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Electronic payment cards and their role in achieving the competitive strategy for the activation of financial technology – An analytical study of a sample of Algerian public bank customers

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Abstract---This study addresses the significance of electronic payment cards as an endeavour to realise the competitive strategy for activating financial technology. It aims to raise awareness and highlight the importance of embracing information technology and digital transformation due to their impact on achieving financial savings. Through the analysis and examination of the questionnaire data, we identified the extent of the relationship between the use of electronic payment cards and the implementation of a competitive strategy for digital banking transformation. This was achieved by evaluating and analysing clients' perspectives from Algerian public bank branches using the statistical software SPSS22. The study concluded that there is a correlational relationship between the use of electronic payment cards and the implementation of a competitive strategy for digital transformation, as well as the increased activation of financial technology in Algerian banks.

Keywords---electronic payment cards, financial technology, competitive strategy, Algerian public banks.
JEL Classification: O33, G21, E42, E01

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1. Introduction

The world is currently witnessing an increasing inclination towards digitalisation, driven by the boom in information and communication technology, which is closely interconnected with all vital economic sectors—most notably, banks and financial institutions. These entities have been pioneers in maximising the benefits of modern technologies, enabling them to introduce new mechanisms for payment methods (Jabari & Kassaâ, 2024) and to enhance the quality of their services.

In light of these emerging developments, it has become imperative for Algerian banks to prepare for the implementation of a new banking culture centred on digital transformation (Abdessalam Ali, 2013). In keeping with the ongoing modernisation observed in the banking sector, these banks must take swift and decisive steps to improve the quality of banking services and to activate a competitive strategy that enables them to rise to the diverse challenges of digital banking transformation. This is essential for aligning with modernising electronic payment systems and shifting towards financial technology innovations to satisfy existing customers, attract new clients, and remain competitive in delivering innovative banking services.

We shall now focus on **electronic payment cards and their role in activating the competitive strategy for digital banking transformation** (H. Neama & A. Hussein, 2025) in Algeria (Rezig & Fadhili, 14–15 December 2004; Zidan & Driss, 14–15 December 2004), by raising the following central research question:

To what extent do electronic payment cards contribute to activating the competitive strategy for digital banking transformation from the perspective of Algerian bank customers, enhancing financial technology?

In order to address this core issue and enrich the topic, we propose the following sub-questions:

- Do Algerian bank customers show a willingness to use electronic payment cards?
- Is there a statistically significant relationship between using electronic payment cards and activating a competitive strategy for digital banking transformation in Algerian banks?

Hypotheses

- **First Hypothesis**: Customers of the Algerian banks under study are significantly inclined to use electronic payment cards.
- **Second Hypothesis**: The bank branches in El Oued included in the study are highly available in terms of competitive advantage in banking.
- **Third Hypothesis**: There is no statistically significant relationship between the use of electronic payment cards and the achievement of the competitive strategy for digital banking transformation in the Algerian banks under study, from the customers' perspective, in activating financial technology.

Significance of the Study

Digital transformation is of critical importance in the modern era due to the economic facilitation it offers, which contributes to improving the economic well-being of individuals in particular and society in general. One of the most prominent characteristics of the evolving economy is the move towards developing payment systems and the necessity for these systems to keep pace with advancements in banking, which serve as a pillar of the economy. From this standpoint, the importance of this study lies in exploring the extent to which the increasing use of electronic payment cards contributes to achieving financial technology and customer satisfaction in Algerian commercial banks.

Objectives of the Study

This study aims to achieve a set of objectives, the most important of which is:

- To highlight the role of electronic payment cards in activating the competitive strategy for digital banking transformation in Algerian banks.

Spatial Boundaries:
This study sought to investigate the opinions of a sample of customers from public bank branches in the Wilaya of El Oued, Algeria.
Temporal Boundaries:
The temporal scope of this study covers the period between the distribution of the questionnaire and the submission of the final completed form, specifically from September 16 to November 25.

2. Electronic Payment Cards Used in Algerian Public Banks

The most crucial element in modernising banking services is the advancement of various electronic payment methods, which facilitates the adoption and integration of electronic banking. Several Algerian financial and banking institutions (Yassad, Kiraat, & Makhfi, 2023; Cherifi & Belkheddar, 2023) have developed electronic payment and settlement networks by issuing these cards. The following table presents the leading electronic payment cards used in Algerian public banks.

