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The Differential Impact of Emotions on Satisfaction and Loyalty in Banking Services

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Summary: This study examines the impact of positive and negative emotions on customer satisfaction and loyalty in the Algerian banking sector, considering the mediating role of emotions and the moderating effect of perceived effort measured through the Customer Effort Score (CES). Data were collected from 160 clients of the Banque Nationale d'Algérie and analyzed using multiple regression with SPSS. The results reveal that perceived service quality significantly enhances customer satisfaction. Both positive and negative emotions partially mediate this relationship, highlighting the emotional dimension of the service experience. Notably, the findings indicate the absence of emotional asymmetry, as positive and negative emotions exert comparable influence on satisfaction. Furthermore, perceived effort plays a significant moderating role by amplifying the negative impact of emotions on satisfaction and attenuating the relationship between satisfaction and loyalty. Overall, the results suggest that customer loyalty in the banking sector depends largely on the smoothness of the service experience, and that reducing perceived effort constitutes a key managerial lever for transforming customer satisfaction into long-term loyalty.

Keywords: Customer emotions, Perceived quality, Customer satisfaction, Banking loyalty, Customer Effort Score (CES).

Jel Classification Codes : M31, G21, D91.

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I- Introduction

The global banking sector is currently undergoing an unprecedented phase of structural transformation, characterized by intensified competition and the rapid digitalization of services. Within this new ecosystem, the traditional paradigm of banking relationships—historically based on geographical proximity and institutional trust—is gradually giving way to an omnichannel customer experience defined by immediacy, fluidity, and continuity of interactions. Customer satisfaction is therefore no longer merely an operational indicator but has become the strategic foundation of customer loyalty and the financial sustainability of banking institutions (Kotler, Keller, and Dubois, 2006).

Despite sustained investments aimed at improving service quality, banking institutions face a persistent managerial paradox: customers who declare themselves satisfied according to traditional indicators may still exhibit a strong tendency toward disengagement. This observation highlights the limitations of purely cognitive satisfaction models centered on expectation confirmation and the utilitarian evaluation of service performance. In line with experiential approaches to consumer behavior, the banking customer experience must be understood as an affective construct shaped by the emotions generated during service interactions (Holbrook and Hirschman, 1982).

The literature frequently emphasizes a fundamental emotional asymmetry, according to which negative emotions exert a stronger and more lasting impact on judgments and behaviors than positive emotions (Baumeister, Bratslavsky, and Finkenauer, 2001). However, recent studies suggest that this asymmetry may vary significantly across cultural and sectoral contexts (Chentouf and Boussedra, 2021), inviting further examination in specific environments such as the Algerian banking sector, where emerging digitalization coexists with a persistent relational dimension that may influence customers' emotional responses. In a banking context often perceived as involving complex and demanding processes, this dynamic deserves particular attention.

Furthermore, the effort perceived by customers during their interactions with banks—captured through the Customer Effort Score (CES) (Dixon, Freeman, and Toman, 2010)—appears to be a key explanatory variable that has only marginally been integrated into traditional relational models. Excessive effort required to access a service or resolve an issue may amplify negative emotions and weaken the customer relationship in the long term, regardless of the final outcome. The potential moderating role of this variable within the quality–satisfaction–loyalty chain therefore represents a particularly promising research perspective.

Accordingly, this research addresses the following central question: **How do positive and negative emotions generated during banking interactions influence customer satisfaction and the development of long-term loyalty in the Algerian banking sector, and what role does perceived effort play in these mechanisms?** To answer this question, the study presents an empirical analysis conducted with 160 customers of the Banque Nationale d'Algérie (BNA) and introduces an original conceptual framework—the Emotional Pyramid of Banking Loyalty—which clarifies the mediating role of both types of emotions and the moderating effect of perceived effort (CES) on the relationships between service quality, satisfaction, and loyalty.

From a theoretical standpoint, this research contributes to the service marketing literature by proposing an integrative interpretation of the affective mechanisms underlying customer loyalty in an emerging context, while testing the validity of the emotional asymmetry hypothesis. From a managerial perspective, the findings provide banking decision-makers with concrete operational levers: beyond satisfaction, reducing perceived effort (CES) emerges as a strategic priority for transforming satisfaction into sustainable loyalty among increasingly demanding and volatile customers.

