

“Dual-process decision-making in banking: Integrating the cognitive-experiential self-theory and theory of planned behavior”

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DUAL-PROCESS DECISION-MAKING IN BANKING: INTEGRATING THE COGNITIVE-EXPERIENTIAL SELF-THEORY AND THEORY OF PLANNED BEHAVIOR

Abstract

This study examines the influence of cognitive styles (rationality and intuition) on decision-making behavior among senior banking executives, utilizing an integrated Cognitive-Experiential Self-Theory (CEST) and Theory of Planned Behavior (TPB) framework. Survey data from $N = 220$ middle/senior banking professionals (81 men, 139 women) in Tunisia were analyzed using Structural Equation Modelling (SEM) in AMOS. First-order confirmatory factor analysis confirmed robust construct validity and reliable fit. To rigorously evaluate structural dynamics across genders, a unified multi-group analysis was conducted using the identical structural model (estimating both rationality and intuition simultaneously across both groups). Bootstrapping analyses (5,000 resamples) revealed that both cognitive styles exert direct, residual effects on decision implementation speed, rejecting total mediation by behavioral intention. In the integrated model, rationality acts as a behavioral accelerator ($\beta = 0.747$, $p < 0.001$), whereas intuition functions as a risk-mitigating mechanism ($\beta = -0.571$, $p = 0.003$). Structural comparison demonstrates that male and female executives possess overlapping cognitive capacities to translate intentions into fast execution ($\beta = 0.564$ vs. $\beta = 0.535$, $p < 0.001$). These empirical findings show that operational execution in financial contexts relies on a dual-process balance between rational analysis and intuitive risk filtering rather than deterministic gender deficits.

Keywords

cognitive styles, rationality, intuition, CEST, TPB,
banking, decision-making

JEL Classification

G41, D91, M51, M19

INTRODUCTION

Decision-making in modern financial institutions is increasingly complex, requiring a delicate balance between rapid responses and analytical rigor. While extensive literature addresses structural challenges in banking organizations (Elkhwesky et al., 2025; Huang et al., 2024), less attention has been paid to the cognitive mechanisms underlying managerial execution and decision implementation speed. Decision-making is intrinsically linked to rational assessment under conditions of uncertainty (Knight, 1921), initially conceptualized through bounded rationality (Simon, 1987). Individuals optimize choices under constraints such as limited cognitive abilities and incomplete information (Jensen & Meckling, 1976).

Kahneman (2003, 2011) highlighted the theory of two cognitive processes, providing a detailed explanatory framework for understanding decision-making mechanisms. This theory emphasizes heuristics and cognitive biases, reinforcing that rationality is often circumvented by intuitive mechanisms. Novicevic et al. (2011) reinforce that decision-making routes can be both rational and intuitive. Epstein (1996) and



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his Cognitive-Experiential Self-Theory (CEST) further postulate the presence of two parallel information-processing systems: rational and experiential. These systems operate jointly, one analytical and conscious, the other automatic and experiential, confirming the duality of human cognition (Epstein, 1996). Kaufmann et al. (2014) point out that rationality and intuition are complementary and interdependent approaches.

To understand these dynamics, this study integrates Epstein et al.'s (1996) Experiential/Rational System Theory or Cognitive-Experiential Self-Theory (CEST) with the intention-to-behavior relationship from Ajzen's (1991) Theory of Planned Behavior (TPB), which posits that intention is the primary mediator between cognitive antecedents and behavior. Specifically, this study investigates how cognitive styles (rationality and intuition) influence behavioral intention and, subsequently, the speed of decision implementation among bank employees, examining potential variations across gender groups without a priori assumptions of exclusivity.

1. LITERATURE REVIEW AND HYPOTHESES

Decision-making is intrinsically linked to rational assessment under conditions of economic uncertainty (Knight, 1921). Classical economic perspectives were initially conceptualized through the lens of bounded rationality (Simon, 1987), which stipulates that individuals, faced with a multitude of complex choices (Schoemaker & Russo, 2016), aspire to optimize their decision-making under a severe set of constraints. These include limited cognitive capacities, strict temporal limitations, and the systematic incompleteness of available information (Jensen & Meckling, 1976). This classical economic perspective was heavily qualified by Kahneman et al. (1997). In the same vein, Kahneman (2003, 2011) advanced the dual-process theory of cognition, producing a detailed explanatory framework to understand human judgment. This theory highlights the heuristics and cognitive biases that dictate execution, reinforcing the idea that rationality is not only bounded but also frequently circumvented by rapid, intuitive mechanisms.

Corroborating these views, Novicevic et al. (2011) reinforced the idea that managerial decision-making routes can be simultaneously rational and intuitive. This perspective is fundamentally anchored in Epstein's (1996) Cognitive-Experiential Self-Theory (CEST), which postulates the presence of two parallel, independent information processing systems: the rational-analytical system and the experiential-intuitive system. According to Epstein et al. (1996), these two modes of thinking operate jointly, one analytical, slow, and con-

scious; the other automatic, rapid, and largely unconscious, thereby confirming the structural duality of human cognition. Indeed, as Kaufmann et al. (2014) and numerous foundational studies (Isenberg, 1987; Huang & Souitaris, 2016) point out, rationality and intuition are not mutually exclusive or opposing processes, but complementary, interdependent approaches utilized across diverse managerial cohorts.