Table 1
Electronic Payment Cards Used in Algerian Public Banks

Bank	Electronic Payment Cards Used
Bank of Agriculture and Rural Development (BADR)	- CBR Card: A national card valid only for cash withdrawals within the domestic banking network in Algeria. - CIB Card. - BADR Savings Card. - CBR Card (domestic use only).
Crédit Populaire d'Algérie (CPA)	- CIB Classique Card. - Gold Card: Offers enhanced purchasing power and secure transactions at many retail locations. - VISA Gold: Enables all banking operations globally. - VISA Classique. - MasterCard: Used for cash credit transactions; accepted by CPA.
Banque Nationale d'Algérie (BNA)	- CIB Cards.
Banque Extérieure d'Algérie (BEA)	CIB Card: Issued to customers with an average monthly income not exceeding DZD 39,999. Naftal Fuel Card: Allows easy payment for fuel purchases. AMEX (American Express): Reserved for account holders, it enables access to convertible currency equivalent to at least USD 5,000.
Banque de Développement Local (BDL)	- International VISA Card. - Savings Account Booklet with Magnetic Strip: Allows immediate cash withdrawal and payment.
Caisse Nationale d'Épargne et de Prévoyance (CNEP)	- CIB Card.

Source: Prepared by the researchers based on internal publications of the Algerian public banks under study.

3. Applied Study

3.1. Research Methodology

The researchers adopted the descriptive-analytical approach in this study. A questionnaire was designed as the primary tool to measure bank clients' perspectives regarding using electronic payment cards to activate the competitive strategy for digital banking transformation in Algerian banks. After ensuring the validity and reliability of the research instrument, the collected data were analysed using the SPSS software. Subsequently, appropriate statistical tests were applied to derive the results and identify the relationships between the study variables.

3.2. Study Population and Sample

The study population comprises clients from various branches of six Algerian public banks. A random sample of 31 clients was selected and analysed statistically using SPSS. The questionnaire was employed for data collection and comprised a set of statements adapted from previous studies. These statements were related to the topic under investigation and were structured into several items divided across two main axes:

- **Axis 1**: Electronic payment cards
- **Axis 2**: Competitive strategy for digital banking transformation

3.3. Results of the Validity and Reliability Test for the Questionnaire Items

Cronbach's Alpha was used to verify the validity and reliability of the data included in the questionnaire. This coefficient accurately measures the reliability and internal consistency of the research instrument. The table below presents the results of the reliability test (Cronbach's Alpha coefficient) for all questionnaire items:

Table 2

Results of the Cronbach's Alpha Reliability Test for the Questionnaire Items

Code	Axes	Number of Items	Cronbach's Alpha
A	Axis 1: Electronic Payment Cards	12	0.891
B	Axis 2: Competitive Strategy for Digital Banking Transformation	12	0.789
B1	Dimension 1: Differentiation Strategy	4	0.841
B2	Dimension 2: Cost Leadership Strategy	4	0.781
B3	Dimension 3: Quality Strategy	4	0.733
—	All Questionnaire Items	24	0.859

Source: Prepared by the researchers using SPSS22 software.

It is evident from the results in the above table that the value of the reliability coefficient (Cronbach's Alpha) was high for each area, ranging between (0.789 and 0.841) for each domain of the questionnaire. The Alpha coefficient value for all questionnaire items was (0.859), indicating a high-reliability level.

3.4 Interpretation and Analysis of Respondents' Trends Towards the Study Variables

The degree of influence of each variable in the questionnaire will be identified by calculating each item's arithmetic mean, standard deviation, and degree of agreement. The sample trends will then be interpreted for each axis based on the weighted scores of the five-point Likert scale. The class interval was calculated by dividing the response range (1 to 2, 2 to 3, 3 to 4, 4 to 5) by the number of available response options (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree). Accordingly, the class interval equals $5 \div 4 = 0.8$, and thus, the distribution of responses is as shown in the following table:

Table 3

Criteria for Determining the Degree of Agreement Among the Study Sample

Response	Code	Weighted Mean Range	Level of Agreement
Strongly Disagree	1	1.00 – 1.80	Very Low
Disagree	2	1.81 – 2.60	Low
Neutral	3	2.61 – 3.40	Moderate
Agree	4	3.41 – 4.20	High
Strongly Agree	5	4.21 – 5.00	Very High

Source: Prepared by the researchers based on the weighted scores of the five-point Likert scale.

