. Table 1 confirms that the construction is statistically reliable and valid following the removal of items that did not meet this standard (Zijlmans et al., 2019).

Table 1: Cross Loading, CR, AVE, CR & VIF

Items	Cross Loading	CR	AVE	Rho_A
PAP4	0.905			
PAR1	0.694	0.943	0.571	0.943
PAR2	0.560			
PAR3	0.738			
PAR4	0.740			
PAR5	0.617			
PAR6	0.769			
PAR7	0.784			
PAR8	0.700			
PAR10	0.590			
PAR11	0.676			
PAR12	0.721			
PAR13	0.677			
PAR14	0.576			
PAR15	0.743			
PAR16	0.669			
PAR17	0.679			
PAR18	0.681			
PAR19	0.779			
PAR20	0.724			
PAR21	0.763			
PAR22	0.647			

5. Path Analysis of Demographics in Changing Women's Buying Behavior

- H01: It is expected a statistically significant differences in the factors influencing the buying decisions of Jordanian women, according to demographic factors (Age, Education, Occupation, Income, Number of Children, Years of Marriage, Family Life Cycle, and Family Origin).

Table 2: Path Analysis Coefficients

H	Relationship	Std. Beta	Std. Dev.	T-Value	P-Value	f ²	Decision	R ²	Q ²
H ₁ 1	Participations ➤ Role in Furniture	0.79 6	0.04 4	18.2 65	0.00 37	0.7 37	High Positive Effect	0.6 30	0.6 25

H ₁ 2	Participations → Role in Food	0.80 5	0.03 0	29.2 54	0.00	0.4 6	High	Positive Effect	0.6 38	0.6 30
H ₁ 3	Participation → Role in Education	0.67 2	0.09 2	7.35 4	0.00	0.8 02	High	Positive Effect	0.4 49	0.4 39
H ₁ 4	Participation → Role in Cars	0.76 8	0.07 7	9.94 6	0.00	0.8 38	High	Positive Effect	0.5 87	0.5 69
H ₁ 5	Participation → Role in Health	0.72 5	0.07 3	9.92 8	0.00	0.4 51	High	Positive Effect	0.5 22	0.5 04
H ₁ 6	Participation → Role in Financial Transactions	0.77 3	0.07 4	10.5 14	0.00	0.1 19	Small	Positive Effect	0.5 94	0.5 86
H ₁ 7	Participation → Role in Tourism Products	0.80 8	0.04 9	16.6 70	0.00	0.4 95	High	Positive Effect	0.6 52	0.6 44
H ₁ 8	Participation → Role in Fashion Products	0.89 5	0.02 4	37.8 52	0.00	0.9 12	High	Positive Effect	0.7 94	0.7 89
H ₁ 9	Participation → Role in Beauty Products	0.84 7	0.04 1	20.4 81	0.00	0.9 21	High	Positive Effect	0.7 12	0.7 02
H ₁ 10	Participation → Role in Home Decoration	0.87 1	0.30 54	29.2 54	0.00	0.5 15	High	Positive Effect	0.7 12	0.7 40
H 0	Participation → Buying Roles	0.95 8	0.01 0	96.1 55	0.00	0.8 43	High	Positive Effect	0.9 17	0.6 22

Significant at $P_0^* < 0.01$. Significant at $P_0^{**} < 0.05$.

The path analysis coefficients explain the impact of women on buying roles within Jordanian families. As shown in Table 3 above, there are ten buying roles that the Jordanian family engages in, according to the product type. The statistical significance of all correlational relationships was found to be below the permissible margin of error (0.05). Thus, all sub-hypotheses in this study have been validated. More specifically, the highest positive correlation was between women and the buying of fashion products (0.895), followed by home improvements (0.871) and beauty products (0.847). These three roles exhibit the strongest correlations that reflect the feminine nature of these purchases. The power of the correlations between women and other buying roles is as follows: tourism products (0.808), food products (0.805), furniture items (0.796), financial transactions (0.773), cars and accessories (0.768), and health and treatment (0.725). Conversely, the relationship between women and the buying roles of educational products had the lowest level of correlation (0.672).

In summary, a strong positive correlation (0.958) exists between women's contributions and buying roles in Jordanian families. Additionally, when evaluating the impact factor (f^2), it was found that women's contributions have a significant influence on the buying of beauty products (0.921), followed closely by fashion products (0.912), cars (0.838), education (0.802), furniture (0.737), home decorations and improvements (0.515), tourism products (0.495), and health products (0.451). The tiny impact was observed in women's contributions to the buying roles related to financial transactions for Jordanian families (0.119). In conclusion, there is a positive effect of women on buying roles in Jordanian families (0.843), which aligns with the findings presented in the first hypothesis in this study.

The R^2 indicates a strong relationship between women's contributions and their roles in buying fashion, beauty, and home decoration products, with variation ratios ranging from 0.712 to 0.794. However, women's contributions explain a low level of variation for buying tourism products (0.652), food (0.638), and furniture (0.630). Additionally, women account for a contribution of 0.594 in financial transactions, 0.587 in car purchases, and 0.522 in health and treatment purchases. The tiny contribution is seen in education products, with a ratio of 0.449. Notably, women's contributions explain 91.7% of the changes in the buying roles within Jordanian families. This figure highlights the significant role women play in their families' buying decisions, corroborating the second main hypothesis of this study.

Moreover, the analysis suggests a high potential for understanding the variance in the buying roles of Jordanian families, indicated by a Q^2 of 0.622. The f^2 falls between 0.15 and 0.35, indicating strong predictive power regarding women's contributions to various product buying roles. To test the hypothesis using path analysis in the Smart PLS4 method, personal factors were considered as moderators. The significance level (P-value) was calculated to determine whether to accept or reject the moderator effect. The statistical rule says that acceptance occurs if the P-value is lower than 0.05 (the probability of error). Table No. (2) illustrates the effect of demographics on the dependent variable "buying roles of Jordanian women" based on statistical significance values. The results from the T-test and P-values indicate that moderators, specifically occupation and location, significantly affect women's buying roles in Jordanian families. In contrast, other moderators, such as age, educational level, income level, number of family members, number of years of marriage, and family of origin, have no significant impact on the buying roles of Jordanian women.

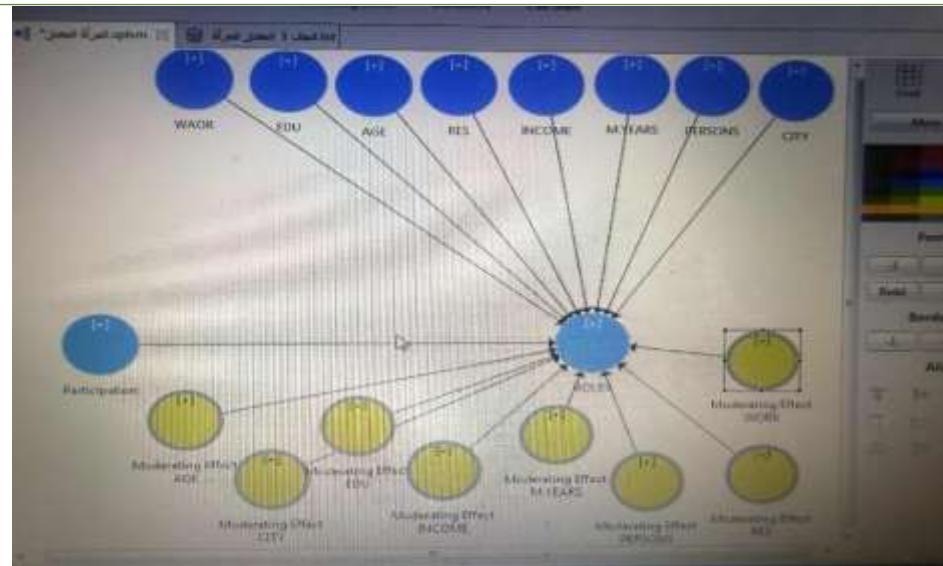


Table 3: First Sub-Hypothesis Results

Relationship	Std. Beta	Std. Dev.	T-Value	P-Value	Decision
Age → Buying Roles	-0.005	0.044	0.237	0.813	No Significant Effect
Edu → Buying Roles	-0.050	0.056	0.804	0.423	No Significant Effect
Occ → Buying Roles	0.67	0.051	3.325	0.018	No Significant Effect
Income → Buying Roles	0.039	0.058	0.606	0.546	No Significant Effect
N. Sons → Buying Roles	-0.056	0.044	1.242	0.217	No Significant Effect
Marriage Years → Buying Roles	0.001	0.050	0.119	0.906	No Significant Effect
City → Buying Roles	0.47	0.045	4.203	0.023	No Significant Effect
Family of origin → Buying Roles	0.008	0.061	0.033	0.974	No Significant Effect