I.1. Theoretical Foundations and Hypothesis Development

I.1.1 Customer Satisfaction: A Multidimensional Construct

Customer satisfaction has long been recognized as a central pillar of service marketing since the seminal work of Oliver (2010). It now goes beyond the traditional expectation–confirmation model and is increasingly considered a multidimensional, subjective, and evolving construct (Mabika Nzyengui, 2022). In the Algerian banking sector, customer loyalty can no longer be explained solely by perceived service quality or utilitarian considerations (SERVQUAL, Parasuraman, Zeithaml, and Berry, 1988), as digital competition and complex administrative processes tend to increase customer volatility. Consequently, an approach integrating both

cognitive and affective dimensions is necessary to fully capture the reality of the contemporary banking experience.

The cognitive dimension of satisfaction refers to the rational evaluation customers perform when comparing perceived service performance against their prior expectations. The affective dimension, by contrast, encompasses the emotional reactions—both positive and negative—that arise during and after service interactions. Research in consumer psychology increasingly underscores that these two dimensions operate in parallel rather than sequentially: a customer may simultaneously hold a positive cognitive assessment of a bank's technical competence and a negative emotional impression of the interpersonal experience. This dual-process nature of satisfaction makes it essential to examine both pathways in order to fully understand the antecedents of customer loyalty in the Algerian context.

I.1.2 Emotional Asymmetry: From Cognitive to Affective Perspectives

Modern banking experiences require an experiential perspective that transcends purely utilitarian models. Holbrook and Hirschman (1982) demonstrated that consumption involves profound affective responses in which emotions play a decisive role. The negativity bias (Baumeister, Bratslavsky, and Finkenauer, 2001) suggests that negative stimuli often produce stronger and more enduring effects than positive stimuli. In the Algerian banking context, procedural frictions—such as approval delays, pricing opacity, or statement errors—may generate negative emotions such as frustration, anxiety, or anger that significantly influence customer satisfaction. Conversely, positive transactional emotions—such as those experienced during successful transfers or efficient service interactions—may also exert a significant impact.

Nevertheless, the applicability of the negativity bias across all cultural and sectoral contexts remains an empirical question. In an environment like Algeria, where digitalization is relatively recent and interpersonal relationships remain highly valued, the emotional dynamics of banking interactions may display unique characteristics. Cultural research on collectivist societies suggests that relational bonds and social trust may act as emotional buffers, attenuating the magnitude of negative reactions to service failures while simultaneously amplifying the emotional reward derived from positive interactions. This study therefore aims to test the emotional asymmetry hypothesis within this specific context and to enrich the theoretical debate by examining whether the negativity bias constitutes a universal behavioral regularity or a context-sensitive phenomenon.

I.1. 3 Banking Servuction and Perceived Justice Theory

Banking service production operates within the servuction paradigm, in which customers and service personnel jointly co-produce the service experience in real time. Chebat and Slusarczyk (2003) showed that relational excellence often precedes functional problem resolution in restoring customer loyalty following service failures. The perceived justice theory (Orsingher, Dallo, and Zaniboni, 2011) further explains this mechanism by identifying three dimensions through which customers evaluate their treatment: distributive justice (fairness of the outcome obtained), procedural justice (transparency and efficiency of the process), and interactional justice (quality of interpersonal treatment).

Orsingher, Dallo, and Zaniboni (2011) demonstrated that emotions play a mediating role, fully mediating procedural justice and partially mediating interactional justice, such that procedural injustice—for example, prolonged credit approval delays without communication—can trigger an emotional cascade that prevents cognitive satisfaction from being achieved. In the Algerian banking context, where administrative procedures are frequently perceived as opaque and time-consuming, the perceived justice framework provides a particularly relevant lens through which to interpret the emotional reactions of bank customers. The three justice dimensions interact dynamically: an unfavorable outcome may be partially tolerated if the process was transparent and the interaction respectful, whereas a technically favorable outcome may fail to generate satisfaction if the procedural or interactional dimensions were perceived as unjust.