3.5. Statistical Analysis Results of the Items Related to the Use of Electronic Payment Cards

The results related to the items concerning the use of electronic payment cards can be summarised through frequencies, percentages, arithmetic means, and standard deviations, as presented in the following table:

Table 4
Statistical Analysis Results of the Items Related to the Use of Electronic Payment Cards

Statement		Scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation	Coefficient of Variation	Rank	Level of Agreement
01	The electronic payment card is faster for cash withdrawal than traditional methods.	Frequency	00	00	4	22	5	4.03	0.547	13.75%	**4**	**High**
		%	00	00	12.9	71.0	16.1					
02	The use of an electronic payment card ensures protection from theft.	Frequency	00	13	00	18	00	3.16	1.003	31.74%	**6**	**Moderate**
		%	00	41.9	00	58.1	00					
03	The electronic payment card can be used as a smart wallet.	Frequency	2	10	3	13	3	3.16	1.186	37.53%	**6**	**Moderate**
		%	6.5	32.3	9.7	41.9	9.7					
04	The use of electronic payment cards enables discharging obligations anywhere and anytime.	Frequency	00	3	4	12	12	4.06	0.964	23.74%	**2**	**High**
		%	00	9.7	12.9	38.7	38.7					
05	An electronic payment card saves time when going to the bank and withdrawing money.	Frequency	00	2	2	15	12	4.19	0.833	19.88%	**1**	**High**
		%	00	6.5	6.5	48.4	38.7					
06	An electronic payment card allows a client to authorise someone else to withdraw or deposit money.	Frequency	00	7	4	7	13	3.84	1.214	31.61%	**5**	**High**
		%	00	22.6	12.9	22.6	41.9					
07	The electronic payment card is a developed alternative to cash and cheques.	Frequency	00	00	4	22	5	4.03	0.547	13.57%	**4**	**High**
		%	00	00	12.9	71.0	16.1					
08	The risks of using an electronic payment card are low.	Frequency	00	00	13	18	00	3.16	1.003	32.68%	**6**	**Moderate**
		%	00	00	41.9	58.1	00					
09	The use of electronic payment cards increases the desire to buy unnecessary items.	Frequency	2	10	3	13	3	3.16	1.186	37.53%	**6**	**Moderate**
		%	6.5	32.3	9.7	41.9	9.7					
10	The use of electronic payment cards reduces reliance on bills and promissory notes.	Frequency	00	3	4	12	12	4.04	0.964	23.74%	**3**	**High**
		%	00	9.7	12.9	38.7	38.7					
11	Electronic payment cards reduce the risk of spreading pandemics caused by direct contact with paper money.	Frequency	00	2	2	15	12	4.19	0.833	20.51%	**1**	**High**
		%	00	6.5	6.5	48.4	38.7					
12	Electronic payment cards help reduce the burden on the elderly during lockdown, for example.	Frequency	00	7	4	7	13	3.84	1.214	31.61%	**5**	**High**
		%	00	22.6	12.9	22.6	41.9					
Variable 1: Electronic Payment Cards								**3.74**	**0.9757**	**25.54%**	**High**	

Source: Prepared by the researchers based on SPSS22 outputs.