- **H02: It Is expected that be statistically significant differences in the criteria used by women to evaluate the purchase decisions of a Jordanian family according to demographics (age, education, Occupation, income, Number of Children, years of marriage, family life cycle, and family origin).**

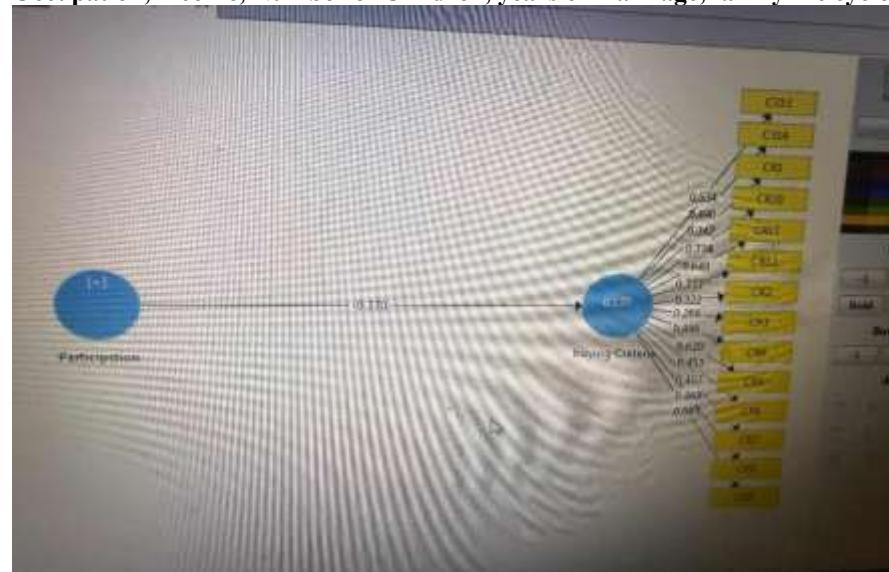


Table 4: Path Analysis Coefficients

H	Relationship	Std. Beta	Std. Dev.	T-Value	P-Value	f ²	Decision	R ²	Q ²
H 0	Participation → Buying Roles	0.409	0.059	3.428	0.015	0.159	High Positive Effect	0.370	0.07

Significant at $P_0^* < 0.01$. Significant at $P_0^{**} < 0.05$.

The table (4) above indicates a moderated positive correlation (0.409) between women and product selection criteria in Jordanian families. Additionally, the impact factor (f^2) explains that female contributions have a moderated impact on the selection criteria of products within these families, with a value of 0.159. This finding supports the text of the second hypothesis in the current study. Based on the R^2 , there are moderated relationships between women's contributions and the product selection criteria of Jordanian families. Furthermore, a high potential for analyzing the variance in product selection criteria among Jordanian families was identified ($Q^2 = 0.007$). The f^2 , which falls between 0.15 and 0.35, indicates a strong predictive power of contribution on the buying criteria of various products in the Jordanian family. To test the hypothesis, the researcher included demographic factors as moderators and calculated the statistical significance level, known as the P-value. The decision rule states that the effect of a moderator is accepted if the significance level (P-value) is less than 0.05 (margin of error); otherwise, it is rejected. Table No. (4) illustrates the effect of moderators on the dependent variable, "buying criteria among Jordanian women". According to the results of the T and P-value, there are no statistically significant differences in buying criteria among Jordanian women according to demographics (age, education, Occupation, income, number of children, years of marriage, family life cycle, and family of origin).

Moreover, buying criteria differ among spouses within a family, with women often preferring personal interaction with salespeople. They tend to be less interested in automated services or pre-recorded messages, as they value personalized attention (Meyers, 2007). Women's satisfaction is likely to increase if a customer service number is easily accessible on the company's website, according to Ashi (2012, as cited in Andrés, Arizón & Salinas, 2013 (Wang et al., 2023). Women's Buying decisions are influenced by various factors, including customer service quality, discounts, promotional offers, and product pricing mechanisms (Datta et al., 2021). Women also show a keen interest in engaging with consumer and shopping groups, often seeking to build friendships while shopping (Rossolov et al., 2025).

Historical buying patterns reveal that women utilize several criteria to express their needs and those of their family members (Lwamba et al., 2025). Furthermore, women demonstrate a strong interest in product quality as well as store cleanliness (Mortimer & Clarke, 2011), and they may prioritize price over quality (Uzir et al., 2020). Their loyalty towards preferred products tends to increase when those products closely meet their needs (Yin et al., 2025). Access to additional services like credit, transportation, and free shipping also enhances loyalty (Ricardianto et al., 2024). An increasing interest in products correlates with positive brand perception, which plays a significant role in women's Buying decisions (Gao & Shen, 2024). Additionally, research indicates that marketers often employ a female-oriented push strategy. This approach generates various preference and attraction points that can heighten interest in the product (Freihat et al., 2021). Finally, a higher level of perceived benefits compared to the price paid for a product is an important factor that captures women's attention (Samoggoia et al., 2025).

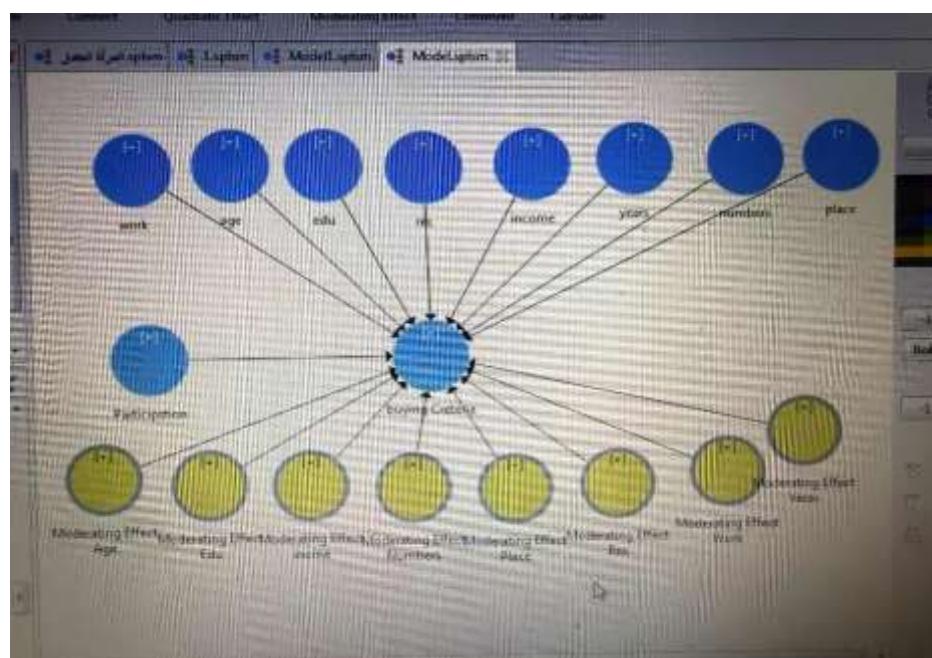


Table 5: Second Hypothesis Results

Relationship	Std. Beta	Std. Dev.	T-Value	P-Value	Decision
Age → Buying Criteria	-0.034	0.137	0.199	0.843	No Significant Effect
Edu → Buying Criteria	-0.019	0.039	0.720	0.473	No Significant Effect

Occ → Buying Criteria	-0.069	0.053	1.234	0.220	No Significant Effect
Income → Buying Criteria	0.075	0.195	0.001	0.999	No Significant Effect
N. Sons → Buying Criteria	0.040	0.185	0.285	0.776	No Significant Effect
Marriage Years → Buying Criteria	-0.133	0.274	0.373	0.709	No Significant Effect
City → Buying Criteria	-0.007	0.044	0.358	0.721	No Significant Effect
Family of origin → Buying Criteria	0.044	0.166	0.112	0.911	

6. DISCUSS FINDINGS AND RECOMMENDATIONS:

The current study found that Jordanian families exhibit ten buying roles, which differ according to the type of product. It was shown that women significantly influence these buying roles, particularly for beauty and fashion products, highlighting their traditional feminine interests. Conversely, women's involvement in the buying decisions for cars, education, furniture, home improvements, tourism, health products, and financial transactions is notably less. These latter categories generally reflect a shared approach to buying within the family. In general, men in Jordanian families tend to broaden their buying roles beyond products that align with their personal inclinations. They often retain a substantial portion of individual buying decisions for themselves.