I.1.4 Customer Effort Score (CES) as a Structural Moderator

The Customer Effort Score (CES), introduced by Dixon, Freeman, and Toman (2010), measures the level of effort customers perceive when resolving a problem or completing a transaction. Unlike the Customer Satisfaction Score (CSAT) or the Net Promoter Score (NPS), CES is considered a more precise predictor of future loyalty because it captures the behavioral friction experienced by customers. We therefore propose that CES acts as a structural moderator within the customer–bank relationship. When CES is low, satisfaction primarily depends on functional quality, whereas when CES is high, distributive and procedural justice become critical.

A delay that may be acceptable to a low-effort customer can trigger strong negative emotional reactions when perceived effort is high.

De Pechpeyrou, Passebois, and Aurier (2012) support this logic by showing that customers who invest greater effort become more demanding regarding clarity, follow-up, and completeness of responses. Thus, perceived effort not only directly affects satisfaction but also reconfigures the relationships between its antecedents and consequences. In practical terms, the CES construct captures a dimension of the service experience that CSAT alone cannot: the cumulative cognitive and temporal burden imposed on customers as they navigate banking processes. This burden, when excessive, undermines the emotional and relational capital built through service quality, thereby threatening loyalty even among objectively satisfied customers.

I.1.5 Conceptual Framework: The Emotional Pyramid of Banking Loyalty

The Emotional Pyramid of Banking Loyalty, proposed in this study, articulates three hierarchical levels that together describe the process through which service quality translates into sustainable customer loyalty.

At the base of the pyramid, functional quality and perceived justice—comprising the SERVQUAL dimensions (reliability, responsiveness, assurance, tangibility, empathy) alongside distributive, procedural, and interactional justice—form the structural foundation of the customer's cognitive evaluation. These elements constitute the non-negotiable prerequisites for any positive customer experience: without adequate functional quality and fair treatment, no emotional or relational strategy can be effective. They represent the minimum standards that customers in the Algerian banking sector expect their institution to fulfill consistently.

At the intermediate level, emotions operate as mediating mechanisms between quality evaluation and overall satisfaction: positive emotions reinforce it, while negative emotions reduce it with context-dependent intensity. These emotional reactions do not arise spontaneously but are directly elicited by the quality of the service interaction, the perceived fairness of outcomes and processes, and the relational tone of staff-customer exchanges. The emotional mediation layer thus translates the cognitive evaluation of service quality into an affective response that shapes the overall satisfaction judgment.

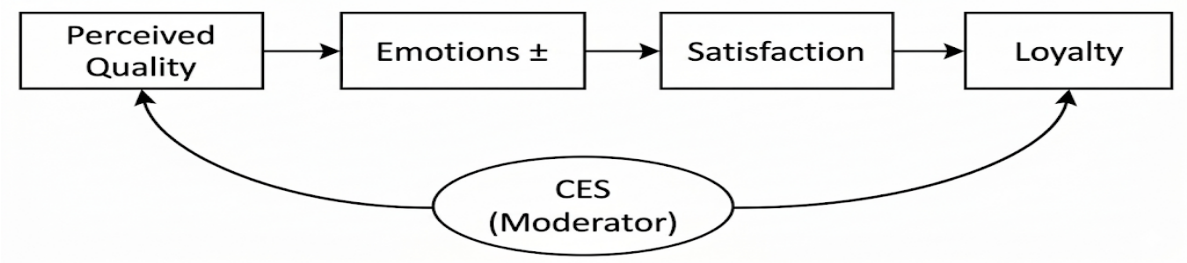
At the apex, affective loyalty manifests through word-of-mouth, cross-selling, resistance to competitors, and the transition from passive customer to brand advocate. This highest level of the pyramid is not automatically reached through satisfaction alone; it requires that both the emotional and the effort dimensions of the service experience be adequately managed. CES operates as a structural moderator throughout the entire pyramid, modulating both the intensity of emotional responses and the strength of the satisfaction–loyalty relationship: higher perceived effort intensifies emotional mechanisms and diminishes the conversion of satisfaction into loyalty.

