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# WHAT PREDICTS NEWS-SHARING BEHAVIOR ON SOCIAL MEDIA? THE ROLE OF DUAL-PROCESS THINKING AMONG UNIVERSITY STUDENTS

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## ABSTRACT

*News-sharing behavior on social media has emerged as a central concern in digital communication research, particularly in the context of misinformation diffusion. This study examines the cognitive predictors of news-sharing behavior through the lens of dual-process thinking. Drawing on dual-process theory, the research investigates the relative influence of analytical and heuristic processing mechanisms. Using a quantitative research design, data were collected from a sample of 400 university students from Saudi Arabia and Egypt. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to evaluate the hypothesized relationships between cognitive processing dimensions and the news-sharing behavior among Saudi and Egyptian university students. The findings reveal that analytical processing exerts a strong and statistically significant effect on news-sharing behavior, highlighting the dominant role of reflective cognitive evaluation. In contrast, heuristic processing did not demonstrate a statistically significant predictive effect, suggesting a limited independent contribution within the structural model. These results contribute to the literature by refining prevailing assumptions about digital dissemination behavior. Rather than being predominantly driven by intuitive heuristics, news-sharing decisions appear to be more strongly associated with analytical cognitive mechanisms within the examined population. The study offers theoretical implications for dual-process models in digital media contexts and practical implications for media literacy, misinformation mitigation strategies, and platform design. Directions for future research are proposed to examine contextual conditions shaping heuristic processing dynamics.*

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**KEYWORDS:** News-Sharing Behavior; Dual-Process Theory; Analytical Processing; Heuristic Processing; Social Media; University Students.

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## 1. INTRODUCTION

Social media platforms have fundamentally restructured the contemporary news ecosystem, transforming audiences from passive consumers of content into active agents in information circulation. Within these digitally mediated environments, news exposure is shaped by rapid information flows, condensed formats, emotional framing, and algorithmically amplified engagement cues. While these characteristics enhance immediacy and accessibility, they simultaneously intensify the risks associated with misinformation and false news dissemination (Lazer et al., 2018; Vosoughi et al., 2018).

Empirical research has consistently demonstrated that false news diffuses more rapidly and broadly than truthful information across social networks. Such findings underscore that misinformation dynamics cannot be adequately explained through technological mechanisms alone but must incorporate cognitive and behavioral processes governing human judgment and decision-making (Vosoughi et al., 2018). Consequently, recent scholarship has increasingly emphasized the role of information processing strategies in shaping individuals' evaluations of and responses to digital news content (Pennycook & Rand, 2021).

Dual-process theory offers a robust explanatory framework for understanding these mechanisms. The theory posits that information evaluation is governed by two qualitatively distinct cognitive systems: a fast, intuitive, heuristic-based system (System 1) and a slower, deliberate, analytical system (System 2) (Evans & Stanovich, 2013; Kahneman, 2011). Within digital news environments, heuristic processing frequently relies on surface-level cues such as headlines, emotional tone, visual presentation, and social endorsement signals, whereas analytical processing involves systematic evaluation of source credibility, argument quality, evidential support, and cross-source comparison.

A substantial body of literature links analytic reasoning to reduced susceptibility to misinformation. Individuals exhibiting higher levels of reflective or analytic thinking are more likely to differentiate between true and false news and less likely to endorse misleading information (Pennycook & Rand, 2019, 2021). Experimental studies further demonstrate that minimal cognitive interventions, such as accuracy prompts, can activate analytic processing and significantly reduce individuals' willingness to share misinformation (Pennycook et al., 2020; Pennycook et al., 2022).

Importantly, contemporary research has moved beyond examining misinformation belief alone

toward conceptualizing misinformation sharing as a cognitively driven decision-making process. Meta-analytic evidence indicates that psychological and cognitive traits – particularly analytic reasoning – represent robust predictors of misinformation sharing tendencies (Sun & Xie, a2024). Similarly, systematic reviews emphasize that sharing behaviors are shaped by a complex interplay of cognitive heuristics, emotional drivers, and social influence mechanisms rather than belief accuracy alone (Cai et al., 2025).

Moreover, emerging scholarship highlights the critical influence of heuristic cues embedded within platform environments. Engagement signals, popularity metrics, emotional framing, and perceived consensus cues have been shown to significantly affect sharing decisions, often bypassing deeper analytical evaluation (Altay et al., 2023; Sun & Xie, b2024). These findings suggest that news sharing frequently emerges from rapid cognitive shortcuts rather than deliberate verification processes.

Despite the expanding body of research in misinformation and digital news engagement, several critical gaps remain.

**First**, many studies treat analytic thinking as a generalized cognitive disposition without explicitly operationalizing dual-process mechanisms as multidimensional constructs directly linked to news evaluation practices. Dual-processing is often conceptually acknowledged yet indirectly inferred through dispersed analytical competencies, including source evaluation, content scrutiny, evidential reasoning, comparative verification, and cognitive inhibition.

**Second**, misinformation research has traditionally emphasized belief accuracy, detection performance, or sharing intention. Comparatively less attention has been devoted to news-sharing behavior as a multidimensional construct reflecting heterogeneous behavioral patterns. News dissemination within digital environments encompasses diverse engagement modes, including heuristic sharing, emotionally driven transmission, selective (bias-consistent) circulation, socially influenced diffusion, inquisitive interaction, and critically reflective participation.

**Third**, empirical investigations within Arab digital environments remain relatively limited, particularly among university students. This population represents a theoretically consequential cohort characterized by intensive social media engagement, elevated news exposure, and active involvement in digital information circulation. Given the sociotechnical distinctiveness of regional media

ecosystems, extending dual-process frameworks into these contexts becomes both theoretically justified and empirically necessary.

The present study therefore examines the extent to which heuristic and analytical processing styles, as conceptualized within dual-process theory, account for variability in news-sharing behaviors on social media among Saudi university students.

## 2. LITERATURE REVIEW

### 2.1 *News Sharing as Mediated Participation and Decision Architecture*

Contemporary research increasingly conceptualizes news sharing on social media as a form of mediated participation embedded within social and cognitive decision processes rather than a purely reactive behavioral act. Within participation-oriented frameworks, sharing is understood as a socially situated activity shaped by civic orientations, relational considerations, and perceived social influence.

Bhagat and Kim (2023), drawing on the Elaboration Likelihood Model (ELM) and Social Influence Theory, model news sharing as a function of message evaluations, source credibility, civic engagement perceptions, and social influence mechanisms. Their findings demonstrate that perceived online civic engagement, perceived interpersonal influence, and social influence significantly predict news-sharing behavior, alongside assessments of news quality and source credibility. This perspective positions sharing as a socially meaningful communicative act rather than mere content redistribution.

Process-oriented scholarship further refines this understanding by highlighting the sequential cognitive architecture of sharing decisions. Wang and Fussell (2020), through in-depth semi-structured interviews with college students, demonstrate that sharing unfolds across multiple cognitive stages: pre-sharing evaluations, audience selection during dissemination, and post-sharing feedback monitoring. Their findings reveal that individuals engage in layered assessments involving content appraisal, perceived social value, and relational considerations. Importantly, this stage-based model challenges simplistic stimulus-response interpretations by framing sharing as a cognitively mediated decision process.

Despite these advances, participation-based models often infer cognition indirectly through broad perceptual constructs (e.g., credibility, engagement value), leaving the micro-level cognitive mechanisms underlying sharing insufficiently operationalized.

### 2.2 *Dual-Process Cognition and Veracity Evaluation*

Parallel research streams situate news engagement within dual-process theoretical frameworks, emphasizing the interplay between heuristic (System 1) and analytical (System 2) processing routes.

Yan and Pan (2023), employing a survey experiment with Chinese social media users, demonstrate that contextual presentation cues – particularly social endorsement signals and content slant – significantly influence veracity judgments and engagement behaviors. Their findings illustrate how platform-embedded cues may activate heuristic processing pathways, often bypassing deeper evaluative scrutiny. Notably, the study identifies a persistent truth bias and veracity effects, suggesting that individuals tend to perceive social media news as generally accurate while demonstrating asymmetries in detecting false content.