Moreover, they play various roles in family purchasing, such as initiator, influencer, determinant, and buyer, regardless of product differences. The findings also indicated a statistical effect of occupation and location on the formation of women's Buying roles within Jordanian families. However, factors such as age, educational level, income level, number of family members, years of marriage, and family of origin have no significant impact. Differences in consumption patterns and decision-making strategies are influenced by several factors, most notably gender (Mehta, 2020). In a society that emphasizes masculinity, a man's authority and responsibility are heightened, encouraging him to make a broad range of decisions that benefit all family members (Stegeman et al., 2019). Access to resources can enhance an individual's power and influence in family buying decisions (Abbasi & Nikbakht, 2020). Additionally, the dynamics of marriage, social class, and women's economic status all play a role in shaping the varying buying responsibilities of women within the family (Amirtha & Sivakumar, 2021). Other research has confirmed that personal and cultural factors, the time of decision-making, and the level of civilization have no significant effect on women's roles in buying decisions (Zeng, 2023).

In our current study, women's occupation emerged as a significant factor influencing their roles in buying decision-making within Jordanian families. The results indicate that the residence place of the family—whether in a capital city (Amman), governorate, village, or refugee camp—reflects their level of urbanization. This observation aligns with existing literature, which suggests that urbanization enhances women's involvement in buying decisions (Alhamdi et al., 2024). Conversely, the length of marriage has not appeared significantly among the Jordanian women. This suggests that factors such as the female age, maturity, and experience in married life (Huang et al., 2018) have no statistically significant implications for their buying roles. Additionally, other factors—such as age, education, income, number of family members, and years married—also have no significant effects on the buying roles of Jordanian women. Similar findings were reported by Khatun et al. (2025), which highlighted that factors like a female's age, educational status (both wife and husband), the number of children, place of residence, and family economic situation are essential to women's decision-making independence. More specifically, aging, having a well-paying occupation, and having many children positively correlate to women's independence in daily household decisions and major purchases. However, the study found that women in rural areas has no higher levels in decision-making independence compared to the woman in the urban areas. Educated women tended to favor shared decision-making, while less educated women were more likely to make decisions independently.

The second hypothesis confirmed the moderated positive impact of women on product selection criteria within Jordanian families. This dimension consists of "13" criteria derived from previous literature that used by women when choosing products. According to consumer behavior theory, Jordanian women predominantly focus on cognitive criteria when selecting products, such as the suitability of product benefits to family needs (89.6%), product quality and brand awareness (89.6%), customer service and after-sales support (89.6%), use of reference groups (87%), appropriate pricing (85.7%), and relevant product information (84.9%). Notably, women tend to prioritize perceived benefits, including product attributes, selling price, reviews from others, or previously published information, over emotional factors, which are considered at a lower rate of 44%. This finding contrasts with the results of the Al-Nsour study (2018). Additionally, it was observed that women prioritized product quality over price, consistent with the results from Goedertier & Weijters (2023). Our research also revealed that women's personal factors—such as age, education, occupation, income, number of children, years of marriage, family life cycle stage, and family of origin—have no affect the criteria they used during the buying

process. This indicates a consistency in Buying Criteria among Jordanian women, supporting the findings from the Al-Nsour study in 2018.

Zeng's study (2023) indicates that various factors influence women's buying decisions, including the hierarchy of female needs, personality traits, social identity, cultural influences, cognitive biases, and prior experiences. Bessouh et al. (2017) found that the buying process for Algerian women is predominantly cognitive rather than emotional when buying cars. Additionally, a study by Alhddad and Alghadeer (2010) revealed that the buying roles within Jordanian families lack consideration of risk and country of origin. There is a noticeable need to emphasize personal relationships and guarantees in this context. Interestingly, while Jordanian women tend to engage in emotional marketing during their buying decisions at a rate of 56%, they also seek to gather substantial factual information. Moreover, they tend to avoid influencer and celebrity advertisements, doing so at a rate of 68.8%, and commercial ads at a rate of 55.8%. They are, however, inclined to rely on reference groups, with an influence rate of 87%. A study by Mohammad (2020) highlighted a statistically significant correlation between the extent of Jordanian women's exposure to company promotional web pages on social networking and their buying intentions. The findings of this study is consistent with those of Elareshi et al. (2022).

CONCLUSION:

The family serves as a social unit that influences the behavior of all its members, including consumers. In studying consumer behavior theory, the family's influence is observed in two ways: its impact on individual personal characteristics, attitudes, and values, and its effect on the consumer's buying process. The family can influence consumers both directly and indirectly. There may also be individuals within social environments who can indirectly affect consumers' thought processes, desires, attitudes, and motivations. The family directly influences certain stages of the buying decision- process. One of its most crucial roles is raising and shaping the behavior of children, serving as a mediator for transmitting social values that contribute to a valuable position in society. There have been many changes within the family structure that have, in turn, altered the traditional roles of women. In the modern era, women's roles have become increasingly significant. Contemporary women strive to build their own feminine authority and establish their social and professional position. They seek respect for their opinions and decisions and aspire to be active decision-makers within the family. This shift signifies an expansion in the boundaries of women's influence and control, which now extends beyond traditionally male-oriented products. Women's buying roles have become intertwined with emerging interests and practices, driven by greater independence and economic power.

REFERENCES:

1. Abbasi, A. and Nikbakht, A. (2020). The role of family members in family purchase decisions. *Journal of Business Administration Researches*, 11(22), 381-405. doi: 10.22034/jbar.2020.1587.
2. Adanzounon, N. H., Meddeb, B., & Ika, L. A. (2024). Organizational learning capacity and international development project success in West Africa: A case study. *International Review of Administrative Sciences*, 91(1), 27-42. <https://doi.org/10.1177/00208523241258214> (Original work published 2025)
3. Akter, T., Uddin, M. S., Rahman, R., Uddin, M. S., Islam, M. R., Faisal-E-Alam, M., & Rahman, M. M. (2024). The moderating effect of system quality on the relationship between customer satisfaction and purchase intention: PLS-SEM & fsQCA approaches. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(4), 100381. <https://doi.org/10.1016/j.joitmc.2024.100381>
4. Alawneh, O.M.; Allahham, M.; Habeeb, A.F.H.; Almajali, W.; Al-Nsour, I.A.; Jawabreh, O. (2025). Evaluating How Big Data Analysis Mediates The Impact of Digital Marketing Strategies on Tourism Development In Jordan. *Geoj. Tour. Geosites*, 62, 2053–2062, <https://doi.org/10.30892/gtg.62405-1571>.
5. Albashtawi, Zain., Alnsour., Ibrahim Radwan , Al-Nsour, Iyad A., Allahham, Mahmoud Izzat., and Jawabreh, Omar. (2025). The Role of Big Data Analysis in Developing Logistics Within Renewable Energy Systems :The Moderating Role of Engineering Solutions. *Lex Localis - Journal of Local Self-Government*, 23(S2), 273-293. <https://doi.org/10.52152/>
6. Alem, Y., Hassen, S., & Köhlin, G. (2023). Decision-making within the household: The role of division of labor and differences in preferences. *Journal of Economic Behavior & Organization*, 207, 511-528. <https://doi.org/10.1016/j.jebo.2023.01.022>
7. Alhamdi, F.M., Al-Kahtani, S.M. & Abdullah, E.A.M.F. (2024). Saudi women's attitude towards environmental marketing and its relationship to Buying behavior. *Discov Sustain* 5, 514. <https://doi.org/10.1007/s43621-024-00784-4>.