I.1. 6 Structural Model and Hypotheses

Drawing on the theoretical framework above, four hypotheses are formulated. The decision to consolidate the original five hypotheses into four responds to the concern raised by the reviewers regarding excessive fragmentation: the positive and negative emotion mediation paths are subsumed under a single hypothesis (H2), and the two moderation pathways are similarly unified under H4, while preserving the theoretical distinctions through sub-hypotheses where analytically necessary.

- **H1:** Service quality positively influences customer satisfaction (Parasuraman, Zeithaml, and Berry, 1988).
- **H2:** Emotions—both positive and negative—partially mediate the relationship between service quality and customer satisfaction (Bagozzi, Gopinath, and Nyer, 1999; Chebat and Slusarczyk, 2003).
- **H3:** Negative emotions exert a stronger impact on customer satisfaction than positive emotions, as predicted by the negativity bias (Baumeister, Bratslavsky, and Finkenauer, 2001).
- **H4:** The Customer Effort Score (CES) moderates (a) the relationship between negative emotions and satisfaction, amplifying its negative effect, and (b) the relationship between satisfaction and loyalty, attenuating the positive effect.

Figure 1: Conceptual Research Model



The source: developed by the author

II– Methods and Materials:

The empirical approach adopted to test the Emotional Pyramid model is detailed in this section, covering research design, measurement instruments, and analytical strategy.

II. 1. Research Design and Data Collection

A quantitative cross-sectional design was employed to analyze the relationships between service quality, emotions, satisfaction, and loyalty in the Algerian banking sector. This methodological choice is appropriate for testing theoretically derived structural relationships at a single point in time and for establishing the directional associations between variables. Data were gathered through a self-administered questionnaire distributed to regular banking customers of the Banque Nationale d'Algérie (BNA), one of Algeria's largest public banking institutions.

The final sample comprises 160 respondents—a size considered adequate for multivariate regression analysis (Hair et al., 2010). The BNA was selected as the study site due to its broad customer base, its ongoing digital transformation initiatives, and the diversity of its customer portfolio in terms of age, income, and channel preferences. A pre-test with 20 customers confirmed item clarity and comprehensibility, and minor wording adjustments were made prior to full deployment. The overall response rate reached 85%, reflecting the high engagement of participants and the accessibility of the questionnaire.

II. 2. Operationalization of Constructs

Constructs were operationalized using validated scales from the service marketing literature, measured on five-point Likert scales ranging from "strongly disagree" (1) to "strongly agree" (5). Perceived service quality was captured through five items reflecting the reliability, responsiveness, and competence dimensions of SERVQUAL (Parasuraman et al., 1988). Positive and negative emotions were each measured by four items representing, respectively, joy, trust, and enthusiasm versus frustration, irritation, and disappointment. Customer satisfaction was operationalized via four items adapted from Oliver (2010), and loyalty through three items covering repurchase intention and word-of-mouth. Perceived effort (CES) was captured using a single item adapted from Dixon et al. (2010)—a recognized limitation discussed in Section III.10. Table 1 provides a detailed overview.

Table 1: Questionnaire Structure and Sources of Measurement Scales

Variable	Items	Source
Perceived service quality	5	SERVQUAL (Parasuraman et al., 1988)
Positive emotions	4	Joy, trust, enthusiasm (Bagozzi et al., 1999)
Negative emotions	4	Frustration, irritation, disappointment
Customer satisfaction	4	Oliver (2010)
Loyalty	3	Repurchase intention, word-of-mouth
Perceived effort (CES)	1*	Dixon et al. (2010)

* Single-item measure; a validated multi-item CES scale is recommended for future research.

The source: developed by the author

II. 3. Analytical Procedure

All analyses were conducted in SPSS (version 26). Descriptive statistics and Pearson correlations were computed as a first step to characterize the sample and examine bivariate

relationships. Scale reliability was assessed using Cronbach's alpha, with values above 0.70 considered acceptable (Nunnally, 1978). Direct effects (H1) were estimated through simple linear regression. Mediation (H2, H3) was tested following the four-step Baron and Kenny (1986) procedure, and moderation (H4) was examined via hierarchical regression with mean-centered interaction terms, as recommended by Aiken and West (1991).