Experimental cognitive research provides complementary evidence clarifying the protective role of analytical reasoning. Ross, Rand, and Pennycook (2021) challenge motivated-reasoning accounts by demonstrating that analytic thinking consistently enhances the ability to distinguish true headlines from false and hyperpartisan content. Crucially, analytic thinking was not associated with increased belief in politically congruent misinformation nor with greater willingness to share misleading content. These findings reinforce dual-process interpretations, wherein analytical processing functions as a corrective mechanism against intuitive misjudgments.

However, much of this literature operationalizes cognition through dispositional proxies (e.g., deliberation propensity, elaboration tendencies), rather than through direct measurement of dual-process skills aligned with real-world news evaluation practices (e.g., source verification, evidence scrutiny, cross-referencing).

### 2.3 *Affective Dynamics and Emotion-Driven Sharing*

Beyond cognitive deliberation, affective processes constitute a robust explanatory pathway in misinformation and news-sharing research. Emotional valence, arousal, and involvement repeatedly emerge as influential determinants of both belief formation and dissemination behavior.

Yan and Pan (2023) indirectly reinforce this dynamic by demonstrating how content slant and presentation cues shape engagement behaviors,

mechanisms often associated with affective activation. Broader empirical syntheses (Adeeb & Mirhoseini, 2023) argue that emotional arousal and affective heuristics fundamentally shape how users perceive and respond to misinformation. Emotional content may amplify intuitive processing biases, particularly under high-arousal conditions where heuristic pathways dominate decision-making.

From a dual-process perspective, emotionally charged content environments may strengthen System 1 reliance while attenuating analytical inhibition mechanisms, thereby increasing susceptibility to impulsive sharing behaviors.

#### **2.4 Detecting Versus Sharing: Behavioral Divergence**

Recent misinformation scholarship emphasizes a critical distinction between misinformation detection ability and sharing behavior.

Arin, Mazrekaj, and Thum (2023), **drawing on cross-national survey data** across Germany and the United Kingdom, demonstrate that accidental sharing substantially exceeds deliberate sharing. Their findings indicate that detection ability and sharing inclination represent partially independent outcomes. This divergence challenges linear assumptions linking misinformation susceptibility directly to dissemination behavior.

Effron, Qiu, and Shulman (2026) **advance this perspective** by introducing a moral-cognition framework. Their experimental findings reveal that moral deliberation **markedly decreases individuals' willingness to share** headlines recognized as false. This suggests that dissemination decisions may be regulated not solely by accuracy-based evaluations but also by normative ethical judgments when deliberative processing is activated.

Collectively, these findings reinforce dual-process interpretations in which sharing decisions may default to intuitive amplification yet remain susceptible to inhibition through analytical or moral reasoning pathways.

#### **2.5 University Students and Heuristic Persistence**

Despite widespread assumptions regarding digital competence among university students, empirical evidence suggests persistent reliance on heuristic processing mechanisms.

Martin et al. (2024), through the development of the Risky News-Sharing Quotient (RNSQ), report that a substantial proportion of university students exhibit risky news-sharing behaviors contributing to

misinformation dissemination. Notably, 75% of participants reported behaviors associated with misinformation spread, while 83% failed to accurately identify fake news stories. These findings reveal a gap between perceived awareness and behavioral verification practices.

Similarly, Wang and Fussell (2020) demonstrate that even within academically trained populations, sharing decisions remain shaped by social value considerations and intuitive processing shortcuts rather than systematic verification strategies.

These results underscore that educational attainment alone does not guarantee analytical processing dominance; rather, cognitive defaults and platform affordances jointly shape participation in digital news circulation.

#### **2.6 Cognitive and Motivational Mechanisms in Sharing Intentions**

Behavioral reasoning perspectives provide further insight into the cognitive and motivational mechanisms underlying sharing decisions.

Kumar et al. (2023), applying Behavioral Reasoning Theory (BRT), demonstrate that source credibility and information quality positively influence fake news-sharing intentions, with perceived believability functioning as a central mediating mechanism. Additionally, cognitive fluency and social status-seeking significantly moderate dissemination pathways. These findings reinforce the centrality of cognitive evaluations and intuitive ease-of-processing mechanisms in shaping sharing behavior.

Complementing this, Adjin-Tettey (2022) provides experimental evidence indicating that Media and Information Literacy (MIL) interventions reliably diminish fake news-sharing intentions, highlighting the regulatory potential of analytical processing activation.

#### **2.7 Integrative Implications for Dual-Process News Sharing**

Across theoretical traditions — participation models, dual-process cognition, affective dynamics, and behavioral reasoning — a convergent pattern emerges: news sharing reflects a cognitively mediated decision process shaped by the interaction of heuristic and analytical mechanisms.

Yet, a persistent limitation remains. Much of the literature operationalizes cognition indirectly through perceptual or dispositional proxies, leaving dual-process cognition under-specified as a measurable construct within journalism research. Consequently, there remains a need for frameworks

that directly assess heuristic and analytical processing dimensions as predictors of distinct news-sharing patterns.

### 3. THEORETICAL FRAMEWORK

Dual-process theory offers a widely adopted conceptual lens for explaining human judgment and decision-making. The theory proposes that information evaluation operates through two qualitatively distinct cognitive systems: a fast, intuitive, heuristic-based system (System 1) and a slower, deliberate, analytical system (System 2) (Gronchi et al., 2024; Evans & Stanovich, 2013; Kahneman, 2011).

Dual-process theory provides a foundational framework for understanding human judgment and decision-making. The theory posits that information evaluation operates through two qualitatively distinct cognitive systems: a fast, intuitive, heuristic-based system (System 1) and a slower, deliberate, analytical system (System 2) (Gronchi et al., 2024; Evans & Stanovich, 2013; Kahneman, 2011).

System 1 processing is characterized by rapid, automatic responses relying on cognitive shortcuts and surface-level cues. Within digital news environments, such processing frequently draws upon heuristics associated with headlines, emotional tone, familiarity, popularity indicators, and social endorsement signals. While heuristic processing reflects adaptive cognitive efficiency under conditions of information overload, it may also increase susceptibility to misinformation (Bellini-Leite, 2022; Pennycook & Rand, 2021; Kahneman, 2011).

By contrast, System 2 processing involves deliberate analytical reasoning. In the context of news consumption, analytic processing encompasses systematic evaluation of source credibility, content coherence, evidential support, comparative verification, and the inhibition of premature judgments. Empirical research consistently links analytic reasoning to reduced vulnerability to misinformation and more accurate veracity judgments (Pennycook & Rand, 2019, 2021).

News sharing on social media represents a particularly relevant behavioral domain for dual-process theory. Sharing decisions often occur under conditions that privilege speed, cognitive ease, emotional salience, and social visibility — factors theoretically aligned with heuristic processing. Consequently, dissemination practices may reflect the dynamic interplay between intuitive cognitive shortcuts and analytical evaluation mechanisms (Sun & Xie, 2024).

Accordingly, the present study conceptualizes

news-sharing behavior as an outcome shaped by dual-process thinking. Heuristic processing is expected to facilitate rapid, cue-driven sharing tendencies, whereas analytic processing is expected to regulate, inhibit, or transform dissemination practices through systematic evaluation processes.

#### 3.1. Hypotheses

Grounded in dual-process theory, cognitive processing styles are conceptualized as distinct decision-making systems that shape how individuals evaluate and disseminate information within digital environments (Evans & Stanovich, 2013; Kahneman, 2011). In social media contexts, news-sharing behavior is understood as a multidimensional construct reflecting heterogeneous dissemination tendencies rather than a unitary behavioral outcome.