8. Al-Nsour, I. (2023). The Impact of Social Media Celebrity on Buying Behavior of Retailer Customers in Riyadh, KSA. *Jordan Journal of Business Administration*, 20(1). <https://doi.org/10.35516/jjba.v19i4.1719>.
9. Al-Nsour, I. (2024). Impact of Social Media Engagement and Entertainment on the Buying Intention from Online Fashion Stores in Jordan. *Jordan Journal of Business Administration*, 20(3). <https://doi.org/10.35516/jjba.v20i3.1014>.
10. Al-Nsour, I. A. (2024). Building a Model for E-Interaction Via Facebook Platform: "The IN-IMSIU Model for E-Interaction". *Journal of Management World*, 2024(5), 348-362. <https://doi.org/10.53935/jomw.v2024i4.1120>.
11. Al-Nsour, I. A. A. (2023). The Impact of Social-media Celebrity on Buying Behavior of Retailer Customers in Riyadh, KSA. *Jordan Journal of Business Administration*, 20(1). <https://doi.org/10.35516/jjba.v19i4.1719>.
12. Al-Nsour, I. A. A., & Al-Saleh, N. H. (2025). Impact of Humor Communication Message Elements on Brand Equity Mediator for Customer Relationships A Study on Fast Food Restaurant Customers via the X Platform in Saudi Arabia. *Arab Journal of Administration*, (), 1-24. doi: 10.21608/aja.2025.356476.1791
13. AL-Nsour, I. A., & Al-Sahli, S. A. (2022). Effects of Cash and Non-Cash Communications on Brand Awareness: An Empirical Evidence from Saudi Arabia. *The Journal of Asian Finance, Economics and Business*, 9(5), 507-518.
14. Al-Nsour, I. A., & Hasnin, E. A. H. (2024). Leveraging Humor Content in Effective Communications for the Saudi Food Industry. *Journal of Management World*, 2024(3), 170-184. <https://doi.org/10.53935/jomw.v2024i4.1103>.
15. Al-Nsour, I., & Alsahli, S. (2025). The Brand Involvement as a Mediator Between Sports Sponsorship and Jordanian Audience Behavior: Psychological-Communication Analysis. *Arab Journal of Administration*, (), 1-32. doi: 10.21608/aja.2025.404536.1897.
16. Al-Nsour, I., and Al-Shaibani, M.F. (2024). Effect of Social Media Involvement on Buyer Behavior: Evidence from Jordan Fashion Market via Facebook Platform. *Journal of International Crisis and Risk Communication Research*, 7(S12), 341-359.
17. Alnsour, Ibrahim Radwan., Al-Nsour, Iyad A. , Malkawi, Eyad Mohammad., and Allahham, Mahmoud Izzat. (2025). The Role of Internet of Things in Fintech Adoption Within Banking Sector: The Moderating Role of Digital Transformation Capability. *Lex Localis - Journal of Local Self-Government*, 23(S4), 2486-2510. <https://doi.org/10.52152/k4pew155>.
18. Al-Nsour, Iyad (2018). Involvement Degree of Women in the Buying Decision of Saudi Family. *Arab Journal of Administration*, 38 (4), 231-252. doi: 10.21608/aja.2018.22445.
19. Al-Nsour, Iyad Abed Al-Fattah., Hasnin., Eman Abdel Hameed & Al-Johani, Moayad Ali AL-Johani. (2024). Using Artificial Intelligence to Enhance Customer Communication at Major Sausi Companies, 4 (1), 619-636.
20. Al-Nsour, Iyad., and Al-Sahli, Saud Abdullah (2024). Impact of Value on Customer Retention of Fast Food Restaurants in Saudi Arabia. *Arab Journal of Administration*, 44 (3), 305-328. doi: 10.21608/aja.2023.202772.1420.
21. Al-Qahtani1,Mai Abdel Aziz., and Al-Nsour, Iyad A. (2025). Leverage Digital Advertising to Gain a Competitive Advantage for the Beauty Care Centers in Riyadh. *Pakistan Journal of Life and Social Sciences*,23 (1),1026-1046.
22. Al-Sahli S., and Al-Nsour, I. (2022). Effects of Cash and Non-Cash Communications on Brand Awareness: An Empirical Evidence from Saudi Arabia. *Journal of Asian Finance, Economics and Business*, 9 (5), 507-518.
23. Alsahli, Saud Abdulla., Al-Nsour, Iyad , A., and Allahham, Mahmoud Izzat. (2025). Improving Visitor Awareness Through Marketing Literacy During Riyadh Season Events. (2025). *Lex Localis - Journal of Local Self-Government*, 23(S4), 2511-2540. <https://doi.org/10.52152/srvtb662>.
24. Al-Sayyed, H., Albert, F., Schönenfeld, E., Lukas, P., & Friederichs, H. (2025). Influence of risk literacy, decision-making styles and motivation on clinical reasoning in medical students: An ordinal logistic regression analysis. *BMC Medical Education*, 25, 633. <https://doi.org/10.1186/s12909-025-07135-5>
25. Amirtha, R., & Sivakumar, V. J. (2018). Does family life cycle stage influence e-shopping acceptance by Indian women? An examination using the technology acceptance model. *Behaviour & Information Technology*, 37(3), 267-294. <https://doi.org/10.1080/0144929X.2018.1434560>.
26. Amirtha, R., & Sivakumar, V. J. (2021). Building loyalty through perceived value in online shopping – does family life cycle stage matter? *The Service Industries Journal*, 42(15–16), 1151–1189. <https://doi.org/10.1080/02642069.2021.1960982>
27. Beaulieu, D. A., Proctor, C. J., Gaudet, D. J., Canales, D., & Best, L. A. (2022). What is the mindful personality? Implications for physical and psychological health. *Acta Psychologica*, 224, 103514. <https://doi.org/10.1016/j.actpsy.2022.103514>

28. Ben-Shmuel, A. T., Hayes, A., & Drach, V. (2024). The Gendered Language of Financial Advice: Finfluencers, Framing, and Subconscious Preferences. *Socius: Sociological Research for a Dynamic World*, 10. <https://doi.org/10.1177/23780231241267131> (Original work published 2024).

29. Bessouh, Nadira., Saidi , Tarik., and Belarabi, Abdelkader. (2017). Womwn and The Buying Decision . *British Journal of Marketing Studies*, 4 (9), 1-12.

30. Bin Khunin, Laila Khaled, and Al-Nsour, Iyad Abed Al-Fattah Al-Nsour (2024). 2024. Impact of Digital Advertising Strategies on the Competitive Advantage of SMEs in KSA. *European Journal of Business and Management Research*, 9, 2 (Apr. 2024), 91–98.

31. Boada, M. , Burneo, D. , Morocho, F. and Gutiérrez, J. (2023). Relationship between Consumer Insights and Purchase Patterns Across Different Generations: A Quantitative Approach. *Open Access Library Journal*, 10, 1-20.

32. Carstensen, L. L., Chu, L., Matteson, T. J., & Growney, C. M. (2024). What's time got to do with it? Appreciation of time influences social goals and emotional well-being. *Psychology and Aging*, 39(8), 833–853. <https://doi.org/10.1037/pag0000856>

33. Conger RD, Conger KJ, Martin MJ. (2010). Socioeconomic Status, Family Processes, and Individual Development. *J Marriage Fam*. 72(3),685-704. doi: 10.1111/j.1741-3737.2010.00725.x.

34. Da Silva Oliveira, M. S., de Moraes Sato, P., Arceño, M. A., Ulian, M. D., Unsain, R. F., Cardoso, M. A., & Scagliusi, F. B. (2021). "It's women's obligation:" constitutive elements of gendered domestic cooking practices performed by women from western Brazilian Amazon. *Food, Culture & Society*, 25(3), 540–560. <https://doi.org/10.1080/15528014.2021.1908503>.

35. Datta, D. B., Seal, P., George, S. M., & Roy, S. (2021). Factors Influencing Women's Buying Decisions while Shopping for Lingerie Products Online . *Tekstilec*, 65(1), 4-13. <https://doi.org/10.14502/tekstilec.65.2021048>

36. Department of Statistics, Labor Force Survey, 2022. Annual Data, Jordan.

37. Elareshi, M., Habes, M., Safori, A., Attar, R. W., & Mugahed, W. (2022). Understanding the Effects of Social Media Marketing on Customers' Bank Loyalty: A SEM Approach. *Electronics*, 12(8), 1822. <https://doi.org/10.3390/electronics12081822>

38. Freihat, Sultan Mohammad Said Sultan., Alotoum, Firas Jamil., Homsi, Diana "Mohd Adnan" . (2021). Pink Marketing and Women's Buying Decision Making. *Multicultural education*, 7(6), 670. <https://doi.org/10.5281/zenodo.5048359> .

39. Gao, F., & Shen, Z. (2024). Sensory brand experience and brand loyalty: Mediators and gender differences. *Acta Psychologica*, 244, 104191. <https://doi.org/10.1016/j.actpsy.2024.104191>

40. Gharib, A. ., Sarkar, . S., Jabar, . A., Rekan , M., Faraj , S. M. ., & Aziz , . K. G. . (2025). Influence of the brand on consumer decision-making. *Mednarodno Inovativno Poslovanje = Journal of Innovative Business and Management*, 17(1). <https://doi.org/10.32015/JIBM.2025.17.1.2>.

41. Goedertier, F., & Weijters, B. (2023). Are Consumers Equally Willing to Pay More for Brands That Aim for Sustainability, Positive Societal Contribution, and Inclusivity as for Brands That Are Perceived as Exclusive? Generational, Gender, and Country Differences. *Sustainability*, 16(9), 3879. <https://doi.org/10.3390/su16093879>

42. Guo, J., & Li, L. (2022). Exploring the Relationship Between Social Commerce Features and Consumers' Repurchase Intentions: The Mediating Role of Perceived Value. *Frontiers in Psychology*, 12, 775056. <https://doi.org/10.3389/fpsyg.2021.775056>

43. Hair Jr., J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., Ray, S. et al. (2021). Evaluation of Reflective Measurement Models. In *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*. Classroom Companion: Business (pp. 75-90). Springer. https://doi.org/10.1007/978-3-030-80519-7_4.