The Baron and Kenny (1986) mediation procedure involves four steps: (1) demonstrating a significant relationship between the independent variable and the dependent variable; (2) demonstrating a significant relationship between the independent variable and the mediator; (3) demonstrating a significant relationship between the mediator and the dependent variable while controlling for the independent variable; and (4) demonstrating that the introduction of the mediator reduces the direct effect of the independent variable on the dependent variable. If the direct effect is reduced but remains significant, partial mediation is indicated; if it becomes non-significant, full mediation is supported.

For moderation analyses, interaction terms were created by multiplying mean-centered scores of the predictor and moderator variables, thereby reducing multicollinearity (Aiken and West, 1991). Hierarchical regression was conducted in two steps: the first block included main effects only, and the second block added the interaction term. A significant change in R^2 associated with the interaction term was taken as evidence of moderation.

III- Results and discussion:

III.1. Sample Profile

The sample is gender-balanced (52% female, 48% male) and predominantly middle-aged: 40% of respondents fall in the 35–44 age bracket and 35% in the 25–34 bracket. Two-thirds of participants (67%) primarily use digital channels for their banking needs, while 33% favour physical branches. The average tenure of the banking relationship is 7.2 years, indicating a relatively loyal base. This profile is consistent with the demographic characteristics of the BNA's active customer base and suggests that findings may be broadly representative of urban, digitally engaged banking customers in Algeria. Table 2 summarizes these characteristics.

Table 2: Profile of Respondents (N = 160)

Variable	Category	Frequency (%)
Gender	Male	48%
	Female	52%
Age group	25–34 years	35%
	35–44 years	40%
	45 years and above	25%
Preferred channel	Digital	67%
Banking relationship	Physical branch	33%
	Average tenure	7.2 years

The source: SPSS (version 26).

III.2. Reliability and Validity of Measurement Instruments

All constructs achieve Cronbach's alpha values above 0.80 (Table 3), well exceeding the conventional threshold of 0.70 and thus confirming satisfactory internal consistency. The highest mean corresponds to positive emotions (M = 3.58), while negative emotions record the lowest mean (M = 2.65), suggesting an overall favorable customer experience in the sample. The perceived effort (CES) mean of 3.95 indicates a moderate-to-high effort perception, underscoring its relevance as a moderating variable and signaling that banking processes at the BNA are perceived as requiring considerable customer effort, particularly in comparison to international benchmarks for digital banking services.

Table 3: Descriptive Statistics and Reliability of Constructs

Construct	Items	Mean	SD	Cronbach's α
Perceived Quality	5	3.42	0.75	0.86
Positive Emotions	4	3.58	0.80	0.83
Negative Emotions	4	2.65	0.78	0.81
Satisfaction	4	3.50	0.82	0.87
Loyalty	3	3.38	0.85	0.84
Perceived Effort (CES)	1	3.95	1.10	—

The source: SPSS (version 26).

III.3. Correlation Analysis

The Pearson correlation matrix (Table 4) reveals that all coefficients are significant at $p < .001$ and directionally consistent with theoretical expectations. Perceived quality correlates positively with positive emotions ($r = 0.61$) and negatively with negative emotions ($r = -0.47$). The strong quality–satisfaction association ($r = 0.70$) and the satisfaction–loyalty link ($r = 0.75$) provide initial support for the nomological chain underlying the model. Notably, the negative correlation between positive and negative emotions ($r = -0.50$) is moderate, confirming that the two constructs are theoretically distinct and empirically separable rather than mere opposites on a single bipolar scale.

Table 4: Pearson Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)
(1) Perceived Quality	1				
(2) Positive Emotions	0.61***	1			
(3) Negative Emotions	-0.47***	-0.50***	1		
(4) Satisfaction	0.70***	0.64***	-0.58***	1	
(5) Loyalty	0.67***	0.59***	-0.53***	0.75***	1

The source: SPSS (version 26).