Heuristic processing represents rapid, intuitive, low-effort judgment pathways characterized by reliance on cognitive shortcuts, surface-level cues, and affective bias. These cognitive tendencies are theoretically associated with impulsive dissemination patterns, selective amplification, and emotionally reactive engagement (Pennycook & Rand, 2019; Yan & Pan, 2023).

Conversely, analytical processing reflects deliberate, systematic reasoning pathways involving source evaluation, content scrutiny, evidential reasoning, comparative verification, and cognitive inhibition. These processes are expected to regulate dissemination decisions, attenuate heuristic biases, and promote more reflective engagement behaviors (Ross et al., 2021; Pennycook & Rand, 2021). Accordingly the study proposes the following hypotheses:

H1: Analytical processing significantly predicts variations across the dimensions of news-sharing behavior on social media.

H2: Heuristic processing significantly predicts variations across the dimensions of news-sharing behavior on social media.

## 4. METHOD

### 4.1 Sample and Context

Achieve the research objectives, the measurement instruments were originally developed in English based on established theoretical and empirical literature in dual-process cognition and misinformation research. The instruments were subsequently adapted into Arabic using the back-translation technique (Brislin, 1970) to ensure semantic equivalence, conceptual consistency, and linguistic accuracy.

Prior to data collection, standard ethical and

procedural safeguards were implemented. First, administrative permissions were obtained from the relevant university authorities. Second, participants were informed of the academic purpose of the study and were encouraged to provide genuine responses. Respondents were explicitly advised that the survey contained no right or wrong answers, and that participation was entirely voluntary. To protect privacy and reduce response bias, no personally identifiable information was recorded.

Data were gathered using an online self-administered survey from a cross-national sample of 400 undergraduate students enrolled in higher education institutions in two Arab contexts: Imam Mohammad Ibn Saud Islamic University (Saudi Arabia) and Beni-Suef University (Egypt). The cross-institutional sampling strategy was designed to enhance contextual variability and improve the comparative robustness of the findings. Including participants from two distinct national media environments allows for greater heterogeneity in digital news exposure patterns, platform usage norms, and information-processing contexts, thereby strengthening the external validity of the study.

Participants were recruited through a stratified convenience sampling approach. Stratification criteria included academic discipline and study level to ensure adequate variability in educational background and cognitive exposure conditions. Eligibility criteria required respondents to be (a) active users of social media platforms (b) regularly exposed to online news content.

This sampling logic aligns directly with the theoretical scope of the study. The selected sample size satisfies established methodological recommendations for multivariate statistical modeling and latent-variable analysis, ensuring adequate statistical power and parameter stability (Hair et al., 2019; Cohen, 2013). To mitigate potential response biases and common method variance, several procedural remedies were implemented, including neutral item wording, randomized item ordering, and explicit assurances of respondent anonymity, consistent with established methodological guidelines (Podsakoff et al., 2012).

The study was conducted in accordance with recognized ethical principles governing research involving human participants. Ethical considerations included ensuring voluntary participation, obtaining informed consent, maintaining confidentiality, and preserving respondent anonymity. Participants were clearly informed of their rights, including the freedom to withdraw from the study at any stage without any consequences or penalty.

## 4.2 Measures

All measurement items were assessed using a five-point Likert-type scale:

1 = Strongly Disagree → 5 = Strongly Agree. This response format is consistent with prior cognitive-processing and behavioral research (Hair et al., 2022).

### 4.2.1 Dual-Process Thinking

Dual-process thinking was operationalized as a multidimensional latent construct reflecting two primary cognitive processing systems derived from dual-process theory (Evans & Stanovich, 2013; Kahneman, 2011).

### 4.2.2 Heuristic Processing

Heuristic processing was conceptualized as intuitive, rapid, cue-driven judgment tendencies and measured across three subdimensions: rapid cognitive processing, reliance on surface-level cues, and affective/confirmatory bias. Sample items included: "I decide the credibility of news quickly," "I rely on the headline when judging news," and "I tend to believe news consistent with my views."

### 4.2.3 Analytical Processing

Analytical processing captured deliberate, systematic evaluation tendencies and was measured across five subdimensions: Source evaluation, Content analysis, evidential reasoning, Comparative verification, and Cognitive inhibition. Sample items included: "I evaluate the reliability of the news source," "I compare news across multiple sources," and "I avoid making quick judgments about news."

### 4.2.4 News-Sharing Behavior

News-sharing behavior was conceptualized as a multidimensional behavioral construct, capturing diverse dissemination patterns observed in digital news environments. The scale included: Heuristic sharing, emotionally driven sharing, selective (bias-consistent) sharing, socially influenced sharing, Inquisitive sharing, Critical/skeptical sharing, and Sarcastic/ironic engagement. Sample items included: "I may share news before fully verifying it," "I share surprising news immediately," "I share news consistent with my beliefs," and "I share news with critical commentary."

## 4.3 Data Analysis

Data analysis was conducted using multivariate statistical procedures aligned with the study's predictive and theory-testing objectives. The

analytical procedures comprised descriptive statistics to summarize sample characteristics and variable distributions, correlation analysis to examine bivariate associations among the study constructs, and Structural Equation Modeling (SEM) to assess the proposed relationships within the conceptual model.

#### 4.3.1 Measurement Model Analysis

Table 1 reports the assessment of indicator reliability, internal consistency reliability, and convergent validity. Indicator reliability was evaluated using standardized factor loadings. As shown in the table, all measurement items exceeded the recommended threshold of 0.70 (Hair et al., 2022), indicating satisfactory indicator reliability.

Standardized loadings ranged from 0.844 to 0.900, confirming adequate item reliability. Internal consistency reliability was confirmed by Cronbach's alpha (0.919) and Composite Reliability (CR = 0.921),

both exceeding recommended cutoff values. Convergent validity was supported through the Average Variance Extracted (AVE = 0.756), which surpassed the 0.50 criterion. Similarly, Heuristic Processing exhibited acceptable reliability and validity. All indicators loaded strongly on their respective construct (0.868–0.885). Reliability metrics were within acceptable levels (Cronbach's alpha = 0.855; CR = 0.871), while the AVE value (0.773) further confirmed convergent validity. News-Sharing Behavior indicators also demonstrated satisfactory measurement performance. Factor loadings varied between 0.840 and 0.897, indicating robust indicator reliability. The construct demonstrated strong internal consistency reliability (Cronbach's alpha = 0.944; CR = 0.946). Convergent validity was also confirmed (AVE = 0.748). Overall, the measurement model satisfies established reliability and convergent validity criteria, supporting the adequacy of the constructs for subsequent structural model evaluation.

**Table 1: Factor loadings**

	Items	Factor Loadings	Cronbach's alpha	CR	AVE
Analytical Processing	AP1	0.866	0.919	0.921	0.756
	AP2	0.844			
	AP3	0.870			
	AP4	0.867			
	AP5	0.900			
Heuristic Processing	HP1	0.868	0.855	0.871	0.773
	HP2	0.885			
	HP3	0.885			
News-Sharing Behavior	NSB1	0.866	0.944	0.946	0.748
	NSB2	0.856			
	NSB3	0.897			
	NSB5	0.865			
	NSB6	0.872			
	NSB7	0.840			
	VSB4	0.855			

#### 4.3.2 Discriminant Validity Assessment

Discriminant validity was evaluated using the Heterotrait–Monotrait ratio (HTMT), following the methodological recommendations of Henseler et al. (2015). As presented in Table 2, the HTMT values were examined against the conservative threshold of 0.85 and the more liberal criterion of 0.90. The HTMT value between Analytical Processing and Heuristic Processing (HTMT = 0.887) falls below the 0.90 threshold, indicating acceptable discriminant validity between the two cognitive processing constructs. This result suggests that although the constructs are conceptually related, they remain empirically distinguishable. However, the HTMT value between Analytical Processing and News-Sharing Behavior (HTMT = 0.944) exceeds the

recommended cutoff values, indicating a potential discriminant validity concern. This finding implies a high degree of overlap between the constructs, suggesting that the indicators may capture closely related underlying dimensions. Similarly, the HTMT value between Heuristic Processing and News-Sharing Behavior (HTMT = 0.775) remains well below the threshold, confirming satisfactory discriminant validity.