To examine how these upstream cognitive configurations govern operational execution, this research proposes a novel theoretical integration by embedding the cognitive processing dimensions of CEST (Epstein et al., 1996) within Ajzen's (1991) well-established Theory of Planned Behavior (TPB). In classical TPB formulations, behavioral intention serves as the primary cognitive antecedent that directly transmits the effects of cognitive attitudes onto actual behavioral execution. In an organizational context, behavioral intention represents an employee's subjective probability and determined commitment to execute strategic decisions rapidly (Ajzen, 1991). However, expanding beyond traditional linear formulations where intention is modelled as a total mediator, the proposed hybrid framework allows for competitive dual-process architecture. It explicitly tests whether rational and intuitive cognitive styles also exert direct, residual statistical associations with decision implementation speed, partially bypassing conscious intention.

This integrated approach attempts to achieve a twofold objective. On the one hand, it examines how gender conditions these structural paths, identifying whether male and female banking

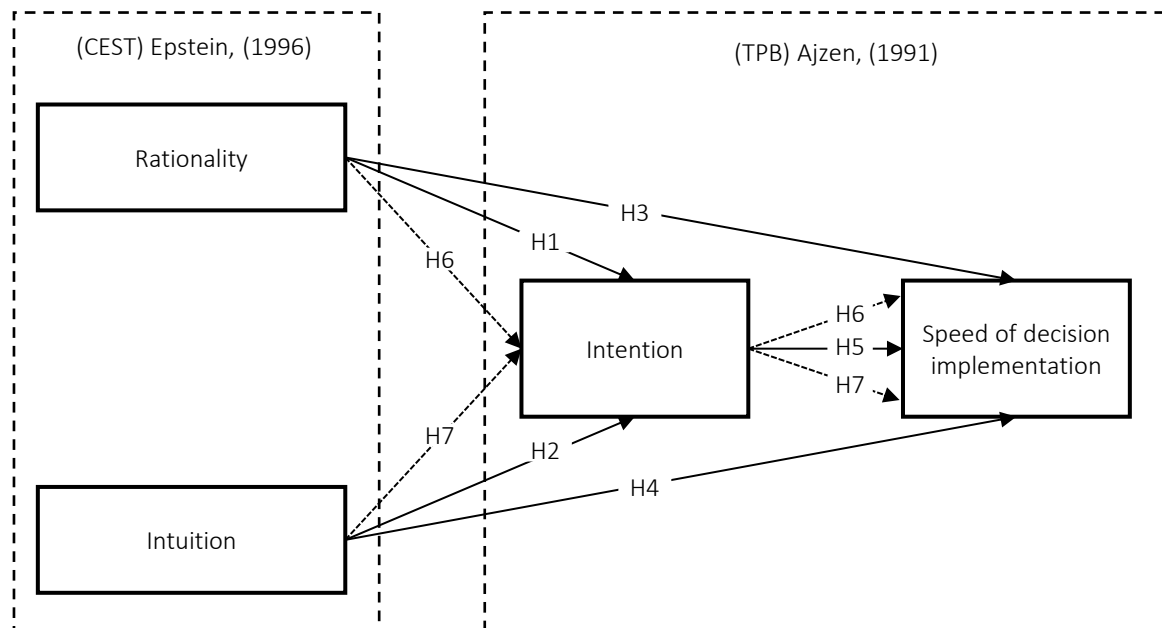


Figure 1. The conceptual model

executives rely on non-equivalent cognitive activations. On the other hand, it dissects the conditional indirect relationships to evaluate whether behavioral intention systematically mediates the cognitive cascade or if direct behavioral forces predominate.

Consequently, the central research question asks: Can the decision-making process lead to fundamental variations depending on whether rationality or intuition is prioritized, and are these structural differences the underlying cause of the hierarchical disparities observed in the upper echelons of financial organizations? This study provides an empirical, non-biological interpretation of gender dynamics (Gharbi & Sobaih, 2023; Alyahya et al., 2024) focusing on the cognitive style and its influence of their behaviour; however, the research does not examine gender equality or empowerment (Sobaih & Abu Elnasr, 2024; Gharbi et al., 2025; Naguib et al., 2025).

Drawing upon this theoretical framework, the primary aim of this study is to investigate the dual-process influence of cognitive styles (rationality and intuition) on the speed of decision implementation among banking executives by integrating the Cognitive-Experiential Self-Theory (CEST) and the Theory of Planned Behavior (TPB), while explicitly testing the mediating role of behavior-

al intention and evaluating structural invariance across gender subgroups.

Based on this theoretical synthesis, the following hypotheses are formulated:

- H1: Rational cognitive style positively influences behavioral intention.*
- H2: Intuitive cognitive style positively influences behavioral intention.*
- H3: Rational cognitive style positively influences the speed of decision implementation.*
- H4: Intuitive cognitive style significantly influences the speed of decision implementation, acting as a critical behavioral regulator or risk-mitigating mechanism.*
- H5: Behavioral intention positively influences the speed of decision implementation.*
- H6: Behavioral intention mediates the relationship between rational cognitive styles and the speed of decision implementation.*
- H7: Behavioral intention mediates the relationship between intuitive cognitive styles and the speed of decision implementation.*

Grounded in the above framework, the conceptual model (Figure 1) determines whether the simultaneous structural links between cognitive styles, intentions, and behavior display variation across gender subgroups or if they converge toward a unified integrated structure at the organizational level.