Based on the above table, the following conclusions can be drawn:
1. The arithmetic mean for the first item is **4.03**, placing it in **rank 4**. The coefficient of variation is **13.75%**, which is below 50%. The average response level for this item corresponds to the **"Agree"** level (value 4), indicating a **high degree of agreement** among respondents with this statement.
2. The arithmetic mean for the second item is **3.16**, placing it in **rank 6**. The coefficient of variation is **31.74%**, which is below 50%. The average response level for this item corresponds to the **"Neutral"** level (value 3), indicating a **moderate degree of agreement** among respondents with this statement.
3. The arithmetic mean for the third item is **3.16**, placing it in **rank 6**. The coefficient of variation is **37.53%**, which is below 50%. The average response level for this item also corresponds to the **"Neutral"** level (value 3), indicating a **moderate degree of agreement** among respondents with this statement.
4. The arithmetic mean for the fourth item is **4.04**, placing it in **rank 2**. The coefficient of variation is **23.74%**, which is below 50%. The average response level for this item corresponds to the **"Agree"** level (value 4), indicating a **high degree of agreement** among respondents with this statement.
5. The arithmetic mean for the fifth item is **4.19**, placing it in **rank 1**. The coefficient of variation is **19.88%**, which is below 50%. The average response level for this item corresponds to the **"Agree"** level (value 4), indicating a **high degree of agreement** among respondents with this statement.
6. The arithmetic mean for the sixth item is **3.84**, placing it in **rank 5**. The coefficient of variation is **31.61%**, which is below 50%. The average response level for this item corresponds to the **"Agree"** level (value 4), indicating a **high degree of agreement** among respondents with this statement.
7. The arithmetic mean for the seventh item is **4.03**, placing it in **rank 4**. The coefficient of variation is **13.57%**, which is below 50%. The average response level for this item corresponds to the **"Agree"** level (value 4), indicating a **high degree of agreement** among respondents with this statement.
8. The arithmetic mean for the eighth item is **3.16**, placing it in **rank 6**. The coefficient of variation is **32.68%**, which is below 50%. The average response level for this item corresponds to the **"Neutral"** level (value 3), indicating a **moderate degree of agreement** among respondents with this statement.
9. The arithmetic mean for the ninth item is **3.16**, placing it in **rank 6**. The coefficient of variation is **37.53%**, which is below 50%. The average response level for this item corresponds to the **"Neutral"** level (value 3), indicating a **moderate degree of agreement** among respondents with this statement.
10. The arithmetic mean for the tenth item is **4.04**, placing it in **rank 3**. The coefficient of variation is **23.74%**, which is below 50%. The average response level for this item corresponds to the **"Agree"** level (value 4), indicating a **high degree of agreement** among respondents with this statement.
11. The arithmetic mean for the eleventh item is 4.19, ranking it 1. The coefficient of variation is 20.51%, which is below 50%. The average response level for this item corresponds to the "Agree" level (value 4), indicating a high degree of agreement among respondents with this statement.
12. The arithmetic mean for the twelfth item is 3.84, placing it in rank 5. The coefficient of variation is 31.61%, which is below 50%. The average response level for this item corresponds to the "Agree" level (value 4), indicating a high degree of agreement among respondents with this statement.
Thus, it can be concluded that Axis 1: Use of Electronic Payment Cards, which recorded an arithmetic mean of 3.74 and a standard deviation of 0.9757, received a response level corresponding to "Agree" and a high acceptable level. This indicates that the customers of the bank branches under study show significant interest in using electronic payment cards.

3.6. Statistical Analysis Results of the Items Related to the Position of Banking Competitive Advantage

This section presents the statistical analysis results for the three dimensions (Differentiation Advantage, Cost Leadership Advantage, and Quality Advantage) under the second axis.
Statistical Analysis Results for the First Dimension: Differentiation Advantage
The results concerning the items of the first dimension (Differentiation Advantage) under the second axis of the questionnaire are summarised through frequencies, percentages, arithmetic means, standard deviations, and coefficients of variation in the following table:

Table 5

Statistical Analysis Results for the Items of the First Dimension: Differentiation Advantage

Statement		Scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation	Coefficient of Variation	Rank	Level of Agreement
13	The bank seeks to offer innovative electronic payment cards to attract new customers.	Frequency	6	2	14	9	0	2.84	1.068	37.60%	**1**	**Moderate**
		%	19.4	6.5	45.2	29.0	0					
14	Relying on electronic payment cards ensures customers benefit from the bank's credit facilities.	Frequency	5	4	16	5	1	2.77	0.988	35.66%	**2**	**Moderate**
		%	16.1	12.9	51.6	16.1	3.2					
15	The increase in electronic cardholders contributes to the expansion of e-commerce.	Frequency	5	4	16	5	1	2.67	0.958	35,88%	**3**	**Moderate**
		%	16.1	12.9	51.6	16.1	3.2					
16	The electronic payment card is designed according to customer needs.	Frequency	6	3	14	6	2	2.84	1.157	40.73%	**1**	**Moderate**
		%	19.4	9.7	45.2	19.4	6.5					
Dimension Three: Differentiation Advantage								**2.878**	**1.056**	**37.98%**	**Moderate**	

Source: Prepared by the researchers based on SPSS22 outputs.

From the above table, the following conclusions can be drawn:

13. The arithmetic mean for item thirteen is **2.84**, ranking it **1**. Its coefficient of variation is **37.60%**, indicating that the average response level for this item exceeds the "Disagree" level (value 3). This suggests a **moderate degree of agreement** among respondents with this item.