Overall, the results indicate partial support for discriminant validity. While most construct pairs meet the recommended criteria, the elevated HTMT value involving Analytical Processing and News-Sharing Behavior suggests the need for further examination, such as reviewing cross-loadings, assessing conceptual distinctiveness, or considering model respecification.

Table 2: Values of HTMT

	Analytical Processing	Heuristic Processing	News-Sharing Behavior
Analytical Processing			
Heuristic Processing	0.887		
News-Sharing Behavior	0.944	0.775	

4.3.3 Discriminant Validity (Fornell-Larcker Criterion)

Discriminant validity was further assessed using the Fornell-Larcker criterion (Fornell & Larcker, 1981), which requires that the square root of the Average Variance Extracted (AVE) for each construct exceeds its correlations with other constructs. This assessment ensures that each latent variable represents a distinct conceptual construct within the measurement model.

As reported in Table 3, the diagonal elements represent the square roots of AVE. The construct Analytical Processing exhibited a square root of AVE of 0.870, which exceeded its correlation with Heuristic Processing (r = 0.794), indicating satisfactory discriminant validity between the two cognitive processing dimensions. However, the correlation between Analytical Processing and News-Sharing Behavior (r = 0.886) marginally exceeded the corresponding diagonal value.

A similar pattern was observed for News-Sharing Behavior, where the square root of AVE (0.865) was slightly lower than its correlation with Analytical Processing (r = 0.886). In contrast, Heuristic Processing demonstrated adequate discriminant validity, with its square root of AVE (0.879) exceeding correlations with both Analytical Processing (r = 0.794) and News-Sharing Behavior (r = 0.712).

Although the Fornell-Larcker criterion indicates a potential overlap between Analytical Processing and News-Sharing Behavior, several considerations suggest that this result does not necessarily imply construct redundancy. First, prior methodological research has demonstrated that the Fornell-Larcker criterion may lack sensitivity in detecting discriminant validity issues, particularly in models involving conceptually related constructs (Henseler et al., 2015). Second, the observed correlation is theoretically plausible, reflecting the inherent linkage between analytical cognitive mechanisms and behavioral decision processes.

Table 3: Fornell-Larcker

	Analytical Processing	Heuristic Processing	News-Sharing Behavior
Analytical Processing	0.870		
Heuristic Processing	0.794	0.879	
News-Sharing Behavior	0.886	0.712	0.865

4.3.4 Coefficient of Determination (R<sup>2</sup> and Adjusted R<sup>2</sup> Analysis)

The coefficient of determination (R<sup>2</sup>) and adjusted R<sup>2</sup> were examined to evaluate the explanatory power of the structural model. As presented in Table 4, the R<sup>2</sup> value for News-Sharing Behavior was 0.784, with an adjusted R<sup>2</sup> of 0.783. This result indicates that the exogenous constructs explain approximately 78.4% of the variance in News-Sharing Behavior. According to established methodological guidelines (Chin, 1998; Hair et al., 2022), R<sup>2</sup> values exceeding 0.67 are considered substantial, suggesting a high level of predictive accuracy and strong explanatory capability of the model.

The minimal difference between R<sup>2</sup> and adjusted R<sup>2</sup> further indicates model stability and confirms that the explanatory power is not artificially inflated. This consistency suggests that the model maintains robustness without significant estimation bias. Overall, the findings demonstrate that the structural model exhibits substantial explanatory power, highlighting the strong predictive contribution of the cognitive processing constructs in explaining variations in News-Sharing Behavior.

Table 4: R-square adjusted

	R-square	R-square adjusted
News-Sharing Behavior	0.784	0.783

5. RESULTS

Figure (1) presents the structural model, illustrating the hypothesized relationships among Analytical Processing, Heuristic Processing, and News-Sharing Behavior. The figure displays the standardized path coefficients, reflecting the magnitude and direction of the structural relationships.

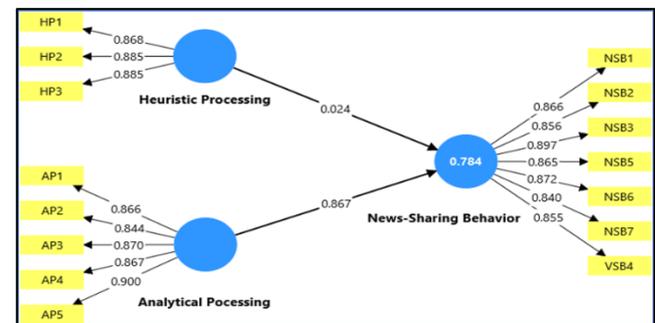


Figure 1: Measurement Model.

As shown, Analytical Processing exhibits a strong positive path toward News-Sharing Behavior, indicating a substantial predictive relationship. In contrast, Heuristic Processing demonstrates a comparatively weaker path, suggesting a limited contribution within the structural framework. The R<sup>2</sup>

value associated with News-Sharing Behavior indicates that the model explains a substantial proportion of variance, highlighting the overall explanatory capability of the proposed model.

Overall, the structural model visualization provides a clear representation of the relative strength of the cognitive processing mechanisms in predicting News-Sharing Behavior

*Table 5: R-square adjusted.*

Hypo.	Relationships	Standardized Beta	Standard Error	T-Statistic	P-Values	Decision
H1	Analytical Processing -> News-Sharing Behavior	0.867	0.022	8.999	0.000	Supported
H2	Heuristic Processing -> News-Sharing Behavior	0.024	0.071	1.821	0.071	Unsupported

The structural relationships were assessed by examining the standardized path coefficients ( $\beta$ ), standard errors, t-statistics, and significance levels obtained through the bootstrapping procedure. As presented in Table 5, the results reveal differential predictive effects of the cognitive processing constructs on News-Sharing Behavior. The findings indicate that Analytical Processing exerts a strong and statistically significant effect on News-Sharing Behavior ( $\beta = 0.867$ ,  $t = 8.999$ ,  $p < 0.001$ ). This result suggests a substantial predictive contribution, highlighting the dominant explanatory role of analytical cognitive mechanisms. In contrast, Heuristic Processing did not demonstrate a statistically significant effect ( $\beta = 0.024$ ,  $t = 1.821$ ,  $p = 0.071$ ). Although the relationship is positive, the effect failed to reach conventional significance levels, indicating a marginal predictive influence. Overall, the results provide partial support for the proposed hypotheses. Analytical Processing emerged as a significant predictor, whereas Heuristic Processing did not exhibit a statistically reliable effect.

## 6. DISCUSSION

The findings of the present study gain further interpretive strength when situated within the broader interdisciplinary literature on misinformation diffusion, cognitive processing, and digital news engagement. Accumulating empirical evidence across psychology, communication, and human-computer interaction consistently supports the proposition that news-sharing behavior represents a cognitively mediated decision process shaped by both heuristic shortcuts and analytical evaluation mechanisms.

### 6.1. Analytical Processing as a Corrective and Regulatory Mechanism

The predictive effects of analytical processing observed in this study are equally consistent with a robust body of cognitive and misinformation research. Pennycook and Rand (2021) emphasized that: "people are often not motivated to think carefully about the accuracy of content." This statement is profoundly relevant. Analytical processing does not merely reflect

cognitive ability but cognitive engagement – a distinction central to interpreting variations in news-sharing behavior. Experimental work by Bago, Rand, and Pennycook (2020) provides deeper mechanistic insight. Their two-response paradigm demonstrated that: "initial responses were often incorrect but could be corrected following deliberation." This finding offers direct empirical support for dual-process interpretations: analytical processing appears to function as a cognitive override system capable of inhibiting intuitive misjudgments. Importantly, the protective role of analytical reasoning extends beyond belief accuracy. Pennycook and Rand (2022) concluded: "analytic thinking reduces both belief in and sharing of misinformation." Similarly, Roozenbeek et al. (2022), examining psychological resistance mechanisms, argued that: "cognitive reflection is consistently associated with misinformation resilience."