44. Huang, H., Liu, S., Sharma, A., Zou, F., Tian, F., & Wu, H. (2018). Factors associated with life satisfaction among married women in rural China: A cross-sectional study based on large-scale samples. *Psychology Research and Behavior Management*, 11, 525. <https://doi.org/10.2147/PRBM.S179052>

45. Iyad A. Al-Nsour, Majed Fahad Alshaibani. (2024). Effect of Social Media Involvement on Buyer Behavior Evidence from Jordan Fashion Market via FacebookPlatform. *Journal of International Crisis and Risk Communication Research* , 341–359. <https://doi.org/10.63278/jicrcr.vi.998>

46. Jafari, Hamid., Ghaderi, Hadi., Eslami, Mohammad H., and Malik, Mohsin. (2022). Leveraging supply integration, mass customization and manufacturing flexibility capabilities and the contingency of innovation orientation, *Supply Chain Management: An International Journal*, 27(7), 194-210.

47. Jain, V., Sheth, J.N., Mogaji, E., Ambika, A. (2024). Customer-Centric Support Services: An Introduction to the Next Frontier for Competitive Advantage in the Digital Era. In: Sheth, J.N., Jain, V., Mogaji, E., Ambika, A. (eds) *Customer Centric Support Services in the Digital Age*. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-031-37097-7_1

48. Jaya Ayub , Made Theoresta Taruna ., and Kusumadewi , Ni Made Wulandari. (2021). The Effects of Price Perception, Product Knowledge, Company Image, and Perceived Value on Purchase

Intentions for Automotive Products. (2021). European Journal of Business and Management Research, 6(5), 47-50. <https://doi.org/10.24018/ejbm.2021.6.5.955>

49. Joya, K. (2025). Taste and trust: The impact of psychographics on certified meat demand. Future Foods, 12, 100763. <https://doi.org/10.1016/j.fufo.2025.100763>

50. Kancheva, Irina., and Marinov. Georgi. (2014). Perceptions Of Marital Roles In Basic Commodity Groups Purchase Decision-Making. Annales Universitatis Apulensis Series Oeconomica, Faculty of Sciences, "1 Decembrie 1918" University, Alba Iulia, 1(16), 1-13.

51. Kandemir, Gözde., Pirtini, Serdar., and Bayrakatar, Azra. (2019). A Research On The Role Of Consumer Involvement and Product Knowledge Levels On Buying Decisions. Turkish Journal of Marketing, 4(2), 162-183. <https://doi.org/10.30685/tujom.v4i2.57>.

52. Khatun R, Urme SA, Islam MS. (2025). Prevalence and socio-demographic correlates of depression and anxiety among late adolescents (15 to 21 years) in Mymensingh division, Bangladesh: A cross-sectional study. PLoS One, 20(4):e0320505. doi: 10.1371/journal.pone.0320505.

53. Kirkwood EK, Khan J, Hasan MM, Iqbal A, Tahsina T, Huda T, Hoddinott JF, Laba TL, Muthayya S, Goodwin N, Islam M, Kingsley EA, Arifeen SE, Dibley MJ, Alam NA. (2024). Women's participation in household decision-making: Qualitative findings from the Shonjibon Trial in rural Bangladesh. PLOS Glob Public Health, 4(6):e0002907. doi: 10.1371/journal.pgph.0002907. PMID: 38885288.

54. Liang, M., Yu, J., & Jin, C. (2023). Effects of Perceived Benefits, Value, and Relationships of Brands in an Online-to-Offline Context: Moderating Effect of ESG Activities. Sustainability, 16(23), 10294. <https://doi.org/10.3390/su162310294>

55. Lin, C. (2024). Exploring the Social Role of Contemporary Women from the Perspective of the Lack of Historical Female Characters. Communications in Humanities Research, 44, 193-197.

56. Liu, X., Zhou, J., Shi, H., Zhang, H., & Zuo, S. (2024). Influence of Social Work on Life Satisfaction among Rural Residents: Mediated by Social Support and Moderated by the Sense of Self-Governance. Journal of Social Service Research, 51(3), 709-721. <https://doi.org/10.1080/01488376.2024.2383264>.

57. Lwamba E, Shisler S, Ridlehoover W, Kupfer M, Tshabalala N, Nduku P, Langer L, Grant S, Sonnenfeld A, Anda D, Eyers J, Snistveit B. (2022). Strengthening women's empowerment and gender equality in fragile contexts towards peaceful and inclusive societies: A systematic review and meta-analysis. Campbell Syst Rev, 18(1):e1214. doi: 10.1002/cl2.1214.

58. Maddah, M., Esmaeilzadeh, P., & Mirzaei, T. (2023). An Experimental Study to Examine Relationships Between IT Identity and Users' Post-Adoption Behaviors for Different Types of Health Applications. Information Systems Management, 41(3), 238-264. <https://doi.org/10.1080/10580530.2023.2237187>.

59. Malkawi, Eyad Mohammad., AL-Malahmeh, Zaid Akram., Al-Nsour, Iyad A., and Allahham, Mahmoud. (2025). The Impact of Digital Marketing On Tourist Engagement : Exploring Sustainable Development in Jordan. Lex Localis - Journal of Local Self-Government, 23(S2), 294-314. <https://doi.org/10.52152/800331>

60. Mehta, R. (2020). Gender-based differences in consumer decision-making styles: implications for marketers. Decision 47, 319–329. <https://doi.org/10.1007/s40622-020-00252-8>.

61. Mehta, R. (2020). Gender-based differences in consumer decision-making styles: implications for marketers. Decision 47, 319–329. <https://doi.org/10.1007/s40622-020-00252-8>.

62. Mohammad , S. . F. . (2023). The Impact of Companies' Promotional Pages on Social Media Networks and Their Relationship to the Buying Intention of Jordanian Women. Dirasat: Human and Social Sciences, 50(3), 445–459. <https://doi.org/10.35516/hum.v50i3.5426>.

63. Moodhi Raid, Iyad A. Al-Nsour, Moyad Ali Al-Johani, Wafa Hamad AlJarba. (2024). Effect of Artificial Intelligence on Customer Relationship Marketing in Saudi Context. Journal of International Crisis and Risk Communication Research , 360–376. <https://doi.org/10.63278/jicrcr.vi.999>

64. Mortimer, G., & Clarke, P. (2011). Supermarket consumers and gender differences relating to their perceived importance levels of store characteristics. Journal of Retailing and Consumer Services, 18(6), 575-585. <https://doi.org/10.1016/j.jretconser.2011.08.007>.

65. Myrzabekkyzy, K., Bolganbayev, A.D., and Kelesbayev, D.N. (2021). The Role of Women In The Process of Buying White Goods and An Application For Kazakhstan. The Journal of Economic Research & Business Administration, 1 (135), 35-44.

66. Nain H (2021).Emergence of children as influencers in family consumption decisions – a resource theory approach". South Asian Journal of Marketing, Vol. 2 No. 2 pp. 130–147, doi: <https://doi.org/10.1108/SAJM-06-2021-0080>.

67. Naqrash, Omar Mohammed Ali, Riad, Moodhi., and Al-Nsour , Iyad A. (2025). Impact of Social Media on Saudi Buyer Behavior In The Fashion Market . (2025). Lex Localis - Journal of Local Self-Government, 23(S5), 1876-1901. <https://doi.org/10.52152/801499>.

68. Naqrash, Omar Mohammed Ali., Alsahli , Saud Abdulla., Al-Nsour, Iyad A., and Hasnin, Eman Abdelhameed. (2025). The Effect of Funny E-Communications On Brand Equity: A Study ON Saudi

Households In The Electrical Applications Market. *Lex Localis - Journal of Local Self-Government*, 23(S4), 3749-3769. <https://doi.org/10.52152/801138>

69. Ricardianto, P., Ikhsan, R. B., Suryobuwono, A. A., Setiawan, E. B., Raharjo, E. P., Rahandi, R., & Cahyadi, D. (2024). What makes consumers attitudinal loyalty on ride-hailing services? An investigation Indonesian consumers' perceived safety in using ride-hailing apps. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(2), 100306. <https://doi.org/10.1016/j.joitmc.2024.100306>.

70. Ricciardelli, R., Clow, K.A. & White, P. (2010). Investigating Hegemonic Masculinity: Portrayals of Masculinity in Men's Lifestyle Magazines. *Sex Roles* 63, 64–78. <https://doi.org/10.1007/s11199-010-9764-8>.