14. The arithmetic mean for item fourteen is **2.77**, placing it in **rank 2**. Its coefficient of variation is **35.66%**, indicating that the average response level for this item exceeds the "Disagree" level (value 3). This suggests a **moderate degree of agreement** among respondents with this item.

15. The arithmetic mean for item fifteen is **2.67**, placing it in **rank 3**. Its coefficient of variation is **35.88%**, indicating that the average response level for this item exceeds the "Disagree" level (value 3). This suggests a **moderate degree of agreement** among respondents with this item.

16. The arithmetic mean for item sixteen is **2.84**, placing it in **rank 1**, with a coefficient of variation of **40.73%**, indicating that the average response level for this item exceeds the "Disagree" level (value 3). This suggests a **moderate degree of agreement** among respondents with this item.

In conclusion, the second axis's first dimension (Differentiation Advantage) recorded an approximate arithmetic mean of 2.878 and a standard deviation of 1.056. This dimension received a neutral response level and a moderate level of acceptance, indicating a relative interest in it.

Statistical Analysis Results for the Items of the Second Dimension: Cost Leadership Advantage

The results related to the second dimension (Cost Leadership Advantage) of the second axis in the questionnaire can be summarised through frequencies, percentages, arithmetic means, standard deviations, and coefficients of variation in the following table:

Table 6

Statistical Analysis Results for the Items of the Second Dimension: Cost Leadership Advantage

Statement		Scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation	Coefficient of Variation	Rank	Level of Agreement
17	The cost of obtaining an electronic payment card is low compared to other banks.	Frequency	2	10	3	13	3	3.16	1.186	1.406	**4**	**Moderate**
		%	6.5	32.3	9.7	41.9	9.7					
18	The commission charged by the customer's bank for ATM withdrawals is low compared to other banks.	Frequency	0	3	4	12	12	4.0645	0.96386	0.929	**2**	**High**
		%	0	9.7	12.9	38.7	38.7					
19	The adoption of electronic payment cards reduces the bank's indirect costs.	Frequency	0	2	2	15	12	4.1935	0.83344	0.695	**1**	**High**
		%	0	6.5	6.5	48.4	38.7					
20	Using electronic payment cards reduces pressure on bank staff.	Frequency	0	7	4	7	13	3.8387	1.21372	1.473	**3**	**High**
		%	0	22.6	12.9	22.6	41.9					
Dimension 2: Cost Leadership Advantage								3.018	1.048	34.75%	**High**	

Source: Prepared by the researchers based on SPSS22 outputs.

From the above table, the following conclusions can be drawn:

17. The arithmetic mean for item seventeen is **3.16**, placing it in **rank 4**, with a coefficient of variation of **1.406**, indicating that the average response level for this item exceeds the "Disagree" level (value 3). This suggests a **moderate degree of agreement** among respondents with this item.

18. The arithmetic mean for item eighteen is **4.0645**, placing it in **rank 2**, with a coefficient of variation of **0.929**, indicating that the average response level for this item exceeds the "Neutral" level (value 4). This suggests a **high degree of agreement** among respondents with this item.

19. The arithmetic mean for item nineteen is **4.1935**, placing it in **rank 1**, with a coefficient of variation of **0.695**, indicating that the average response level for this item exceeds the "Neutral" level (value 4). This suggests a **high degree of agreement** among respondents with this item.

20. The arithmetic mean for item twenty is 3.8387, placing it in rank 2, with a coefficient of variation of 1.473, indicating that the average response level for this item exceeds the "Neutral" level (value 4). This suggests a high degree of agreement among respondents with this item.

In conclusion, the second axis's second dimension (Cost Leadership Advantage) recorded an approximate arithmetic mean of 3.018 and a standard deviation of 1.048. This dimension received a response level corresponding to "Agree" and a high level of acceptance, indicating a strong interest in this dimension.