These findings strongly reinforce the interpretation that analytical processing dimensions – particularly source evaluation, evidential reasoning, and cognitive inhibition – serve regulatory and filtering functions in dissemination behavior. From a Journalism standpoint, this suggests that misinformation diffusion is not simply a failure of literacy but a failure of cognitive activation contexts.

### 6.2. Reinterpreting the Role of Heuristic Processing

Although prior literature consistently highlights the influential role of heuristic mechanisms in online information diffusion, the present findings revealed that Heuristic Processing did not exert a statistically significant effect on News-Sharing Behavior. This result invites a more nuanced theoretical interpretation rather than a rejection of heuristic processing frameworks. Previous large-scale analyses of misinformation diffusion (Vosoughi, Roy, & Aral, 2018) demonstrated that "falsehood diffused significantly farther, faster, deeper, and more broadly than the truth," emphasizing the behavioral consequences of novelty-driven and cognitively efficient decision strategies. Similarly, research on cognitive fluency (Alter & Oppenheimer, 2009) suggests that fluency experiences often

function as heuristic cues guiding judgments under conditions of limited cognitive effort.

However, the absence of a statistically significant structural effect in this study suggests that heuristic mechanisms may not independently predict news-sharing behavior when analytical processing is simultaneously activated. This interpretation aligns with dual-process theoretical perspectives, which propose that System 2 processes may attenuate or override System 1 influences depending on cognitive engagement conditions. Empirical evidence from Pennycook and Rand (2019) further supports this interpretation, indicating that susceptibility to misinformation is better explained by variations in analytic thinking rather than heuristic reliance alone. Moreover, Pennycook *et al.* (2020) demonstrated that minimal accuracy-oriented cognitive prompts can alter sharing tendencies, highlighting the malleability of heuristic pathways. From a journalism and digital media perspective, these findings suggest that heuristic processing remains theoretically relevant but may operate as a context-dependent or secondary mechanism within cognitively demanding evaluative environments.

### **6.3. Emotion, Arousal, and Heuristic Amplification**

The interaction between heuristic processing and emotionally driven sharing behaviors identified in this study finds strong support in affective cognition research. Martel, Pennycook, and Rand (2020) demonstrated that: “emotional reactions predict misinformation sharing.” Their findings suggest that affective arousal may intensify System 1 dominance by accelerating intuitive judgments while attenuating inhibitory control. Similarly, Brady *et al.* (2017) showed that: “moral-emotional language increases diffusion.” This diffusion mechanism is particularly relevant for Journalism research, where emotionally framed content competes within attention economies privileging engagement velocity. These studies collectively indicate that emotional salience functions not as a peripheral variable but as a core cognitive amplifier.

### **6.4. Detection Ability Vs Sharing Decisions**

A critical conceptual contribution of the present

study lies in distinguishing cognitive evaluation mechanisms from dissemination outcomes. Pennycook *et al.* (2018) demonstrated the “illusory truth effect,” concluding that: “repeated exposure increases perceived accuracy.” This finding offers a powerful explanation for heuristic sharing even among skeptical users. Familiarity may substitute for verification. Grinberg *et al.* (2019) similarly observed: “fake news consumption is highly concentrated.” Together, these findings suggest that dissemination behavior is shaped by exposure structures and cognitive shortcuts rather than belief deficits alone.

### **6.5. Implications for Journalism Theory**

Taken collectively, the expanded literature strongly validates the theoretical logic of the present study. News sharing emerges as: A cognitively mediated decision process, structurally sensitive to heuristic activation cues, Regulated by analytical inhibition mechanisms, Amplified by emotional salience, and Not reducible to belief accuracy alone.

## **7. CONCLUSION**

This study provides important insights into the cognitive determinants of news-sharing behavior on social media within the dual-process theoretical framework. The findings revealed that analytical processing represents the most influential and statistically significant predictor, indicating that news-sharing decisions are largely shaped by reflective and deliberate cognitive evaluation. This result contributes to a more refined understanding of digital dissemination behavior by emphasizing the central role of analytical thinking mechanisms in explaining variations in sharing tendencies.

In contrast, heuristic processing did not exhibit a statistically significant predictive effect. Rather than diminishing its theoretical relevance, this finding suggests that heuristic mechanisms may operate as context-dependent processes whose influence becomes attenuated when analytical processing is simultaneously engaged. Taken together, these results underscore the importance of fostering analytical thinking capacities in digital media environments and open avenues for future research to explore the conditions under which heuristic processing may regain explanatory significance.

## **REFERENCES**

- Adeeb, R. A., & Mirhoseini, M. (2023). The impact of affect on the perception of fake news on social media: A systematic review. *Social Sciences*, 12(12), 674. <https://doi.org/10.3390/socsci12120674>
- Adjin-Tettey, T. D. (2022). Combating fake news, disinformation, and misinformation: Experimental evidence for media literacy education. *Cogent Arts & Humanities*, 9(1), 2037229.

- <https://doi.org/10.1080/23311983.2022.2037229>
- 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.
- 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.
- 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.
- A. Y. A. Bani Ahmad, Y. M. A. Tarshany, F. T. M. Ayasrah, F. S. Mohamad, S. I. A. Saany and B. Pandey, "The Role of Cybersecurity in E-Commerce to Achieve the Maqasid of Money," 2023 International Conference on Computer Science and Emerging Technologies (CSET), Bangalore, India, 2023, pp. 1-8, doi: 10.1109/CSET58993.2023.10346972.
- Adeeb, R. A., & Mirhoseini, M. (2023). The impact of affect on the perception of fake news on social media: A systematic review. *Social Sciences*, 12(12), 674. <https://doi.org/10.3390/socsci12120674>
- Adjin-Tetty, T. D. (2022). Combating fake news, disinformation, and misinformation: Experimental evidence for media literacy education. *Cogent Arts & Humanities*, 9(1), 2037229. <https://doi.org/10.1080/23311983.2022.2037229>
- 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
- 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.
- 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..
- 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)
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Ahmad, A. Y. B., Hannon, 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).