71. Ringle, C. M., Wende, S., & Becker, J. M. (2024). SmartPLS 4. SmartPLS. <https://www.smartpls.com>.

72. Rossolov, O., Holguín-Veras, J., & Habib, M. A. (2025). Profiling shopping mobility in pre- and post-purchase phases: Latent class analysis of apparel trial and return trips. *Transportation Research Part A: Policy and Practice*, 198, 104524. <https://doi.org/10.1016/j.tra.2025.104524>.

73. Ryan, P.G. (2015). A Brief History of Marine Litter Research. In: Bergmann, M., Gutow, L., Klages, M. (eds) *Marine Anthropogenic Litter*. Springer, Cham. https://doi.org/10.1007/978-3-319-16510-3_1.

74. Sambo, C. G., & Huseby-Lie, I. (2025). Empowerment, gender, and household dynamics in households receiving social cash transfers in Eastern and Southern Africa: evidence from a systematic review. *Development Studies Research*, 12(1).

75. Shah SS, Asghar Z. (2023). Dynamics of social influence on consumption choices: A social network representation. *Heliyon*, 10(9):e17146. doi: 10.1016/j.heliyon.2023.e17146. PMID: 37389035; PMCID: PMC10300328.

76. Stegeman, I., Godfrey, A., Bell, R., Staatsen, B., Kruize, H., Morris, G., Taylor, T., Strube, R., Anthun, K., Lillefjell, M., Zvěřinová, I., Ščasný, M., Máca, V., & Costongs, C. (2019). Encouraging and Enabling Lifestyles and Behaviours to Simultaneously Promote Environmental Sustainability, Health and Equity: Key Policy Messages from INHERIT. *International Journal of Environmental Research and Public Health*, 17(19), 7166. <https://doi.org/10.3390/ijerph17197166>.

77. Sundarasen, S., Rajagopalan, U., Kanapathy, M., & Kamaludin, K. (2023). Women's financial literacy: A bibliometric study on current research and future directions. *Heliyon*, 9(12), e21379. <https://doi.org/10.1016/j.heliyon.2023.e21379>

78. Szakal, A. C., Brătucu, G., Ciobanu, E., Chițu, I. B., Mocanu, A. A., & Ialomițianu, G. (2024). Exploring Influencing Marketing—Consumer Insights and Creators' Perspectives. *Sustainability*, 16(5), 1845. <https://doi.org/10.3390/su16051845>.

79. Teoh, A. N., & Kriwangko, L. (2022). Humility and Competence: Which Attribute Affects Social Relationships at Work? *International Journal of Environmental Research and Public Health*, 19(10), 5969. <https://doi.org/10.3390/ijerph19105969>.

80. Uzir MUH, Jerin I, Al Halbusi H, Hamid ABA, Latiff ASA. (2020). Does quality stimulate customer satisfaction where perceived value mediates and the usage of social media moderates? *Heliyon*, 6(12):e05710. doi: 10.1016/j.heliyon.2020.e05710.

81. Valerie Tiofli, R., & Rodhiah, R. (2025). The Influence of brand image, consumer perception, and E-WOM on purchase intentions for product X in DKI Jakarta. *International Journal of Management Science and Application*, 4(1), 1–10. <https://doi.org/10.58291/ijmsa.v4i1.333>.

82. Vazquez, S. R., & Greenfield, P. M. (2021). The influence of social class on family participation in children's education: A case study. *Revista Colombiana de Psicología*, 30(1), 133–147. <https://doi.org/10.15446/rcp.v30n1.89185>.

83. Walser-Luchesi, A., Furst, A.C., Rabeson, L. (2024). Second-hand Luxury for Generations Y and Z: Embracing Responsible Consumption or Hunting for Luxury Brand Treasures? An Analysis from France Using the Theory of Planned Behavior. In: Verkuil, A.H., Milow, U., Hinz, A., Al-Kilani, M. (eds) *Core Values and Decision-Making for Sustainable Business*. Sustainable Business Development. Springer, Cham. https://doi.org/10.1007/978-3-031-78361-6_10.

84. Wang C, Liu T, Zhu Y, Wang H, Wang X, Zhao S. (2023). The influence of consumer perception on purchase intention: Evidence from cross-border E-commerce platforms. *Heliyon*, 27;9(11):e21617. doi: 10.1016/j.heliyon.2023.e21617. PMID: 37942167; PMCID: PMC10628707.

85. Wang, Y., & Wang, S. (2024). The Joint Roles of Emotion Regulation and Teacher Support in Shaping Academic Engagement Among Chinese Graduate Students Majoring in Foreign Languages: A Qualitative Study. *Iranian Journal of Language Teaching Research*, 12(3 (Special Issue)), 93-111. doi: 10.30466/ijltr.. 2024.121578.

86. Xu, W., Li, M., Lin, G., & Feng, X. (2025). Children in family travel: relating age, gender, and family types to decision-making. *Current Issues in Tourism*, 1–24. <https://doi.org/10.1080/13683500.2025.2578719>.

87. Yin, J., Qiu, X., & Wang, Y. (2025). The Impact of AI-Personalized Recommendations on Clicking Intentions: Evidence from Chinese E-Commerce. *Journal of Theoretical and Applied Electronic Commerce Research*, 20(1), 21. <https://doi.org/10.3390/jtaer20010021>

88. Zamfirache, A., Neacșu, N.A., Madar, A. et al. (2025). Behavioural differences and Buying experiences through online commerce or offline within mall-based retail structures. *Electron Commer Res* 25, 4159–4191 . <https://doi.org/10.1007/s10660-024-09879-6>.

89. Zeng, Z. (2023) . How Are the Decisions of Female Consumers Affected?. *Open Journal of Social Sciences*, 11, 13-18. doi: 10.4236/jss.2023.114002.

90. Zhang, C., & Liang, Y. (2022). The impact of education level on marital satisfaction: Evidence from China. *Social Sciences & Humanities Open*, 7(1), 100487. <https://doi.org/10.1016/j.ssaho.2023.100487>.

91. Zhi-Xuan, T., Carroll, M., Franklin, M. et al. (2025). Beyond Preferences in AI Alignment. *Philos Stud* 182, 1813–1863. <https://doi.org/10.1007/s11098-024-02249-w>.

92. Zijlmans, O., E. A., Tijmstra, J., & Sijtsma, K. (2019). Item-Score Reliability as a Selection Tool in Test Construction. *Frontiers in Psychology*, 9, 2298. <https://doi.org/10.3389/fpsyg.2018.02298>.

93. Allahham, M. A. H. M. O. U. D., Sharabati, A. A. A., Hatamlah, H. E. B. A., Ahmad, A. Y. B., Sabra, S., & Daoud, M. K. (2023). Big data analytics and AI for green supply chain integration and sustainability in hospitals. *WSEAS Transactions on Environment and Development*, 19, 1218-1230.

94. Ahmad, A. Y. B. (2024). E-invoicing and Cost Reduction: A Case Study of Multinational Corporations. *Journal of Information Systems Engineering and Management*, 9(2), 25009.

95. Ahmad, A. Y. A. B. (2024, April). The Changing Role of Accountants in the AI Era: Evolving Skill Sets and Career Pathways. In 2024 International Conference on Knowledge Engineering and Communication Systems (ICKECS) (Vol. 1, pp. 1-5). IEEE..

96. Ahmad, A. Y. B., Kumari, D. K., Shukla, A., Deepak, A., Chandnani, M., Pundir, S., & Shrivastava, A. (2024). Framework for Cloud Based Document Management System with Institutional Schema of Database. *International Journal of Intelligent Systems and Applications in Engineering*, 12(3s), 672-678.

97. A. Y. A. Bani Ahmad, M. Allahham, W. I. Almajali, F. T. Ayasrah and S. Sabra, "Blockchain's Role in Emerging Markets: Accelerating Digital Supply Chain Management and Unlocking New Opportunities," 2024 25th International Arab Conference on Information Technology (ACIT), Zarqa, Jordan, 2024, pp. 1-6, doi: 10.1109/ACIT62805.2024.10877053.

98. A. Y. A. Bani Ahmad, M. Allahham, W. I. Almajali, F. T. Ayasrah and S. Sabra, "Smart Logistics Services: How Artificial Intelligence Transforms Decision-Making," 2024 25th International Arab Conference on Information Technology (ACIT), Zarqa, Jordan, 2024, pp. 1-4, doi: 10.1109/ACIT62805.2024.10876978.

99. Ahmad, A. Y. B., Ali, M., Namdev, A., Meenakshisundaram, K. S., Gupta, A., & Pramanik, S. (2025). A Combinatorial Deep Learning and Deep Prophet Memory Neural Network Method for Predicting Seasonal Product Consumption in Retail Supply Chains. In *Essential Information Systems Service Management* (pp. 311-340). IGI Global.