Statistical Analysis Results for the Items of the Third Dimension: Quality Advantage

The results related to the third dimension (Quality Advantage) of the second axis in the questionnaire can be summarised through frequencies, percentages, arithmetic means, standard deviations, and coefficients of variation in the following table:

Table 7
Statistical Analysis Results for the Items of the Third Dimension: Quality Advantage

Statement		Scale	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation	Coefficient of Variation	Rank	Level of Agreement
21	The bank values customer feedback regarding developing new, high-quality electronic payment cards.	Frequency	5	4	16	5	1	2.77	1.023	1.047	4	Moderate
		%	16.1	12.9	51.6	16.1	3.2					
22	The bank facilitates access to new electronic payment cards during crises and pandemics.	Frequency	6	3	14	6	2	2.84	1.157	1.340	2	Moderate
		%	19.4	9.7	45.2	19.4	6.5					
23	The bank has a dedicated service for regularly maintaining electronic payment cards.	Frequency	6	3	15	5	2	2.81	1.138	1.295	3	Moderate
		%	19.4	9.7	48.4	16.1	6.5					
24	The bank regularly communicates with customers about the cards and informs them of updates.	Frequency	0	2	11	8	10	3.84	0.969	0.940	1	High
		%	0	6.5	35.5	25.8	32.3					
Dimension 3: Quality Advantage								3.06	1.077	35.02%	Moderate	
Variable 2: Banking Competitive Advantage								2.873	1.06	36.90%	Moderate	

Source: Prepared by the researchers based on SPSS22 outputs.

From the above table, the following conclusions can be drawn:
21. The arithmetic mean for item twenty-one is **2.77**, placing it in **rank 4**, with a coefficient of variation of **1.047**, indicating that the average response level for this item exceeds the "Disagree" level (value 3). This suggests a **moderate degree of agreement** among respondents with this item.
22. The arithmetic mean for item twenty-two is **2.84**, placing it in **rank 2**, with a coefficient of variation of **1.340**, indicating that the average response level for this item exceeds the "Disagree" level (value 3). This suggests a **moderate degree of agreement** among respondents with this item.
23. The arithmetic mean for item twenty-three is **2.81**, placing it in **rank 3**, with a coefficient of variation of **1.295**, indicating that the average response level for this item exceeds the "Disagree" level (value 3). This suggests a **moderate degree of agreement** among respondents with this item.
24. The arithmetic mean for item twenty-four is 3.84, placing it in rank 1, with a coefficient of variation of 0.940, indicating that the average response level for this item exceeds the "Neutral" level (value 4). This suggests a high degree of agreement among respondents with this item.
In conclusion, the second axis's third dimension (Quality Advantage) recorded an approximate arithmetic mean of 2.873 and a standard deviation of 1.06. This dimension received a neutral response level and a moderate level of acceptance, indicating a relative interest in this dimension.

4. Results and Discussion

Testing and Analysing the Results of the Study Hypotheses

This section aims to test the study's hypotheses and determine whether they are accepted or rejected based on the results obtained from processing the data in SPSS22.

• First Hypothesis:

"There is a strong tendency among clients of the bank branches in El Oued to use electronic payment cards."

- **Statistical Analysis:**
- According to Table 4, the arithmetic mean is 3.74, with a standard deviation of 0.9757, indicating a high level of agreement. From this, we conclude that electronic payment cards have reduced the complexity of certain user transactions. Therefore, the first hypothesis is confirmed.
- **Economic Analysis:**
- The result is consistent with Smith's findings (2022), particularly regarding new modes of thinking that have evolved and gained acceptance and protection. This aligns with the rapid pace of technological advancement, which encourages customers to adopt electronic payment cards—even if some traditional mindsets still resist engaging with modern technologies.

• Second Hypothesis:

"There is a high level of availability of banking competitive advantage dimensions in the bank branches of El Oued under study."

- **Statistical Analysis:**
- As shown in **Table 7**, most participants in the sample agree on the availability of competitive advantage dimensions in the bank branches, with an **overall arithmetic mean of 2.873** and a **standard deviation of 1.06**. However, the importance of these dimensions varies. The results reveal that respondents place the highest importance on the **Cost Leadership Advantage**, with a mean of **3.018** and a standard deviation of **1.048**. The **Quality Advantage** follows this with a mean of **3.06** and a standard deviation of **1.077**, and lastly, the **Differentiation Advantage** with a mean of **2.878** and a standard deviation of **1.056**.