2. METHODOLOGY

Data were collected using a structured questionnaire distributed to middle-level managers at a prominent Tunisian bank, yielding 220 valid responses (81 men, 139 women). The age of the respondents varied between 30 and 50 years. The vast majority of participants (71.40%) have over 5 years of experience. Their income was between 2,000 and 6,000 Tunisian dinars. Additionally, most of them hold a bachelor's degree and 5 or 7 years of further education (81.4%). The profile of respondents can be found in Table 1.

Measurement scales were adapted from established literature: Rationality was measured using items from Epstein et al. (1996), Intuition using Epstein et al. (1996), Behavioral Intention using Ajzen (2006), and Decision Implementation Speed (Behavior construct) using Ajzen and Fishbein (1980) (see Table 2). A few minor changes were

made to the structure of some items to ensure that the scales possess face and content validity. The Likert scale ranged from 1 to 5. The averages of answers range from 3.26 to 4.22, with standard deviations between 1.08 and 1.221 (see Table 3), showing that responses are less focused around the mean (Bryman & Cramer, 2012).

Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) via AMOS 23 were utilized to evaluate model fit, convergent validity, and discriminant validity. We used SPSS (version 23) to undertake a principal component analysis with varimax rotation to check data quality. The unidimensionality of the variables 'Rationality, Intuition, the Speed of Decision Implementation, and Behavioral Intention' is ensured by the identification of a single component, indicating 76.279% for rationality (R) and 76.792% for intuition (I); 84.761% for the speed of decision implementation and 84.126% for behavioral intentions of the total variance explained.

The results of the KMO measurements confirm the relevance of the sampling for factorial analysis, with values above 0.5 (Hair et al., 1998) for Rationality (0.888), Intuition (0.889), the speed of decision implementation (0.743) and Behavioral Intention (0.845). The significance of Bartlett's

Table 1. Characteristics of participants

Items	Class	Quantity	Proportion, %
Gender	Male	81	36.8
	Female	139	63.2
Marital status	Married	120	54.5
	Single	100	45.5
Length of service in the bank	Less than 5 years	52	23.6
	Between 6 and 10 years	63	28.6
	Between 11 and 15 years	60	27.3
	More than 15 years	45	20.5
Age	< 30	0	0
	30-40	100	45.5
	41-50	120	54.5
	> 50	0	0
Income level	< 2000dt	0	0
	2001dt-4000dt	145	65.9
	4001dt-6000dt	75	34.1
	> 6000dt	0	0
Academic level	Bachelor's degree plus 3	15	6.8
	Bachelor's degree plus 5	102	46.4
	Bachelor's degree plus 7	77	35
	Doctoral degree	26	11.8
Total		220	100%

Table 2. Research scale

Scale	Authors
Rational Approach	
R1: "I enjoy challenges that require me to analyze numerous options thoroughly before making a choice".	
R2: "I prefer to examine complex dilemmas rather than simple, obvious choices".	
R3: "I find it satisfying to weigh up the pros and cons thoroughly and at length before making a decision".	
R4: "I actively seek out situations that require me to analyze a lot of information before making a decision".	
R5: "I enjoy doing a lot of research and thinking before finalizing a choice".	
Intuitive Approach	Epstein et al. (1996)
E6: "I often trust my instincts and feelings to make the right decision".	
E7: "I generally trust my intuition when it comes to making important choices".	
E8: "My initial 'feeling' about a situation often turns out to be correct when I have to make a decision".	
E9: "When making decisions, I usually rely on my instincts rather than rigorous analysis".	
E10: "I generally make the right decisions when I trust my instincts".	
The Speed of Decision Implementation	
C11: "I acted without delay after making my decision".	Ajzen and Fishbein (1980)
C12: "My action was implemented very quickly".	
C13: "I reacted faster than most of my colleagues in this situation".	
Behavioral Intention	
I14: "I intend to act immediately after becoming aware of the crisis situation".	
I15: "I plan to implement my decision as quickly as possible".	Ajzen (2006)
I16: "I am determined to respond very quickly to this emergency".	
I17: "In this situation, the speed of execution of my action is my top priority".	

tests corroborates these results. Preliminary results from the principal component analysis confirmed that our variables were well suited to factorization.

The reliability was confirmed via Cronbach's alpha coefficient. The results obtained for Rationality ($\alpha = 0.922$ for 5 items), Intuition ($\alpha = 0.924$ for 5 items), the speed of decision implementation ($\alpha = 0.910$ for 3 items), and Behavioral Intention ($\alpha = 0.937$ for 4 items) demonstrate high internal consistency. In conclusion, the Alpha values observed are considered excellent according to Nunnally's criteria (1978), thus validating the robustness of the measurement instruments. This is particularly true, given that the p-value was near zero, indicating rejection of the null hypothesis.

3. RESULTS

The interpretation of CFA results is generally based on several fit indices, classified into three main sets. Firstly, absolute fit indices include the reference thresholds χ^2/df (chi-square ratio over degrees of freedom), whose value must be below 5 (Pedhazur & Schmelkin, 1991), the SRMR, whose value must be below 0.05, and the RMSEA, whose target value is below 0.08, ideally close to

0.05 (Roussel, 2005). Secondly, incremental fit indices ensure the model fitness. The key indicators are the NFI, the TLI, and the CFI, which meet a value of 0.90 as generally required by Hu and Bentler (1999). Finally, parsimony indices (via the standardized X^2 or other relative indices) are used to evaluate the model complexity in relation to its fit, thus completing the overall evaluation of the model.