- 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.
- 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.
- Ahmad, A. Y. B., Tiwari, A., Nayeem, 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.
- 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.
- 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.
- 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
- Ahmad, A., Abusaimh, 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.
- 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>
- 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.
- Al-Ayyaf, Abdulrahman Ibrahim., and Al-Nsour, Iyad Abdel Fattah. (2024). Effect of innovation in communication message on financial customer relationships: New evidence from Saudi Arabia. *Journal of Asian Business Strategy, Asian Economic and Social Society*, 14(1), 61-69. <https://doi.org/10.55493/5006.v14i1.5054>
- Al-Dweiri, M., Ramadan, B., Rawshdeh, A., Nassoura, A., Al-Hamad, A., & Ahmad, A. (2024). The mediating role of lean operations on the relationship between supply chain integration and operational performance. *Uncertain Supply Chain Management*, 12(2), 1163-1174.
- 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).
- 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>.
- Al-Nsour, I. A. (2017). WOM Effectiveness in Improving the Purchasing Behavior: Comparative Study on the Private Hospitals Inpatients in Jordan and Saudi Arabia. *Arab Economic and Business Journal*, 12(1), 13-28. <https://doi.org/10.1016/j.aebj.2017.04.003>.
- Al-Nsour, I. A. . . (2023). Impact of Political Marketing Mix on Voting to the Parliamentary Candidate: A Study on the Jordanian Public Trends towards the Voting of the 19th Parliament. *Jordan Journal of Business Administration*, 19(1). <https://doi.org/10.35516/jjba.v19i1.742>
- 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
- 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.
- 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.
- Al-Nsour, I., Somili, H., and Allahham, M., (2021). Impact of Social Networks Safety on Marketing Information Quality in the COVID-19 Pandemic in Saudi Arabia. *Journal of Asian Finance, Economics and Business*, 8 (12), 0223-0231.
- 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.
- Al-Nsour, Iyad A. (2017). Effect of Applying the Marketing Intelligence on Enhancing Innovation: Comparative Study between Productive & Service Sectors in Jordan. *Arab Journal of Administration*, 37(2), 219-246.
- Al-Nsour, Iyad A., (2018). Involvement Degree of Women in the Buying Decision of the Saudi Family. *Arab Journal of Administration*, 38(4), 231-252. doi: 10.21608/aja.2018.22445.
- Al-Nsour, Iyad A., Athaydi, Raed A., and Al Tamim, Mohammad J. (2023). The Effects of Sports Sponsorship on Buying Response for Jordanian Fans. *Journal of Media & Management*, 5(4), 1-9.
- Al-Nsour, Iyad A., Hasnin, Eman Abdelhameed., Almurad, Hussein Mohamad., and Allahham, Mahmoud Izzat.(2024). The Relationship Between Social Media Trust and Purchase Decision in the Fashion Industry. *Journal of Information Systems Engineering & Management*, 10(54s), 1012-1029.
- 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.
- Al-Nsour, Iyad. (2019). Planning of Marketing Communication Activities in Jordanian Pharmaceutical Companies Using the Balanced Scorecard. *New Media and Mass Communication*, 77, 80.
- Al-Nsour, Iyad. (2020). Effect of Sales Promotion Programs On Purchasing Behavior at Hypermarkets In Riyadh, KSA. *EPRA International Journal of Economic and Business Review*, 9 (5), 507-518.
- Al-Nsour, Iyad. (2022). Measuring the Interaction among Jordanians via Facebook Network "A Proposed Model for Bridging the E-Interaction Gaps "IN Model". *Turkish Journal of Computer and Mathematics Education*, 14 (12), 1078 - 1101.
- 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
- Al-Nsour., Iyad. (2019). Planning of Marketing Communication Activities in Jordanian Pharmaceutical Companies Using the Balanced Scorecard .*New Media and Mass Communication*, 77, 63-80.
- 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.
- 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.
- Al-Waely, D., Fraihat, B. A. M., Al Hawamdeh, H., Al-Tae, H., & Al-Kadhimi, A. M. M. N. (2021). Competitive Intelligence Dimensions as a Tool for Reducing the Business Environment Gaps: An Empirical Study on the Travel Agencies in Jordan. *Journal of Hunan University Natural Sciences*, 48(11).
- Alawneh, O.M.; Allahham, M.; Habeeb, A.F.H.; Almajali, W.; Al-Nsour, I.A.; Jawabreh, O. EVALUATING HOW BIG DATA ANALYSIS MEDIATES THE IMPACT OF DIGITAL MARKETING STRATEGIES ON TOURISM DEVELOPMENT IN JORDAN. *Geoj. Tour. Geosites* 2025, 62, 2053-2062, <https://doi.org/10.30892/gtg.62405-1571>.
- Albashtawi, Zain., Alnsour., Ibrahim Radwan , Al-Nsour, Iyad A., Allahham, Mahmoud Izzat., and JAWABREH, Omar. (2025). THE ROLE OF BIG DATA ANALYTICS IN DEVELOPING LOGISTICS WITHIN RENEWABLE ENERGY SYSTEMS: THE MODERATING ROLE OF ENGINEERING SOLUTIONS. (2025). *Lex Localis - Journal of Local Self-Government*, 23(S2), 273-293. <https://doi.org/10.52152/>
- 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.
- 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.

- 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/ijeeep.14724>
- Ali, O., Al-Duleemi, K., Al-Afeef, D. J., & Al-hawamdah, 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.
- Alkhalwaldeh, 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).
- AlKhalwaldeh, 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.
- Alkhalwaldeh, B. Y. S., Alhawamdeh, H., Almarshad, M., Fraihat, B. A. M., Abu-Alhija, S. M. M., Alhawamdeh, A. M., & Ismaeel, 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.
- Alkhalwaldeh, 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.
- 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
- 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.
- 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.
- ALLAHHAM, M., SHARABATI, A. A. A., HATAMLAH, H., AHMAD, A. Y. B., SABRA, S., & DAOUD, M. K. Big Data Analytics and AI for Green Supply Chain Integration and Sustainability in Hospitals. Magboul, I., Jebreel, M., Dweiri, M., Qabajeh, M., Al-Shorafa, A., & Ahmad, A. (2024). Antecedents and outcomes of green information technology Adoption: Insights from an oil industry. *International Journal of Data and Network Science*, 8(2), 921-934.
- Almarshad, M. N., Alwaely, S. A., Alkhalwaldeh, 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.
- 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.
- 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>.
- Alnsour, Ibrahim Radwan., Al-Nsour, Iyad A., Malkawi, Eyad Mohammad., Allahham, Mahmoud Izzat. (2025). The Role of Internet of Things in Fintech Adoption Within Banking Sector: The Moderating Role of Digital Transformation Capability. (2025). *Lex Localis - Journal of Local Self-Government*, 23(S4), 2486-2510. <https://doi.org/10.52152/k4pew155>.
- 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>
- Altay, S., Nielsen, R. K., & Fletcher, R. (2023). Quantifying the impact of misinformation and vaccine-skeptical content on Facebook. *Science Advances*, 9(6), eade1045. <https://doi.org/10.1126/sciadv.ade1045>
- Alter, A. L., & Oppenheimer, D. M. (2009). Uniting the tribes of fluency to form a metacognitive

- nation. *Personality and Social Psychology Review*, 13(3), 219–235. <https://doi.org/10.1177/1088868309341564>
- Arin, K.P., Mazrekaj, D. & Thum, M. Ability of detecting and willingness to share fake news. *Sci Rep* 13, 7298 (2023). <https://doi.org/10.1038/s41598-023-34402-6>
- Atta, A., Baniata, H., Othman, O., Ali, B., Abughash, 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.
- 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.
- Bago, B., Rand, D. G., & Pennycook, G. (2020). Fake news, fast and slow: Deliberation reduces belief in false (but not true) news headlines. *Journal of Experimental Psychology: General*, 149(8), 1608–1613. <https://doi.org/10.1037/xge0000729>
- 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.
- 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.
- Bellini-Leite, S. C. (2022). Dual process theory: Embodied and predictive; symbolic and classical. *Frontiers in Psychology*, 13, 805386. | <https://doi.org/10.3389/fpsyg.2022.805386>
- Bhagat, S., & Kim, D. J. (2023). Examining users' news sharing behaviour on social media: Role of perception of online civic engagement and dual social influences. *Behaviour & Information Technology*, 42(8), 1194–1215. <https://doi.org/10.1080/0144929X.2022.2066019>
- 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.
- Brady, W. J., Wills, J. A., Jost, J. T., Tucker, J. A., & Van Bavel, J. J. (2017). Emotion shapes the diffusion of moralized content in social networks. *Proceedings of the National Academy of Sciences*, 114(28), 7313–7318. <https://doi.org/10.1073/pnas.1618923114>
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1(3), 185–216. <https://doi.org/10.1177/135910457000100301>
- Cai, Y., Kamarudin, S., & Nujaimi, S. (2025). Willingness to share information on social media: A systematic literature review. *Frontiers in Psychology*, 16, 1567506. <https://doi.org/10.3389/fpsyg.2025.1567506>
- 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>
- Chin, W. W. (1998). Commentary: Issues and Opinion on Structural Equation Modeling. *MIS Quarterly*, 22(1), vii–xvi. <http://www.jstor.org/stable/249674>
- Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. Routledge.
- Daoud, M. K., Al-Qeed, M., Ahmad, A. Y. B., & Al-Gasawneh, J. A. (2023). Mobile Marketing: Exploring the Efficacy of User-Centric Strategies for Enhanced Consumer Engagement and Conversion Rates. *International Journal of Membrane Science and Technology*, 10(2), 1252-1262.
- Daoud, M., Taha, S., Al-Qeed, M., Alsafadi, Y., Ahmad, A., & Allahham, M. (2024). EcoConnect: Guiding environmental awareness via digital marketing approaches. *International Journal of Data and Network Science*, 8(1), 235-242.
- Effron, D. A., Qiu, J., & Shulman, D. (2026). Moral deliberation reduces people's intentions to share headlines they recognize as "fake news". *Journal of Experimental Psychology: General*, 155(3), 603–628. <https://doi.org/10.1037/xge0001887>
- Evans, J. St. B. T., & Stanovich, K. E. (2013). Dual-process theories of higher cognition. *Perspectives on Psychological Science*, 8(3), 223–241. <https://doi.org/10.1177/1745691612460685>