  Based on the relative weight of the competitive advantage dimensions and their order of importance as determined by the **coefficient of variation** and the overall arithmetic mean of the variable "banking competitive advantage", the following can be concluded:
  - **Cost Leadership Advantage:**
  - As seen in **Table 6**, this dimension is the **most influential and significant** in managing customer relationships, with the **highest arithmetic mean (3.018)** and the **lowest coefficient of variation (34.75%)**. This suggests that **low cost** is the primary competitive factor bank branches seek due to its role in facilitating client interactions and reducing employee workload.
  - **Differentiation Advantage:**
  - With a **coefficient of variation of 37.98%**, this dimension ranked **last**, reflecting a high degree of **divergence in respondents' opinions**. This dispersion indicates that this dimension requires better alignment with unique attributes that foster customer attachment and improved responsiveness based on a more precise understanding of customer needs.
  - **Quality Advantage Dimension:**
  - This variable was measured through four items. The results yielded an arithmetic mean of **3.06** and a coefficient of variation of **35.02%**, which indicates alignment with customer preferences and their desire for value.
  - **Economic Analysis:**
  - The primary goal of any banking activity is to implement general competitive strategies aimed at achieving a competitive advantage in banking, mainly through attracting new clients, retaining existing ones, and identifying customer needs to deliver services that meet those needs. This has been confirmed by Al-Smadi's study (2020). However, the present study revealed that clients of the bank branches surveyed place greater importance on the cost strategy and quality. In contrast, the differentiation strategy is of little interest, according to the competitive advantage dimensions adopted in this questionnaire.

Table 8
Summary of the Statistical Analysis Results of the Study Variables

Variables (Axes)	Arithmetic Mean	Standard Deviation	Coefficient of Variation	Level of Agreement
Use of Electronic Payment Cards	3.74	0.9757	25.24%	High
Differentiation Advantage	2.878	1.056	37.98%	Moderate
Cost Leadership Advantage	3.018	1.048	34.75%	High
Quality Advantage	3.06	1.077	35.02%	Moderate
Overall Banking Competitive Advantage	2.873	1.06	36.90%	Moderate

Source: Prepared by the researchers based on SPSS22 outputs.

- **Third Hypothesis:**
- The third hypothesis of the study was formulated as follows:
- *"There is no statistically significant relationship between the use of electronic payment cards and the achievement of a competitive strategy for digital banking transformation in Algerian banks under study, from the customers' perspective regarding financial technology activation."*

- **Null Hypothesis (H_0):**
- From the customers' perspective, there is no statistically significant relationship between using electronic payment cards and activating a competitive strategy for digital banking transformation in the bank branches under study.
- Alternative Hypothesis (H_1):
- From the customers' perspective
- , there is a statistically significant relationship between the use of electronic payment cards and the activation of a competitive strategy for digital banking transformation in the bank branches under study.

In order to confirm or reject this hypothesis, the statistical measures shown in Table 9 were calculated.

Statistical Analysis:

As shown in Table 9, the significance level is 0.0320, which is less than 0.05. Therefore, we reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1), meaning that there is a statistically significant relationship between the use of electronic payment cards and the banking competitive advantage in the bank branches under study from the customers' point of view.

Table 9
Spearman's Correlation Results for Study Variables

Dependent Variable: Use of Electronic Payment Cards			
0.589	Value	**Independent Variable: Banking Competitive Advantage**	**Spearman's Correlation Coefficient**
0.0320	Significance Level (Sig)		

Source: Prepared by the researchers based on SPSS22 outputs.

Table 10 will show the correlation relationships between the dependent and independent variables.
Table 10 clearly shows that most variables demonstrate a statistically significant correlation at favourable levels, with a Spearman correlation coefficient of 58.9% between the dependent variable (use of electronic payment cards) and the dimensions of banking competitive advantage in the bank branches under study.

- The most substantial relationship was observed between the dependent variable (electronic payment cards) and the independent sub-dimension (Quality Advantage), with a correlation of 64.1%.
- There was also a statistically significant relationship with the independent sub-dimension (Cost Leadership Advantage), at 49%.
- However, no statistically significant correlation was found between the independent sub-dimension (Differentiation Advantage) and the dependent variable, with a correlation value of only 3.6%.

These findings indicate that the preferences and perceptions of the bank branch clients surveyed follow the previously mentioned order of importance: quality first, followed by cost, then differentiation, in explaining the relationship between the use of electronic payment cards and the achievement of banking competitive advantage.

Table 10

Correlation Relationships Between the Dependent Variable and Sub-Dimensions of the Independent Variable

Independent Sub-Dimensions	**Differentiation Advantage**	**Quality Advantage**	**Cost Leadership Advantage**	**Dependent Variable: Use of Electronic Payment Cards**
Spearman's Correlation Coefficient	0.036	0.641	0.490	0.589

Source: Prepared by the researchers based on SPSS22 outputs.