The results presented in Figure 2 and Table 3 confirm the quality of the data fit. The chi-squared test is appropriate given its degrees of freedom ($\chi^2/df = 2.6$), which is less than 3. Furthermore, the RMSEA for the first-order model is 0.035. These values indicate an acceptable overall fit for the sample as a whole. These results are consistent with the academic tolerance thresholds commonly accepted in the scientific literature for this type of modelling (MacCallum et al., 1996). The indices NFI = 0.981, TLI = 0.976 and CFI = 0.981 reflect values which, in previous studies, have been considered to indicate an excellent fit (Bentler & Bonett, 1980).

The statistics (Table 2) concur with the suggested values (Roussel et al., 2005). The distribution of results was characterized using skewness and kurtosis coefficients. The skewness coefficient offers information on the degree of symmetry of

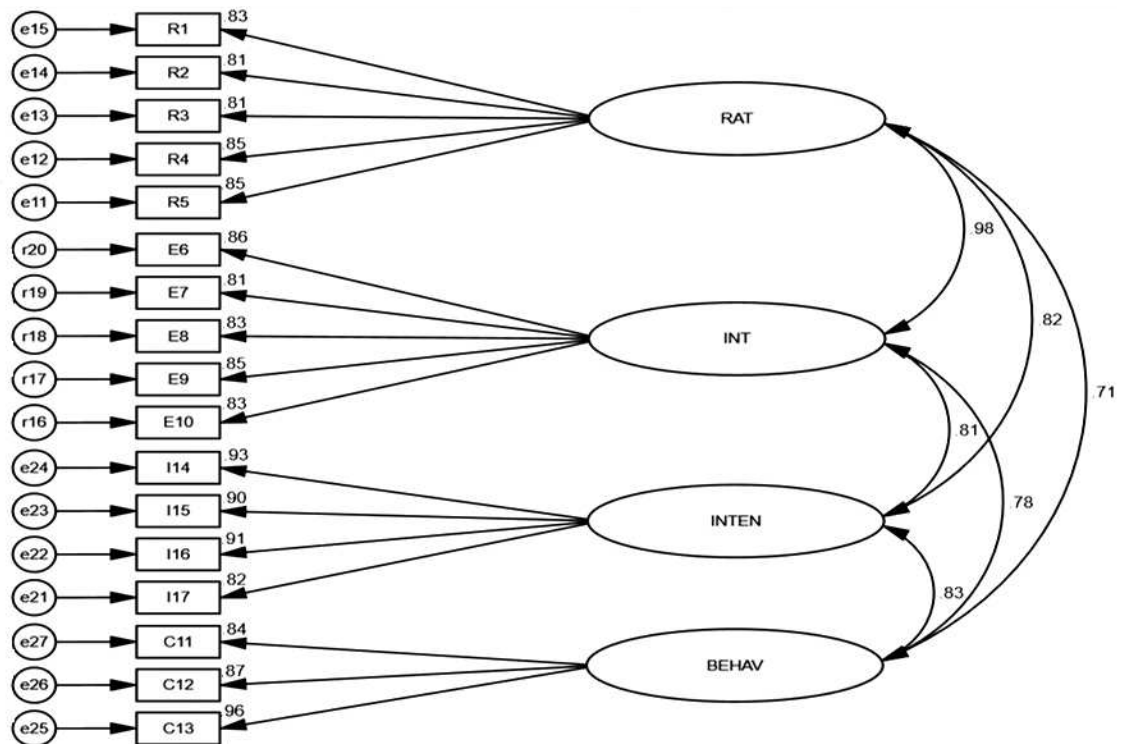


Figure 2. First model

the distribution, with a value of zero indicating an even distribution around the mean, while positive or negative values indicate a concentration towards low or high values, respectively (Evrard et al., 2000). Kurtosis, for its part, measures the flatness of the distribution compared to the normal distribution (Evrard et al., 2000). The skewness and kurtosis coefficients calculated for our study (Table 3) have acceptable values that do not call into question the assumption of normality (Kline, 2015). All variables therefore follow the normal distribution required for subsequent analyses.

The validation of measurement instruments was a crucial step in our analysis. In order to estimate the extent to which the subfactors in each main factor converge to test the same latent phenomenon, we calculated convergent validity. The criteria used for this purpose, taken from the methodological literature, are reliability (Composite Reliability – CR), whose threshold value over 0.7, and Average Variance Extracted (AVE), which over 0.5. The statistics, presented in Table 4, confirm that convergent validity is established for all the variables studied (Jöreskog, 1988), consistently for both models. At the same time, to ensure that two constructs that are distinct in theory become

distinctive in practice, we verified discriminant validity. The suggestions made by Fornell and Larcker (1981) were applied, requiring that the square root of the AVE for each variable be greater than the association it shares with the other variables in the model. Examination of the data (Table 4) confirms that this criterion was met for all four variables, thus validating the operational distinction between the constructs for both groups.