III.4. Testing H1: Direct Effect of Service Quality on Satisfaction

Regression analysis confirms that perceived service quality significantly predicts customer satisfaction ($\beta = 0.52$, $t = 12.30$, $p < .001$, $R^2 = 0.49$). Service quality alone accounts for 49% of the variance in satisfaction, replicating the foundational results of Parasuraman, Zeithaml, and Berry (1988) and Oliver (2010) within the Algerian banking context. H1 is supported.

This strong direct effect underscores the continued primacy of functional quality in determining customer satisfaction, even as banks increasingly invest in digital innovation and relational marketing. Customers of the BNA evaluate their satisfaction primarily through the lens of perceived reliability and responsiveness—the extent to which the bank delivers on its promises consistently and efficiently. This finding carries an important managerial message: emotional and relational strategies cannot substitute for functional quality but must be built upon it.

Table 5: Direct Effect of Perceived Quality on Satisfaction

Independent Variable	Dependent Variable	Std. β	t	Sig.	R^2
Perceived Quality	Satisfaction	0.52	12.30	< .001	0.49

The source: SPSS (version 26).

III.5. Testing H2: Mediating Role of Emotions

The four-step Baron and Kenny (1986) procedure was applied to test the mediating roles of positive and negative emotions. As shown in Table 6, the introduction of positive emotions into the model reduces the direct quality–satisfaction path from $\beta = 0.52$ to $\beta = 0.30$, while it remains significant—indicative of partial mediation. The indirect effect through positive emotions equals

0.61 × 0.36 = 0.22. The parallel analysis for negative emotions yields a reduction from β = 0.52 to β = 0.35 (also remaining significant), with an indirect effect of (−0.47) × (−0.32) = 0.15. Both mediations are partial, confirming that service quality retains a direct cognitive effect on satisfaction alongside its affective pathway. H2 is supported for both emotion valences.

These findings establish the affective architecture of banking satisfaction: quality improvements not only directly enhance satisfaction through cognitive evaluation but also indirectly do so by generating positive emotional states—confidence, joy, enthusiasm—that amplify the overall satisfaction judgment. Symmetrically, quality deficiencies reduce satisfaction both directly and indirectly by triggering negative emotions such as frustration and disappointment. The partial—rather than full—nature of both mediations is theoretically significant: it confirms that the banking service experience cannot be reduced to its affective dimension alone, and that customers retain a rational-evaluative layer in their assessment of banking performance.

Table 6: Mediation Effects of Emotions (H2)

Step	Relationship Tested	Std. β	Sig.
Mediator: Positive Emotions (H2)			
1	Quality → Satisfaction	0.52	< .001
2	Quality → Positive Emotions	0.61	< .001
3	Positive Emotions → Satisfaction	0.36	< .001
4	Quality + Positive Emotions → Satisfaction	0.30	< .001
Mediator: Negative Emotions (H2)			
1	Quality → Satisfaction	0.52	< .001
2	Quality → Negative Emotions	-0.47	< .001
3	Negative Emotions → Satisfaction	-0.32	< .001
4	Quality + Negative Emotions → Satisfaction	0.35	< .001

The source: SPSS (version 26).

III.6. Testing H3: Emotional Asymmetry

H3 predicted that negative emotions would exert a stronger influence on satisfaction than positive emotions. The standardized coefficients from Step 3 of Table 6 reveal, however, that the absolute effects are nearly equivalent: β = 0.36 for positive emotions and β = −0.32 for negative emotions. Moreover, the indirect effect through positive emotions (0.22) exceeds that through negative emotions (0.15), suggesting that positive emotions are actually the more influential transmission mechanism within the quality–satisfaction path. H3 is therefore not supported.

This finding challenges the negativity bias literature (Baumeister, Bratslavsky, and Finkenauer, 2001) and merits contextual interpretation. Several explanations are plausible. First, the Algerian banking sector is in a phase of active modernization; customers who experience continuous service improvement may be disproportionately sensitive to positive surprises—successful digital transactions, renovated branches, attentive staff—that contrast sharply with historical norms, potentially offsetting the expected asymmetry. Second, respondents may have internalized a baseline level of administrative friction as normative, which would attenuate the impact of moderate negative emotions on overall satisfaction; asymmetry might re-emerge only in cases of severe service failures not captured by this sample.