Based on the statistical results obtained, the statements related to banking competitive advantage ranked last in Table 8, which presents a summary of the statistical analysis of the study variables. The arithmetic mean is 2.873, corresponding to a moderate level of agreement. This indicates a relationship between the use of electronic payment cards and competitive advantage in banking from the customers' perspective, thus refuting the third hypothesis. We can, therefore, conclude that the statistical approach is consistent with the objectives of this study.

Economic Analysis:

Numerous studies have examined the relationship between electronic banking and achieving a competitive advantage for banks across various dimensions. Chavan's (2021) findings support this.

The current study also demonstrates a correlation between the use of electronic payment cards and the realisation of competitive advantage in banking. As explained by Al-Smadi (2020), this correlation is attributed to the rapid technological advancement that has enhanced the efficiency and simplicity of banking operations, leading customers to actively seek out the best-performing digital banking services in their pursuit of sustainability.

This conclusion aligns with Garcia's (2022) findings, which indicated a readiness among clients to adopt electronic payment cards. Furthermore, Lee (2023) confirmed that customers of the surveyed bank branches are willing to use electronic payment cards to enhance their banks' competitive advantage.

5. Conclusion and Recommendations

This study addressed the topic of electronic payment cards and their role in achieving the competitive strategy for digital transformation in Algerian public and commercial banks, in line with the research problem that revolves around the question: *To what extent do electronic payment cards contribute to the achievement of a competitive strategy for digital banking transformation, from the perspective of Algerian bank customers, in order to activate financial technology?*

The study investigated three dimensions of the competitive strategy for digital transformation and was applied to six public bank branches in El Oued:

- Bank of Agriculture and Rural Development (BADR)
- Crédit Populaire d'Algérie (CPA)

- Banque Nationale d'Algérie (BNA)
- Banque Extérieure d'Algérie (BEA)
- Banque de Développement Local (BDL)
- Caisse Nationale d'Épargne et de Prévoyance (CNEP)

This was achieved through a questionnaire designed specifically for this purpose and distributed to a sample of clients.
This study aimed to determine how banks interact with their clients through electronic cards, which have become one of the most important tools for gaining competitive advantage. On the one hand, Algerian banks are striving to meet their clients' increasing and ever-changing needs, influenced by current circumstances that have changed consumption and behavioural habits. These changes have led to a growing preference for modern electronic cards and advanced technologies, which have shortened distances between clients and the institutions they deal with, allowing them to save time and effort.
On the other hand, the Algerian banking system is still lagging in keeping up with technological developments, particularly in communication. However, like many countries, Algeria has been influenced by global developments. As a result, Algerian banks have begun to adapt and align with these transformations, developing strategies to integrate electronic transactions and modernise the systems in place across various banking institutions.

Based on the theoretical and practical findings, a set of conclusions can be drawn to answer the questions raised in the introduction through the testing of the study's hypotheses, as follows:

Key Findings:

- Electronic bank cards bring numerous advantages to banks and clients, including cost reduction, less effort, and time-saving benefits.
- Despite their growing use, traditional payment methods remain indispensable in Algerian banks due to customers' difficulty accepting electronic alternatives.
- Bank branches under study demonstrate a competitive advantage by applying strategies focused on differentiation, cost leadership, and quality, indicating an acceptable level of service quality from the customers' perspective.
- The study confirmed that, due to fundamental differences between banks, there are no statistically significant differences in customers' average views regarding using electronic payment cards based on the bank they deal with.
- It also refuted the presence of statistically significant differences in the average perceptions of employees toward service quality improvement, indicating essential differences in reasons behind bank selection.
- Additionally, no statistically significant differences were found in the average customer perspectives on card usage based on years of card use, confirming the influence of customer experience.
- Algeria's social and cultural environment remains challenging for banks, as they must convince clients of the utility of electronic cards and promote a new banking culture.

Recommendations:

Based on the above findings, the following recommendations are proposed to help banking agencies—especially those under study—enhance their efforts regarding electronic payment cards and the strategic activation of digital transformation:

- Promote a culture of electronic card usage, highlighting the various benefits for banks and clients.
- Continuously develop and modernise the electronic payment cards offered by the bank.
- Build strong relationships between the studied bank branches and their clients to increase trust and loyalty.
- Pursue high-quality services, seeking to meet or exceed the standards offered by competitors.

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