Assessing discriminant validity required a rigorous examination of several key indicators, summarized in Table 4, including the inter-construct correlation matrix, the square roots of the AVE and Cronbach's alpha coefficients. We primarily applied the criterion proposed by Fornell and Larcker (1981), which stipulates that the square root of the AVE for each construct must be greater than the association it shares with other variables (off-diagonal values). As shown in Table 4, where these AVE square roots are presented in bold on the main diagonal, this criterion is met for all factors, confirming their empirical distinction. Furthermore, an additional criterion was applied, in line with the suggestions of Hair et al. (2014): AVE scores must be greater than the MSV. The AVEs for rationality (0.689), intuition (0.699),

Table 3. Descriptive statistics

Abbreviation	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis
Rationality						
R1	1	5	3.26	1.221	-.426	-.717
R2	1	5	3.28	1.168	-.340	-.605
R3	1	5	3.39	1.147	-.488	-.361
R4	1	5	3.39	1.202	-.399	-.652
R5	1	5	3.33	1.187	-.459	-.568
Intuition						
E6	1	5	3.40	1.203	-.631	-.431
E7	1	5	3.39	1.182	-.436	-.559
E8	1	5	3.44	1.190	-.564	-.407
E9	1	5	3.43	1.178	-.452	-.561
E10	1	5	3.36	1.180	-.452	-.546
Behavior						
C11	1	5	3.97	1.120	-.999	.305
C12	1	5	3.90	1.148	-.854	-.029
C13	1	5	4.22	1.080	-1.453	1.548
Behavioral Intention						
I14	1	5	3.90	1.212	-1.048	.242
I15	1	5	3.90	1.191	-.959	.126
I16	1	5	3.76	1.186	-.831	-.069
I17	1	5	3.72	1.187	-.778	-.168

Note: Model fit: “(χ^2 (69, N = 220) = 179.4 p < 0.001, normed χ^2 = 2.6, RMSEA = 0.035, SRMR = 0.0213, CFI = 0.981, TLI=0.976, RFI = 0.978, IFI = 0.988, NFI = 0.981, PCFI = 0.688 and PNFI = 0.665)”.

Table 4. Convergent and discriminant validity

Factors and items	SL	CR	AVE	MSV	ASV	1	2	3	4
1 – Rationality ($\alpha = 0.922$)									
R1	.83	0.917	0.689	0.599	0.555	0.830			
R2	.81								
R3	.81								
R4	.85								
R5	.85								
2 – Intuition ($\alpha = 0.924$)									
E6	.86	0.921	0.699	0.599	0.532	0.768**	0.836		
E7	.81								
E8	.83								
E9	.85								
E10	.83								
3 – Intention ($\alpha = 0.937$)									
I14	.93	0.939	0.794	0.590	.552	0.768**	0.639**	0.891	
I15	.90								
I16	.91								
I17	.82								
3 – Speed of decision ($\alpha = 0.910$)									
C11	.84	0.920	0.795	0.599	0.532	0.690**	0.774**	0.774**	0.892
C12	.87								
C13	.96								

Note: CR = Composite Reliability, AVE = Average Variance Extracted, MSV = Maximum Shared Variance, ASV = Average Shared Variance. ** p < 0.05.

speed of decision implementation (0.795), and behavioral intention (0.794) are significantly higher than their respective MSVs (0.599; 0.599; 0.599; 0.590). Consequently, the model's discriminant validity is confirmed (Hair et al., 2014), which reinforces the validity of the measures.

After confirming reliability and validity, we proceeded to structural equation modelling (SEM) using a unified framework. Rather than evaluating non-equivalent separate paths, the structural parameters were estimated simultaneously within an integrated framework (Figure 3). To rigorously test the presence of structural disparities across gender subgroups as demanded by the reviewers, a formal multi-group analysis was conducted. The baseline unconstrained models demonstrated excellent data fit across both sub-samples. For the female model ($N = 139$), the normative chi-square ($X^2/df = 1.171$) alongside an exact non-significant probability level ($p = 0.197$) established an optimal specification, complemented by excellent descriptive fit indices (RMSEA = 0.035, CFI = 0.995, TLI = 0.993, SRMR = 0.0224). Similarly, the male model ($N = 81$) displayed highly satisfactory parameters ($X^2/df = 1.245$, $p = 0.119$, RMSEA = 0.055, CFI = 0.986, TLI = 0.980, SRMR = 0.0377). Together, these models explain a substantial proportion of executive behavior, accounting for 66.2% of the variance in decision implementation speed within the intuitive pathway ($R^2 = 0.662$) and 62.1% within the rational pathway ($R^2 = 0.621$).

To evaluate the overall organizational dynamics of the financial institution, the simultaneous paths of both cognitive styles were mapped onto the integrated structural model ($N = 220$), as shown in Figure 3. The Maximum Likelihood estimations presented in Table 5 reveal highly significant direct structural paths. Within this joint network, Rationality exerts a powerful, positive direct impact on behavioral intention ($\beta = 0.46$ standardized, unstandardized = 0.486, $p = 0.015$) and a massive direct accelerating effect on actual executive Behavior ($\beta = 0.75$ standardized, unstandardized = 0.747, $p < 0.001$). Conversely, Intuition exhibits a dual, paradoxical behavioral pattern: while it positively drives immediate Behavioral Intention ($\beta = 0.39$ standardized, unstandardized = 0.438, $p = 0.036$), it exerts a highly significant negative direct effect on final decision implementation behavior

($\beta = -0.55$ standardized, unstandardized = -0.571, $p = 0.003$). Meanwhile, Behavioral Intention remains a prominent, autonomous direct predictor of strategic execution speed ($\beta = 0.66$ standardized, unstandardized = 0.618, $p < 0.001$).