Third, the relational culture characteristic of the Algerian context may buffer negative experiences: a trusted personal advisor who resolves a problem effectively can neutralize the emotional impact of the initial failure. The importance of interpersonal relationships in Algerian social culture may act as a systemic emotional moderator that partially decouples negative service episodes from their expected impact on overall satisfaction judgments. Taken together, these interpretations suggest that emotional asymmetry is not a universal mechanism but a context-sensitive phenomenon modulated by sectoral development, cultural values, and the structure of the service relationship—an insight that both enriches and nuances the theoretical literature.

III.7. Testing H4: Moderating Role of CES

Hierarchical regression with mean-centered interaction terms was used to test the two moderation paths embedded in H4, following Aiken and West (1991).

III.7.1. CES Moderation of the Emotions–Satisfaction Relationship (H4a)

Regressing satisfaction on negative emotions, CES, and their interaction yields a significant negative interaction coefficient ($\beta = -0.15$, $p = .028$; $R^2 = 0.42$), as reported in Table 7. The findings indicate that the negative effect of frustration and disappointment on satisfaction is substantially amplified when perceived effort is high: the same negative emotional experience is considerably more damaging to satisfaction when the customer had to expend significant effort to reach the outcome. H4a is confirmed.

This result has important theoretical implications. It suggests that effort and negative emotion do not operate as independent determinants of satisfaction but interact synergistically: negative emotions that arise in the context of high-effort experiences are qualitatively different from those that arise in the context of low-effort experiences. When customers invest significant time and cognitive resources into a banking interaction only to encounter frustration or disappointment, the compounded effect on satisfaction is disproportionately severe. This supports the notion of CES as a structural moderator that reshapes the affective landscape of the service experience.

Table 7: Moderating Effect of CES on the Negative Emotions–Satisfaction Relationship (H4a)

Variable	β	Sig.
Negative Emotions	-0.41	< .001
CES (perceived effort)	-0.18	.012
Negative Emotions × CES	-0.15	.028
R^2	**0.42**	

The source: SPSS (version 26).

III.7.2. CES Moderation of the Satisfaction–Loyalty Relationship (H4b)

Regressing loyalty on satisfaction, CES, and their interaction reveals a significant negative interaction effect ($\beta = -0.19$, $p = .003$; $R^2 = 0.59$), as shown in Table 8. The direct effect of CES on loyalty is non-significant ($\beta = -0.09$, $p = .154$), confirming that the influence of effort operates through its interaction with satisfaction rather than as a standalone predictor. Practically, even a highly satisfied customer is substantially less likely to develop loyalty when the service journey required excessive effort. This constitutes arguably the most strategically significant finding of the study: cognitive satisfaction is insufficient to generate durable commitment when the service experience is burdensome. H4b is confirmed.

The non-significant direct effect of CES on loyalty (when controlling for satisfaction) is theoretically noteworthy: it indicates that effort per se does not reduce loyalty independently of satisfaction. Rather, its negative influence operates through the moderation mechanism—by weakening the ability of satisfaction to convert into behavioral and attitudinal loyalty. This distinction is important for managerial practice: the appropriate strategic response is not simply to communicate about effort reduction but to ensure that genuine journey simplification translates into higher satisfaction levels, which can then more effectively generate loyalty.

Table 8. Moderating Effect of CES on the Satisfaction–Loyalty Relationship (H4b)

Variable	β	Sig.
Satisfaction	0.61	< .001
CES (perceived effort)	-0.09	.154 (ns)
Satisfaction × CES	-0.19	.003
R^2	**0.59**	

The source: SPSS (version 26).