100. A. Y. A. Bani Ahmad, M. Allahham, W. I. Almajali, F. T. Ayasrah and S. Sabra, "From Interaction to Action: How User Input Shapes Logistics and Decisions in Jordan's E-Industry," 2024 25th International Arab Conference on Information Technology (ACIT), Zarqa, Jordan, 2024, pp. 1-6, doi: 10.1109/ACIT62805.2024.10877225.

101. Y. A. Bani Ahmad, M. Allahham, W. I. Almajali, F. T. Ayasrah and S. Sabra, "Supply Chain Innovation on Acceleration Decision-Making, The Mediating Role of Tech and Integration in the Retail Sector," 2024 25th International Arab Conference on Information Technology (ACIT), Zarqa, Jordan, 2024, pp. 1-6, doi: 10.1109/ACIT62805.2024.10876940.

102. Ahmad, A. Y. B., Gupta, P., Thimmiaraja, J., Goswami, B., Arun, M., Manoharan, G., & Younis, D. (2024). A Comparison of the Effects of Robotics and Artificial Intelligence on Business Management and Economics. In *Recent Advances in Management and Engineering* (pp. 132-137). CRC Press.

103. Ahmad, A. Y. A. B., Alzubi, J., James, S., Nyangaresi, V. O., Kutralakani, C., & Krishnan, A. (2024). Enhancing Human Action Recognition with Adaptive Hybrid Deep Attentive Networks and Archerfish Optimization. *Computers, Materials & Continua*, 80(3)

104. Ab Aziz, N. H., Alshdaifat, S. M., & Al Amosh, H. (2025). ESG Controversies and Firm Performance in ASEAN: Do Board Gender Diversity and Sustainability Committee Matter?. *Business Strategy & Development*, 8(1), e70094. <https://doi.org/10.1002/bsd2.70094>

105. Hasan, E. F., Alzuod, M. A., Al Jasimee, K. H., Alshdaifat, S. M., Hijazin, A. F., & Khrais, L. T. (2025). The Role of Organizational Culture in Digital Transformation and Modern Accounting Practices Among Jordanian SMEs. *Journal of Risk and Financial Management*, 18(3), 147. <https://doi.org/10.3390/jrfm18030147>

106. Al Rob, M. A., Nor, M. N. M., Alshdaifat, S. M., & Salleh, Z. (2025). Impact of competition and client size on big data analytics adoption: A TAM study of auditors. *Qubahan Academic Journal*, 5(1), 278-294. <https://doi.org/10.48161/qaj.v5n1a1129>

107. Ahmad, A. Y. B. (2024, May). CS Challenge in Creating AI-Integrated System. In 2024 4th International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE) (pp. 1515-1520). IEEE.

108. Ahmad, A. Y. B., Hannoos, A., Al-Daoud, K. I., Abu-Alsondos, I. A., & Al-Qaisieh, M. S. (2023). Assessment of Cloud Based Accounting Technology Adoption and Business Performance. *Kurdish Studies*, 11(3).

109. Ahmad, A. Y. B., Kumari, D. K., Shukla, A., Deepak, A., Chandnani, M., Pundir, S., & Shrivastava, A. (2024). Framework for Cloud Based Document Management System with Institutional Schema of Database. *International Journal of Intelligent Systems and Applications in Engineering*, 12(3s), 672-678.

110. Ahmad, A. Y. B., Tiwari, A., Nayem, M. A., Biswal, B. K., Satapathy, D. P., Kulshreshtha, K., & Bordoloi, D. (2024). Artificial Intelligence Perspective Framework of the Smart Finance and Accounting Management Model. *International Journal of Intelligent Systems and Applications in Engineering*, 12(4s), 586-594.

111. Ahmad, A., Abusaimeh, H., Rababah, A., Alqsass, M., Al-Olima, N., & Hamdan, M. (2024). Assessment of effects in advances of accounting technologies on quality financial reports in Jordanian public sector. *Uncertain Supply Chain Management*, 12(1), 133-142.

112. Ahmad, A. (2024). Ethical implications of artificial intelligence in accounting: A framework for responsible ai adoption in multinational corporations in Jordan. *International Journal of Data and Network Science*, 8(1), 401-414.

113. Ahmad Y. A. Bani Ahmad, "Firm Determinants that Influences Implementation of Accounting Technologies in Business Organizations," *WSEAS Transactions on Business and Economics*, vol. 21, pp. 1-11, 2024

114. Ahmad, A. Y. B., William, P., Uike, D., Murgai, A., Bajaj, K. K., Deepak, A., & Shrivastava, A. (2024). Framework for Sustainable Energy Management using Smart Grid Panels Integrated with Machine Learning and IOT based Approach. *International Journal of Intelligent Systems and Applications in Engineering*, 12(2s), 581-590.

115. Ahmad, A. Y. Bani ahmad , (2019). Empirical Analysis on Accounting Information System Usage in Banking Sector in Jordan. *Academy of Accounting and Financial Studies Journal*, 23(5), 1-9.

116. Ahmad, A. Y. B., Gongada, T. N., Shrivastava, G., Gabbi, R. S., Islam, S., & Nagaraju, K. (2023). E-Commerce Trend Analysis and Management for Industry 5.0 using User Data Analysis. *International Journal of Intelligent Systems and Applications in Engineering*, 11(11s), 135-150.

117. Alhawamdeh, H., Al-Saad, S. A., Almasarweh, M. S., Al-Hamad, A. A.-S. A., Bani Ahmad, A. Y. A. B., & Ayasrah, F. T. M. (2023). The Role of Energy Management Practices in Sustainable Tourism Development: A Case Study of Jerash, Jordan. *International Journal of Energy Economics and Policy*, 13(6), 321-333. <https://doi.org/10.32479/ijep.14724>

118. Allahham, M., & Ahmad, A. (2024). AI-induced anxiety in the assessment of factors influencing the adoption of mobile payment services in supply chain firms: A mental accounting perspective. *International Journal of Data and Network Science*, 8(1), 505-514.

119. Y. A. B. Ahmad, S. S. Kumari, M. S. S. K. Guha, A. Gehlot and B. Pant, "Blockchain Implementation in Financial Sector and Cyber Security System," 2023 International Conference on Artificial Intelligence and Smart Communication (AISC), Greater Noida, India, 2023, pp. 586-590, <https://doi.org/10.1109/AISC56616.2023.10085045>

120. Ahmad, A. Y. B., Atta, A. A. B., Shehadeh, M. A. H. A., Baniata, H. M. A., & Hani, L. Y. B. (2023). Fund family performance: Evidence from emerging countries. *WSEAS Trans. Bus. Econ*, 20, 951-964.

121. Alhawamdeh, H. M., & Alsmairat, M. A. (2019). Strategic decision making and organization performance: A literature review. *International review of management and marketing*, 9(4), 95.

122. Alhawamdeh, H., Al-Saad, S. A., Almasarweh, M. S., Al-Hamad, A. A. S., Ahmad, A. Y., & Ayasrah, F. T. M. (2023). The role of energy management practices in sustainable tourism development: a case study of Jerash, Jordan. *International Journal of Energy Economics and Policy*, 13(6), 321-333.

123. Alkhawaldeh, B., Alhawamdeh, H., Al-Afeef, M., Al-Smadi, A., Almarshad, M., Fraihat, B., ... & Alaa, A. (2023). The effect of financial technology on financial performance in Jordanian SMEs: The role of financial satisfaction. *Uncertain Supply Chain Management*, 11(3), 1019-1030.

124. Ali, O., Al-Duleemi, K., Al-Afeef, D. J., & Al-hawamnah, D. H. (2019). The Impact of the Decisions of the COBIT 5 Committee on the Effectiveness of the Internal Control Systems in the Jordanian Industrial Joint Stock Companies. *The Journal of Social Sciences Research*, 5(11), 1587-1599.

125. Al-Hawamdeh, H. M. (2020). The Intermediate Role of Organizational Flexibility in the Impact of Using Information Technology on the Efficiency of the Application of IT Governance in Jordanian Industrial Companies. *Modern Applied Science*, 14(7).

126. Al-Afeef, M., Fraihat, B., Alhawamdeh, H., Hijazi, H., AL-Afeef, M., Nawasr, M., & Rabi, A. (2023). Factors affecting middle eastern countries' intention to use financial technology. *International Journal of Data and Network Science*, 7(3), 1179-1192.