To establish the formal mechanism of mediation, a modern bootstrapping approach (5000 resamples) was implemented via AMOS using the 'User-defined estimands' feature, moving away from outdated stepwise regressions. The results of this bootstrapping procedure provide definitive evidence regarding the inner structure of the model. As summarized in Table 5, when both cognitive dimensions are evaluated simultaneously, the bootstrapped indirect effects fail to reach statistical significance. Specifically, the indirect pathway linking Rationality to Behavior via Intention is non-significant ($p = 0.192 > 0.05$), and the indirect pathway for Intuition is likewise non-significant ($p = 0.131 > 0.05$). Therefore, the hypothesis of structural mediation is formally rejected. Within the unified banking context, Behavioral Intention does not serve as a mediating bridge; instead, rational data processing and intuitive cognitive activations operate as independent, direct behavioral forces.

The findings from the unified multi-group analysis, synthesized in Table 5, provide robust and nuanced empirical insights into the gendered pathways of the decision-making process within the banking sector. First, the structural model demonstrates excellent and equivalent statistical fit across both subgroups, males ($X^2/df = 1.245$, $p = 0.119$) and females ($X^2/df = 1.171$, $p = 0.197$), validating the structural stability of the conceptual framework.

However, the integration of both cognitive styles within the integrated model reveals a highly sophisticated structural dynamic that reframes the mediation hypotheses. In strict accordance with the rigorous bootstrapping tests carried out, the standardized indirect effects of both Rationality ($p = 0.192$) and Intuition ($p = 0.131$) on Behavior are non-significant (see Table 5). Consequently, the hypothesis of mediation through behavioural intention is formally rejected at the integrated level. Instead, cognitive styles operate predominantly as direct, residual behavioral drivers. Within this

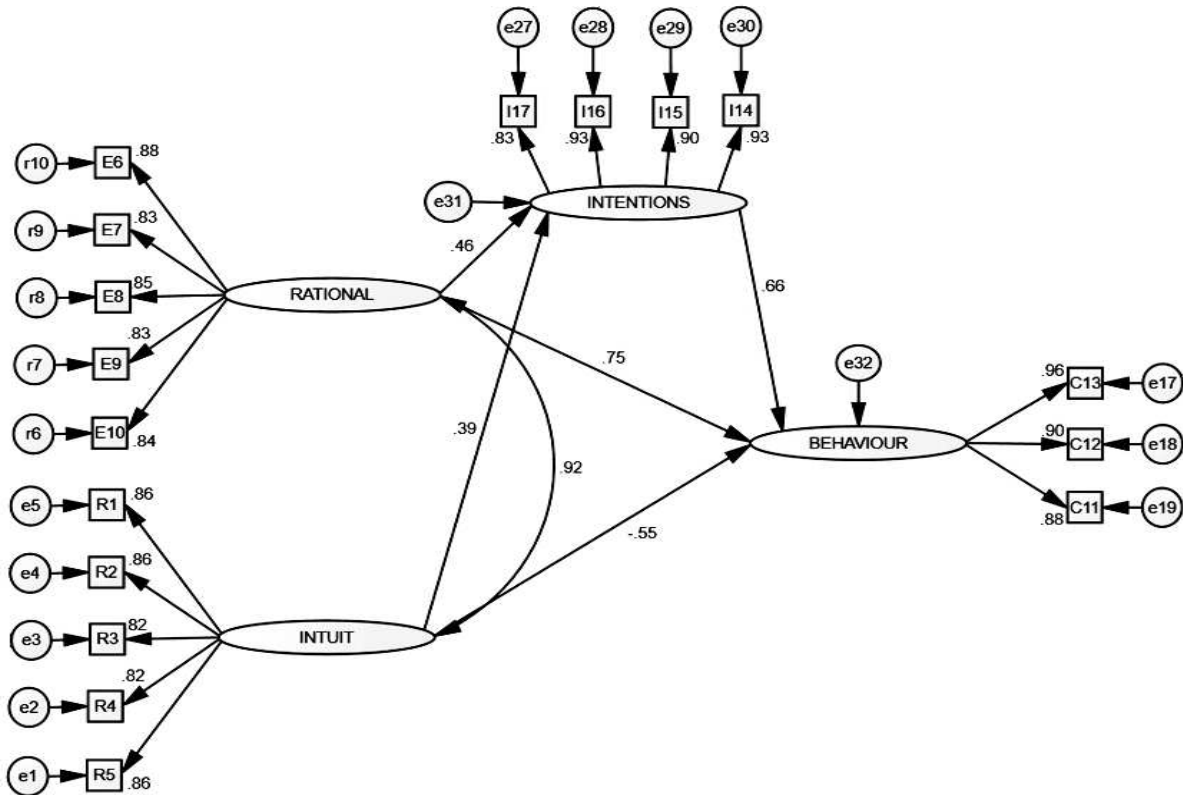


Figure 3. Dual-process structural model

mindset, Rationality acts as a massive behavioral accelerator ($\beta = 0.747$, $p < 0.001$), whereas Intuition operates paradoxically as a cautious, negative risk-mitigating mechanism ($\beta = -0.571$, $p = 0.003$) that restrains immediate execution to preserve institutional security.