III.8. Summary of Hypothesis Tests

Table 9: Summary of Hypothesis Testing Results

H	Description	Outcome
H1	Service quality positively influences customer satisfaction.	Supported
H2	Emotions (positive and negative) mediate the quality–satisfaction relationship.	Supported
H3	Negative emotions have a stronger impact on satisfaction than positive emotions (emotional asymmetry).	Not Supported
H4	CES moderates the emotions–satisfaction and satisfaction–loyalty relationships.	Supported

The source: Author elaboration

III.9. Managerial Implications

The findings yield actionable implications for banking managers in Algeria and comparable emerging markets. Functional service quality (reliability, responsiveness, competence) remains the non-negotiable entry requirement: without this foundation, any emotional or effort-reduction strategy will fail. Since positive and negative emotions exert comparable effects on satisfaction (H3 not supported), the recommended approach is symmetric: proactively engineering moments of delight—user-friendly mobile applications, personalized financial advice, efficient branch interactions—while reactively deploying empathetic recovery procedures to neutralize negative emotions before they cumulate. Above all, CES reduction emerges as the highest-leverage strategic priority. Customer journeys—particularly account opening, credit applications, and dispute resolution—should be redesigned to minimize steps, reduce wait times, and ensure transparent progress communication. Seamless omnichannel continuity must be ensured so that customers never have to re-explain their situation across channels. Integrating CES as a standard performance indicator alongside CSAT enables systematic identification and remediation of high-friction pain points. Customers identified as high-effort cases warrant dedicated retention outreach to rebuild trust before the dissatisfaction-to-churn cascade becomes irreversible.

III.10. Limitations and Future Research Directions

Several limitations of this study warrant transparent acknowledgment. The sample of 160 customers drawn from a single public institution—the BNA—restricts the generalizability of findings across Algeria's banking sector as a whole, which comprises both public and private institutions operating under distinct competitive pressures and service cultures. The use of a single-item measure for the Customer Effort Score limits measurement precision and construct validity; future research should adopt a validated multi-item CES scale to enhance analytical robustness. The cross-sectional design precludes the tracking of longitudinal shifts in emotional responses, satisfaction, or loyalty trajectories. In addition, the reliance on basic OLS regression rather than structural equation modeling (SEM) constrains the simultaneous testing of direct, mediated, and moderated paths, and the proposed framework has not been formally benchmarked against established models such as the Technology Acceptance Model or the SERVPERF scale. Future research would benefit from extending the sample to multiple banks—both public and private—adopting SEM or bootstrapping mediation tests, integrating qualitative interviews to explore the contextual specificity of emotional asymmetry absence, and incorporating additional variables such as institutional trust, digital engagement, and channel-specific emotion profiles.

IV- Conclusion:

This study confirms that perceived service quality is a central determinant of customer satisfaction in the Algerian banking sector (H1) and that this relationship is both direct and partially mediated by positive and negative emotions (H2). Contrary to predictions derived from the negativity bias, no emotional asymmetry was detected (H3 not supported): positive and negative emotions exert comparable effects on satisfaction, a contextual specificity attributable to the progressive modernization of banking services, improving digital experiences, and the buffering role of relational culture. These findings enrich the theoretical literature on emotional dynamics in service contexts by demonstrating that the negativity bias is not a universal behavioral law but a

context-sensitive phenomenon whose applicability depends on the sectoral, cultural, and developmental characteristics of the environment.

The Customer Effort Score emerged as a structural moderator of considerable strategic significance, amplifying the destructive impact of negative emotions on satisfaction (H4a) and attenuating the conversion of satisfaction into loyalty (H4b). A satisfied customer who has navigated a high-effort journey remains vulnerable to competitive attrition, rendering effort reduction a strategic imperative rather than a mere operational optimization. This finding extends the original CES framework of Dixon, Freeman, and Toman (2010) by demonstrating that perceived effort not merely predicts loyalty directly but fundamentally reshapes the architecture of its antecedents, reconfiguring the quality–emotion–satisfaction–loyalty chain in ways that have important implications for service design and customer relationship management.

For Algerian banks, these results chart a clear course: maintain rigorous functional quality as the foundational prerequisite; simultaneously manage the positive and negative emotional registers through proactive and reactive strategies; and systematically minimize perceived effort to transform transient satisfaction into resilient, long-term loyalty. The capacity to combine functional excellence, emotional attunement, and experiential fluidity constitutes the decisive competitive differentiator in an Algerian banking environment undergoing rapid and irreversible transformation.

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