127. Alkhawaldeh, B. Y. S., Alhawamdeh, H., Almarshad, M., Fraihat, B. A. M., Abu-Alhija, S. M. M., Alhawamdeh, A. M., & Ismael, B. (2023). The effect of macroeconomic policy uncertainty on environmental quality in Jordan: Evidence from the novel dynamic simulations approach. *Jordan Journal of Economic Sciences*, 10(2), 116-131.among Faculty Members in Public and Private Universities in Jordan

128. Badawi, M., Alofan, F., Allahham, M., Sabra, S., Abubaker, N. M., & Ahmad, A. Y. B. (2024). The Impact of Supply Chain Agility on Operationalizing Sustainable Procurement the Mediating Role of System and Process Integration in the Pharmaceutical Sector in Saudi Arabia. *EVOLUTIONARY STUDIES IN IMAGINATIVE CULTURE*, 1632-1650.

129. Allahham, M. A. H. M. O. U. D., Sharabati, A. A. A., Hatamah, H. E. B. A., Ahmad, A. Y. B., Sabra, S., & Daoud, M. K. (2023). Big data analytics and AI for green supply chain integration and sustainability in hospitals. *WSEAS Transactions on Environment and Development*, 19, 1218-1230

130. Alkhawaldeh, A., Al-Shaer, B., Aleissa, T. Y. A., Abubaker, J. Y., Alwahshat, Z. M., Bani Ahmad, A. Y., & Dahbour, S. A. (2024). The Role of the Belt and Road Initiative in Increasing China's Influence in the World (2013-2023). *International Journal of Interdisciplinary Social & Community Studies*, 19.(2)

131. Almestarihi, R., Ahmad, A. Y. A. B., Frangieh, R., Abu-AlSondos, I., Nser, K., & Ziani, A. (2024). Measuring the ROI of paid advertising campaigns in digital marketing and its effect on business profitability. *Uncertain Supply Chain Management*, 12(2), 1275-1284.

132. Fraihat, B. A. M., Alhawamdeh, H., Younis, B., Alkhawaldeh, A. M. A., & Al Shaban, A. (2023). The Effect of Organizational Structure on Employee Creativity: The Moderating Role of Communication Flow: A Survey Study

133. Selvasundaram, K., Jayaraman, S., Chinthamani, S. A. M., Nethravathi, K., Ahmad, A. Y. B., & Ravichand, M. (2024). Evaluating the Use of Blockchain in Property Management for Security and Transparency. In *Recent Technological Advances in Engineering and Management* (pp. 193-197). CRC Press.

134. Ramadan, A., Maali, B., Morshed, A., Baker, A. A. R., Dahbour, S., & Ahmad, A. B. (2024). Optimizing working capital management strategies for enhanced profitability in the UK furniture industry: Evidence and implications. *Journal of Infrastructure, Policy and Development*, 8(9), 6302.

135. Fouzdar, A. S., Yamini, S., Biswas, R., Jindal, G., Ahmad, A. Y. B., & Dawar, R. (2024). Considering the Use of Blockchain for Supply Chain Authentication Management in a Secure and Transparent Way. In *Recent Technological Advances in Engineering and Management* (pp. 259-264). CRC Press.

136. Feng, Y., Ahmad, S. F., Chen, W., Al-Razgan, M., Awwad, E. M., Ayassrah, A. Y. B. A., & Chi, F. (2024). Design, analysis, and environmental assessment of an innovative municipal solid waste-based multigeneration system integrating LNG cold utilization and seawater desalination. *Desalination*, 117848.

137. Zhang, L., Ahmad, S. F., Cui, Z., Al Razgan, M., Awwad, E. M., Ayassrah, A. Y. B. A., & Shi, K. (2024). Energy, exergy, hermoeconomic analysis of a novel multi-generation system based on geothermal, kalina, double effect absorption chiller, and LNG regasification. *Desalination*, 117830.

138. Iqbal, S., Tian, H., Munneer, S., Tripathi, A., & Ahmad, A. Y. B. (2024). Mineral resource rents, fintech technological innovation, digital transformation, and environmental quality in BRI countries: An insight using panel NL-ARDL. *Resources Policy*, 93, 105074.

139. Geetha, B. T., Gnanaprasuna, E., Ahmad, A. Y. B., Rai, S. K., Rana, P., & Kapila, N. (2024, March). Novel Metrics Introduced to Quantify the Level of Circularity in Business Models Enabled by Open Innovation. In *2024 International Conference on Trends in Quantum Computing and Emerging Business Technologies* (pp. 1-6). IEEE.

140. Sharabati, A. A. A., Allahham, M., AbuSaimeh, H., Ahmad, A. Y. B., Sabra, S., & Daoud, M. K. (2023). Effects of artificial integration and big data analysis on economic viability of solar microgrids: mediating role of cost benefit analysis. *Operational Research in Engineering Sciences: Theory and Applications*, 6(3).

141. Ahmad, A. Y. B., Allahham, M., Almajali, W. I., Ayasrah, F. T., & Sabra, S. (2024, December). Smart Logistics Services: How Artificial Intelligence Transforms Decision-Making. In *2024 25th International Arab Conference on Information Technology (ACIT)* (pp. 1-4). IEEE.

142. Naved, M., Kole, I. B., Bhope, A., Gautam, C. S., Ahmad, A. Y. B., & Lourens, M. (2024, March). Managing Financial Operations in the Blockchain Revolution to Enhance Precision and Safety.

In 2024 International Conference on Trends in Quantum Computing and Emerging Business Technologies (pp. 1-6). IEEE.

143. Geetha, B. T., Kafila, K., Ram, S. T., Narkhede, A. P., Ahmad, A. Y. B., & Tiwari, M. (2024, March). Creating Resilient Digital Asset Management Frameworks in Financial Operations Using Blockchain Technology. In 2024 International Conference on Trends in Quantum Computing and Emerging Business Technologies (pp. 1-7). IEEE.

144. Y. A. B. Ahmad, N. Verma, N. M. Sarhan, E. M. Awwad, A. Arora and V. O. Nyangaresi, "An IoT and Blockchain-Based Secure and Transparent Supply Chain Management Framework in Smart Cities Using Optimal Queue Model," in IEEE Access, vol. 12, pp. 51752-51771, 2024, doi:10.1109/ACCESS.2024.3376605

145. Bani Ahmad, A. Y., Fraihat, B. A. M., Hamdan, M. N., Ayasrah, F. T. M., Alhawamdeh, M. M., & Al-Shakri, K. S. (2024). Examining the mediating role of organizational trust in the relationship between organizational learning and innovation performance: A study of information systems and computer science service firms.

146. Almarshad, M. N., Alwaely, S. A., Alkhawaldeh, B. Y., Al Qaryouti, M. Q. H., & Bani Ahmad, A. Y. (2024). The Mediating Role of Energy Efficiency Measures in Enhancing Organizational Performance: Evidence from the Manufacturing Sector in Jordan.

147. AlKhawaldeh, B. Y. S., Al-Smadi, A. W., Ahmad, A. Y., El-Dalahmeh, S. M., Alsuwais, N., & Almarshad, M. N. (2024). Macroeconomic determinants of renewable energy production in Jordan. International Journal of Energy Economics and Policy, 14(3), 473-481.

148. Ahmad, A. Y., Jain, V., Verma, C., Chauhan, A., Singh, A., Gupta, A., & Pramanik, S. (2024). CSR Objectives and Public Institute Management in the Republic of Slovenia. In Ethical Quandaries in Business Practices: Exploring Morality and Social Responsibility (pp. 183-202). IGI Global

149. Mahafzah, A. H., & Abusaimeh, H. (2018). Optimizing power-based indoor tracking system for wireless sensor networks using ZigBee. International Journal of Advanced Computer Science and Applications, 9(12).

150. Bani Atta, A. A., Ali Mustafa, J., Al-Qudah, S. S., Massad, E., & Ahmad, A. B. (2023). The effect of macroprudential regulation on banks' profitability during financial crises [Specialissue]. Corporate Governance and Organizational Behavior Review, 7(2), 245-258.

151. Cheng, Congbin, Sayed Fayaz Ahmad, Muhammad Irshad, Ghadeer Alsanie, Yasser Khan, Ahmad Y. A. Bani Ahmad (Ayassrah), and Abdu Rahman Aleemi. 2023. "Impact of Green Process Innovation and Productivity on Sustainability: The Moderating Role of Environmental Awareness" Sustainability 15, no. 17: 12945. <https://doi.org/10.3390/su151712945>

152. Atta, A., Baniata, H., Othman, O., Ali, B., Abughaush, S., Aljundi, N., & Ahmad, A. (2024). The impact of computer assisted auditing techniques in the audit process: an assessment of performance and effort expectancy. International Journal of Data and Network Science, 8(2), 977-988.