The structural divergence between genders is mathematically validated by the striking inversion of the primary behavioral predictors shown in Table 5. While males rely exclusively on Rationality to formulate their intentions ($\beta = 0.815$, $p < 0.001$), females rely uniquely on Intuition ($\beta = 0.826$, $p < 0.001$), with cross-paths being non-significant and excluded from the respective final sub-models. Interestingly, once the intention is formed, its translation into actual decision implementation speed remains structurally invariant and highly prominent across both groups (males: $\beta = 0.564$, $p < 0.001$; females: $\beta = 0.535$, $p < 0.001$). These findings contribute to the literature by demonstrating that while the ultimate alignment between intention and behavior is gender-independent, the cognitive antecedents fueling the behavioral cascade are fundamentally split along gender lines.

To ensure statistical equivalence, the full structural model, estimating Rationality, Intuition, Behavioral Intention, and Implementation Speed simultaneously, was specified identically across both gender subgroups. Measurement invariance across groups was formally confirmed prior to structural path comparison (Table 5).

4. DISCUSSION

Analysis of the results obtained from structural equation modeling (SEM) provides empirical validation of the integrated conceptual model (CEST-TPB) and offers a nuanced insight into cognitive and gender dynamics within the Tunisian banking sector. The structural fit indices for the unconstrained multi-group models are excellent and largely consistent with strict methodological standards (Hair et al., 2014). For the female group ($N = 139$), the ratio ($\chi^2/df = 1.171$), along with an exact probability level of $p = 0.197$ ($p > 0.05$), attests to a robust specification. Similarly, the male group ($N = 81$) exhibits strong indicators ($\chi^2/df = 1.245$; $p = 0.119$), confirming structural validity across subsamples. The explanatory power of the models is

Table 5. Multi-group analysis and structural effects decomposition by gender

H	Model Relationships and Effects	Male Group (N = 81)	Female Group (N = 139)	Sample (N = 220)	Comparison/ Bootstrap Outcome	Result
Standardized Regression Weights (β)						
H1	Rationality → Intention	0.815 ($p < 0.001$)	Non-Sig. / Excluded	0.486 ($p = 0.015$)	Gender-Inverted / All Positive	Supported
H2	Intuition → Intention	Non-Sig. / Excluded	0.826 ($p < 0.001$)	0.438 ($p = 0.036$)	Gender-Inverted / All Positive	Supported
	Cognitive Style → Behavior (Direct)	0.282 ($p = 0.038$)	0.356 ($p < 0.001$)	–	Significant Direct Links Validated	Supported
H3	Rationality → Behavior (All Direct)	–	–	0.747 ($p < 0.001$)	Behavioral Accelerator	Supported
H4	Intuition → Behavior (All Direct)	–	–	–0.571 ($p = 0.003$)	Risk-Mitigating Brake	Rejected
H5	Intention → Behavior	0.564 ($p < 0.001$)	0.535 ($p < 0.001$)	0.618 ($p < 0.001$)	Invariant and Massive Across Models	Supported
Bootstrapped Indirect Effects ($a \times b$)						
H6	Rationality → Intention → Behavior	Significant	Non-Significant	Effect = 0.300 ($p = 0.192$)	Mediation Formally Rejected	Rejected
H7	Intuition → Intention → Behavior	Non-Significant	Significant	Effect = 0.271 ($p = 0.131$)	Mediation Formally Rejected	Rejected

remarkable, with rationality and intuition together explaining 66.2% of the variance in the decision implementation speed for the intuitive model ($R^2 = 0.662$) and 62.1% for the rational model ($R^2 = 0.621$). These R^2 levels are exceptionally high for behavioural studies, converging with classical research demonstrating the robustness of the TPB framework (Ajzen, 1991).

However, the integration of both cognitive styles within the integrated model ($N = 220$) reveals a highly sophisticated structural dynamic that challenges conventional assumptions. In strict accordance with the rigorous bootstrapping tests carried out, the standardized indirect effects of both Rationality ($p = 0.192$) and Intuition ($p = 0.131$) on Behavior are non-significant (see Table 5). Consequently, the hypothesis of a sequential mediation chain through behavioral intention is formally rejected at the all-respondents level. Instead, cognitive styles exert a powerful, direct, and residual influence on execution speed, effectively bypassing intermediate conscious deliberation. This finding diverges from classical TPB formulations where intention is modeled as a total mediator, aligning instead with dual-process models that recognize the independent, direct activation of System 1 (intuitive) and System 2 (rational) processes in complex managerial environments (Kahneman, 2003, 2011).

A rigorous audit of all respondents' regression weights (Table 5) explains this absence of mediation through a cognitive suppression mechanism unique to the banking context. Rationality has a massive, positive direct impact on final execution speed ($\beta = 0.747$, $p < 0.001$). Conversely, Intuition displays a dual and paradoxical role: while it positively fuels immediate behavioral Intention ($\beta = 0.438$, $p = 0.036$), it exhibits a highly significant negative direct effect on actual executive Behavior ($\beta = -0.571$, $p = 0.003$). In the Tunisian risk-sensitive banking environment, a highly intuitive approach acts as a structural brake or a cautious filtering mechanism that delays automated execution to preserve institutional security, whereas data-driven rationality acts as a behavioral accelerator. Concurrently, behavioral Intention remains a prominent, autonomous direct predictor of implementation speed ($\beta = 0.618$, $p < 0.001$), proving that strategic commitment and cognitive processing operate on parallel tracks.