- 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.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.2307/3151312>
- 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.
- Fraihat, B. A. M., Ahmad, A. Y. B., Alaa, A. A., Alhawamdeh, A. M., Soumadi, M. M., Aln'emi, E. A. S., & Alkhalwaldeh, B. Y. S. (2023). Evaluating Technology Improvement in Sustainable Development Goals by Analysing Financial Development and Energy Consumption in Jordan. *International Journal of Energy Economics and Policy*, 13(4), 348
- Fraihat, B. A. M., Alhawamdeh, H., Younis, B., Alkhalwaldeh, A. M. A., & Al Shaban, A. (2023). The Effect of Organizational Structure on Employee Creativity: The Moderating Role of Communication Flow: A Survey Study
- 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.
- 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.
- Grinberg, N., Joseph, K., Friedland, L., Swire-Thompson, B., & Lazer, D. (2019). Fake news on Twitter during the 2016 U.S. presidential election. *Science*, 363(6425), 374–378. <https://doi.org/10.1126/science.aau2706>
- Gronchi, G., Gavazzi, G., Viggiano, M. P., & Giovannelli, F. (2024). Dual-process theory of thought and inhibitory control: An ALE meta-analysis. *Brain Sciences*, 14(1), 101. <https://doi.org/10.3390/brainsci14010101>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.
- 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>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant
- Iqbal, S., Tian, H., Muneer, 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.
- 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>
- K. Daoud, D. . Alqudah, M. . Al-Qeed, B. A. . Al Qaied, and A. Y. A. B. . Ahmad, “The Relationship Between Mobile Marketing and Customer Perceptions in Jordanian Commercial Banks: The Electronic Quality as A Mediator Variable”, *ijmst*, vol. 10, no. 2, pp. 1360-1371, Jun. 2023
- Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.
- Kline, R. B. (2023). *Principles and practice of structural equation modeling* (5th ed.). Guilford Press.
- Kumar, A., Shankar, A., Behl, A., Arya, V., & Gupta, N. (2023). Should I share it? Factors influencing fake news-sharing behaviour: A behavioural reasoning theory perspective. *Technological Forecasting and Social Change*, 193, 122647. <https://doi.org/10.1016/j.techfore.2023.122647>
- Lazer, D. M. J., Baum, M. A., Benkler, Y., Berinsky, A. J., Greenhill, K. M., Menczer, F., ... Zittrain, J. L. (2018). The science of fake news. *Science*, 359(6380), 1094–1096. <https://doi.org/10.1126/science.aao2998>
- Lin, C., Ahmad, S. F., Ayassrah, A. Y. B. A., Irshad, M., Telba, A. A., Awwad, E. M., & Majid, M. I. (2023). Green production and green technology for sustainability: The mediating role of waste reduction and energy

- use. *Heliyon*, e22496.
- Mahafzah, A. H., & Abusaimh, H. (2018). Optimizing power-based indoor tracking system for wireless sensor networks using ZigBee. *International Journal of Advanced Computer Science and Applications*, 9(12).
- 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. (2025). *Lex Localis - Journal of Local Self-Government*, 23(S2), 294-314. <https://doi.org/10.52152/800331>
- Martel, C., Pennycook, G., & Rand, D. G. (2020). Reliance on emotion promotes belief in fake news. *Cognitive Research: Principles and Implications*, 5(1), Article 47. <https://doi.org/10.1186/s41235-020-00252-3>
- Martin, T. J., Gutiérrez Vázquez, Y., & Abreu Salas, J. I. (2024). The risky news sharing quotient (RNSQ): A research instrument for exploring news-sharing behaviour that spreads fake news. *Education, Citizenship and Social Justice*, 20(2). <https://doi.org/10.1177/17461979231218652>
- Mohammad Alqsass, Munir Al-Haki, Mohammad Dweiri, Majed Qabajeh, Dmaithan almajali, Ahmad Bani Ahmad, & Adnan Qubbaja. (2023). The Impact of Current Ratio on Net Profit Margin (Case Study: Based on Jordanian Banks). *Kurdish Studies*, 11(2), 2894–2903. Retrieved from <https://kurdishstudies.net/menu-script/index.php/KS/article/view/834>
- Mohammad Alqsass, Munir Al-Hakim, Qais Al Kilani, Lina Warrad, Majed Qabajeh, Ahmad Y. A. Bani Ahmad, & Adnan qubbaja. (2023). The Impact of Operating Cash Flow on Earnings Per Share (Case Study Based on Jordanian Banks). *Kurdish Studies*, 11(2), 2718–2729. Retrieved from <https://kurdishstudies.net/menu-script/index.php/KS/article/view/831>
- Mohammad Jebreel, Mohammad Alnaimat, Amjad Al-Shorafa, Majed Qabajeh, Mohammad Alqsass, & Ahmad Bani Ahmad. (2023). The Impact of Activity Ratios on Change in Earnings (Case Study: Based on Jordanian Food Companies). *Kurdish Studies*, 11(2), 4551–4560. Retrieved from <https://kurdishstudies.net/menu-script/index.php/KS/article/view/1044>
- Mohsin, H. J., Hani, L. Y. B., Atta, A. A. B., Al-Alawnh, N. A. K., Ahmad, A. B., & Samara, H. H. (2023). THE IMPACT OF DIGITAL FINANCIAL TECHNOLOGIES ON THE DEVELOPMENT OF ENTREPRENEURSHIP: EVIDENCE FROM COMMERCIAL BANKS IN THE EMERGING MARKETS.
- 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>
- Moodhi Raid, Iyad Abed Al-Fattah Al-Nsour, & Ibrahim Radwan Al-Nsour. (2024). The Causal Relationship between Returned Cheques and Economic Prosperity in Jordan. *Educational Administration: Theory and Practice*, 30(5). <https://doi.org/10.53555/kuey.v30i5.3739>.
- Mustafa, J. A., ATTA, A. A. B., AHMAD, A. Y. B., SHEHADEH, M., & Agustina, R. (2023). Spillover Effect in Islamic and Conventional Fund Family: Evidence from emerging countries. *WSEAS Transactions on Business and Economics*, 20, 1042-1058.
- 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>.
- 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 APPLIANCES MARKET. (2025). *Lex Localis - Journal of Local Self-Government*, 23(S4), 3749-3769. <https://doi.org/10.52152/801138>
- 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.
- Ni, L., Ahmad, S. F., Alshammari, T. O., Liang, H., Alsanie, G., Irshad, M., ... & Ayassrah, A. Y. B. A. (2023). The role of environmental regulation and green human capital towards sustainable development: The mediating role of green innovation and industry upgradation. *Journal of Cleaner Production*, 138497.
- Peiran Liang, Yulu Guo, Sohaib Tahir Chauhdary, Manoj Kumar Agrawal, Sayed Fayaz Ahmad, Ahmad Yahiya Ahmad Bani Ahmad, Ahmad A. Ifseisi, Tiancheng Ji, 2024, "Sustainable development and multi-aspect analysis of a novel polygeneration system using biogas upgrading and LNG regasification processes, producing power, heating, fresh water and liquid CO<sub>2</sub>," *Process Safety and Environmental Protection*,