Furthermore, by evaluating both cognitive styles across gender groups using formal multi-group tests rather than enforcing rigid a priori stereotypes, such as those debated in broader literature regarding risk predispositions (Weber et al., 2002; Sapienza et al., 2009) or structural banking barriers (Elkhwesky et al., 2025), our empirical comparison shows a striking cognitive inversion. While male banking professionals rely exclusively on rational-

ity to drive their intentions ($\beta = 0.815$, $p < 0.001$), female professionals anchor their intentions predominantly in intuition ($\beta = 0.826$, $p < 0.001$). Crucially, the subsequent translation from intention to actual decision implementation speed remains structurally invariant and equally robust across both genders ($\beta = 0.564$ for males; $\beta = 0.535$ for females, $p < 0.001$). This reframes the understanding of gender dynamics in banking, moving away from deterministic assumptions toward a balanced, competency-based evaluation of operational execution.

While the empirical model specifically isolates decision implementation speed rather than broader career trajectories, these cognitive and behavioral findings offer a crucial lens through which to interpret wider organizational disparities. Although gender inequality and the impenetrable nature of the glass ceiling remain widely discussed across Arab-Muslim organizational contexts (Koburtay et al., 2023), our findings suggest that operational execution in banking is driven by flexible cognitive styles rather than rigid behavioral deficits. This structural reality stands in sharp contrast to the glaring macro-level imbalance persisting in Tunisia, where women represent 70% of university graduates but hold only 2% of senior executive seats (UN Women, 2017). By demonstrating that both men and women possess overlapping and equally powerful cognitive pathways to drive execution, our study proves that organizational impediments to advancement cannot be explained by simplistic cognitive or skill-based deficits.

The results make significant methodological, theoretical, and administrative contributions to

the Theory of Planned Behavior (TPB) and dual-process cognitive theories. Theoretically, the integrated hybrid framework (CEST-TPB) proves superior to pure TPB models by capturing upstream cognitive styles that precede deliberate intention. Challenging the foundational assumption of total mediation in classical TPB, our findings demonstrate that cognitive styles exert direct, residual effects on execution speed, which must be systematically tested using rigorous bootstrapping procedures rather than assumed a priori. Methodologically, by evaluating both rational and intuitive dimensions across gender groups without deterministic presuppositions, this study provides a validated template showing that separate significance tests in non-equivalent models do not constitute evidence of gender differences unless anchored in a unified multi-group layout.

From a managerial and administrative perspective, the findings offer actionable guidance for human resource professionals and banking executives seeking to optimize operational execution. Rather than assuming fixed cognitive traits based on gender, HR practitioners should dismantle patriarchal stereotypes by recognizing that female executives possess identical strategic competencies. Furthermore, because intuition operates within combined groups as a negative behavioral regulator ($\beta = -0.571$), banking administrators should formalize decision-making protocols that balance structured data analysis (System 2 acceleration) with professional intuition (System 1 risk-filtering), thereby enhancing institutional safety without paralyzing operational responsiveness during critical financial crises.

CONCLUSION

The primary aim of this study was to investigate how cognitive styles (rationality and intuition) influence decision implementation speed among banking executives using an integrated Cognitive-Experiential Self-Theory (CEST) and Theory of Planned Behavior (TPB) framework, while assessing potential mediation via behavioral intention and structural variations across gender groups. This empirical investigation successfully validated the integrated CEST-TPB model within the Tunisian banking sector. Analyzing survey data from $N = 220$ middle and senior banking professionals (81 men, 139 women) using Structural Equation Modelling (SEM) in AMOS revealed robust explanatory power, accounting for 66.2% of the variance in decision implementation speed in the intuitive model ($R^2 = 0.662$) and 62.1% in the rational model ($R^2 = 0.621$). Specifically, the quantitative findings demonstrate that Rationality acts as a powerful, direct behavioral accelerator on decision implementation speed. Intuition operates paradoxically as a cautious, negative risk-mitigating mechanism that restrains immediate execution to

preserve institutional security. Behavioral intention exerts a strong, autonomous direct effect on implementation speed. Bootstrapping analyses (5,000 resamples) formally rejected mediation by behavioral intention for both rationality and intuition, confirming that cognitive styles operate predominantly as direct, residual behavioral forces. Multi-group structural comparisons revealed a distinct cognitive split in intention formation, with male executives relying exclusively on rationality and female executives relying uniquely on intuition, while the subsequent translation from intention to implementation speed remained structurally invariant and highly robust across genders.

By utilizing formal multi-group modelling, this research overcomes previous limitations, demonstrating that male and female executives deploy equally competent, overlapping cognitive activations, with identical capacities to translate intentions into execution. Consequently, the stark glass ceiling in Tunisian governance (2% female representation versus 70% university graduates) cannot be attributed to cognitive or behavioral deficits. Instead, systemic barriers, cultural hurdles in Arab-Muslim organizational contexts, and discriminatory networking practices continue to impede career progression despite equal cognitive potential. Future research should adopt longitudinal designs to track how these direct cognitive activations evolve across diverse multi-sector environments.

AUTHOR CONTRIBUTIONS

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DECLARATION OF GENERATIVE AI IN THE WRITING PROCESS

The authors confirm that they have used Gen AI “Gemini” only to improve the language of the revised manuscript.

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