- Peiran Liang, Yulu Guo, Tirumala Uday Kumar Nutakki, Manoj Kumar Agrawal, Taseer Muhammad, Sayed Fayaz Ahmad, Ahmad Yahiya Ahmad Bani Ahmad, Muxing Qin, 2024. "Comprehensive assessment and sustainability improvement of a natural gas power plant utilizing an environmentally friendly combined cooling heating and power-desalination arrangement", *Journal of Cleaner Production*, Volume 436,,140387,
- Peng, Yixuan, Sayed Fayaz Ahmad, Ahmad Y. A. Bani Ahmad, Mustafa S. Al Shaikh, Mohammad Khalaf Daoud, and Fuad Mohammed Hussein Alhamdi. 2023. "Riding the Waves of Artificial Intelligence in Advancing Accounting and Its Implications for Sustainable Development Goals" *Sustainability* 15, no. 19: 14165. <https://doi.org/10.3390/su151914165>
- Pennycook, G., & Rand, D. G. (2019). Lazy, not biased. *Cognition*, 188, 39–50. <https://doi.org/10.1016/j.cognition.2018.06.011>
- Pennycook, G., & Rand, D. G. (2019). Lazy, not biased: Susceptibility to partisan fake news is better explained by lack of reasoning than by motivated reasoning. *Cognition*, 188, 39–50. <https://doi.org/10.1016/j.cognition.2018.06.011>
- Pennycook, G., & Rand, D. G. (2021). The psychology of fake news. *Trends in Cognitive Sciences*, 25(5), 388–402. <https://doi.org/10.1016/j.tics.2021.02.007>
- Pennycook, G., & Rand, D. G. (2022). Accuracy prompts are a replicable and generalizable approach for reducing the spread of misinformation. *Nature Communications*, 13, Article 2333. <https://doi.org/10.1038/s41467-022-30073-5>
- Pennycook, G., Cannon, T. D., & Rand, D. G. (2018). Prior exposure increases perceived accuracy of fake news. *Journal of Experimental Psychology: General*, 147(12), 1865–1880. <https://doi.org/10.1037/xge0000465>
- Pennycook, G., Epstein, Z., Mosleh, M., Arechar, A. A., Eckles, D., & Rand, D. G. (2022). Accuracy prompts reduce misinformation sharing. *Nature Communications*, 13, 2333. <https://doi.org/10.1038/s41467-022-30073-5>
- Pennycook, G., McPhetres, J., Zhang, Y., Lu, J. G., & Rand, D. G. (2020). Fighting COVID-19 misinformation on social media: Experimental evidence for a scalable accuracy-nudge intervention. *Psychological Science*, 31(7), 770–780. <https://doi.org/10.1177/0956797620939054>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- 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.
- Roozenbeek, J., van der Linden, S., Goldberg, B., Rathje, S., & Lewandowsky, S. (2022). Psychological inoculation improves resilience against misinformation on social media. *Science Advances*, 8(34), eabo3169. <https://doi.org/10.1126/sciadv.abo3169>
- Ross, R. M., Rand, D. G., & Pennycook, G. (2021). Beyond "fake news": Analytic thinking and the detection of false and hyperpartisan news headlines. *Judgment and Decision Making*, 16(2), 484–504. <https://doi.org/10.1017/S1930297500008640>
- Rumman, G., Alkhazali, A., Barnat, S., Alzoubi, S., AlZagheer, H., Dalbough, M., ... & Darawsheh, S. (2024). The contemporary management accounting practices adoption in the public industry: Evidence from Jordan. *International Journal of Data and Network Science*, 8(2), 1237-1246.
- 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.
- Sharabati, A. A. A., Allahham, M., AbuSaimah, 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).
- Singh, R., Gupta, N. R., & Ahmad, A. Y. (2024). An Empirical Study on Challenges of Working From Home During COVID-19 on Work-Life Domains in the Education Sector in Bengaluru. In S. Singh, S. Rajest, S. Hadoussa, A. Obaid, & R. Regin (Eds.), *Data-Driven Intelligent Business Sustainability* (pp. 111-121). IGI Global. <https://doi.org/10.4018/979-8-3693-0049-7.ch008>
- Sun, Y., & Xie, J. (a2024). Who shares misinformation on social media? A meta-analysis of individual traits

- related to misinformation sharing. *Computers in Human Behavior*, 158, Article 108271. <https://doi.org/10.1016/j.chb.2024.108271>
- Sun, Y., & Xie, J. (2024). Do heuristic cues affect misinformation sharing? Evidence from a meta-analysis. *Journalism & Mass Communication Quarterly*. <https://doi.org/10.1177/10776990241284597>
- Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *Science*, 359(6380), 1146–1151. <https://doi.org/10.1126/science.aap9559>
- Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *Science*, 359(6380), 1146–1151. <https://doi.org/10.1126/science.aap9559>
- Wang, C., Ahmad, S. F., Ayassrah, A. Y. B. A., Awwad, E. M., Irshad, M., Ali, Y. A., ... & Han, H. (2023). An empirical evaluation of technology acceptance model for Artificial Intelligence in E-commerce. *Heliyon*, 9(8).
- Wang, L., & Fussell, S. R. (2020). More than a click: Exploring college students' decision-making processes in online news sharing. *Proceedings of the ACM on Human-Computer Interaction*, 4(CSCW1), Article 09, 1–20. <https://doi.org/10.1145/3375189>
- William, P., Ahmad, A. Y. B., Deepak, A., Gupta, R., Bajaj, K. K., & Deshmukh, R. (2024). Sustainable Implementation of Artificial Intelligence Based Decision Support System for Irrigation Projects in the Development of Rural Settlements. *International Journal of Intelligent Systems and Applications in Engineering*, 12(3s), 48-56.
- Wu, J., Ahmad, S. F., Ali, Y. A., Al-Razgan, M., Awwad, E. M., & Ayassrah, A. Y. B. A. (2024). Investigating the role of green behavior and perceived benefits in shaping green car buying behavior with environmental awareness as a moderator. *Heliyon*, 10(9).
- 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
- 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>
- Y. A. Bani Ahmad, M. Allahham, W. I. Almajali, F. T. Ayassrah 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.
- Yahiya Ahmad Bani Ahmad (Ayassrah), Ahmad; Ahmad Mahmoud Bani Atta, Anas; Ali Alawawdeh, Hanan; Abdallah Aljundi, Nawaf; Morshed, Amer; and Amin Dahbour, Saleh (2023) "The Effect of System Quality and User Quality of Information Technology on Internal Audit Effectiveness in Jordan, And the Moderating Effect of Management Support," *Applied Mathematics & Information Sciences: Vol. 17: Iss. 5, Article 12*. DOI: <https://dx.doi.org/10.18576/amis/170512>
- Yahiya, A., & Ahmad, B. (2024). Automated debt recovery systems: Harnessing AI for enhanced performance. *Journal of Infrastructure, Policy and Development*, 8(7), 4893.
- Yan, W., & Pan, Z. (2023). Believing and sharing false news on social media: The role of news presentation, epistemic motives, and deliberative thinking. *Media Psychology*, 26, 743–766. <https://doi.org/10.1080/15213269.2023.2208363>
- Zhan, Y., Ahmad, S. F., Irshad, M., Al-Razgan, M., Awwad, E. M., Ali, Y. A., & Ayassrah, A. Y. B. A. (2024). Investigating the role of Cybersecurity's perceived threats in the adoption of health information systems. *Heliyon*, 10(1).
- 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.
- Zhao, T., Ahmad, S. F., Agrawal, M. K., Ahmad, A. Y. A. B., Ghfar, A. A., Valsalan, P., ... & Gao, X. (2024). Design and thermo-enviro-economic analyses of a novel thermal design process for a CCHP-desalination application using LNG regasification integrated with a gas turbine power plant. *Energy*, 295, 131003.