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Digital Transformation of the Greek Banking Sector in the COVID Era

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Abstract: Rapid developments in digital innovation and technology in recent decades have marked a transition into the fourth industrial revolution (and the fifth social revolution), causing a significant impact on all areas of human activity. Moreover, these developments have been strongly felt with the advent of the COVID pandemic. The COVID pandemic has acted as a catalyst for imminent changes within the operational models of banks and their digitization, both locally and internationally, dealing with this peculiar crisis as an opportunity rather than a threat. In this study, after conducting a bibliographic overview of the key literature, an analysis of the digital development that took place in the banking sector in Greece was conducted, comparing the views of bank customers to those of bank employees and investigating the key factors that are believed to have a positive and/or negative effect on the use of new digital banking products and services, as well as the influence of factors determining digital banking expansion (gender, age, educational level, pandemic, etc.). The results revealed that bank customers were quite satisfied and familiar with digital transactions and wished to expand their use, while they considered the possibility of 24/7 service as an important factor in choosing to use digital banking, and the factors for expanding their use were transaction speed, transaction security, and information security. However, bank employees accept digital transformation positively and believe that for it to be successful, additional and ongoing training is required to upgrade their digital skills, which will also contribute to culture change and adaptation to the digital era. Furthermore, the age and educational level of bank customers had a statistically significant effect on the growing acceptance and expansion of the banking sector's digital transformation. A comparison of the correlations of the demographic data with answers given by bank employees did not reveal any significant variations regarding the findings given by bank customers. These findings can be useful for bank management policy-making issues, for banks and their supervising authorities to build KPIs to monitor and assess the digitalization progress, and for academics for further research, especially as the COVID pandemic ensues and the need for digital solutions is all the more urgent, marking the digital competition between banks as one of increasing intensity.

Keywords: COVID pandemic; banking sector; digital transformation

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1. Introduction

Significant advances in digital innovation and technology have ushered in the fourth industrial revolution and the fifth social revolution with far-reaching implications for all aspects of human activity. Furthermore, these changes have been amplified by the COVID pandemic, as online searches for the term "digital transformation" have surged.

The COVID pandemic has worked as a means for impending changes in bank operational models and digital transformation, both locally and globally, with banks seeing this unprecedented situation as a new opportunity. Simple transactions have tended to

disappear; physical contact with the customer has been effectively eliminated and instead carried out by electronic means. At the same time, flexible forms of work and automation of support processes (back office) have been adopted. In the current literature, an increase in banking operations, with a reduction in operating costs, is considered to be an opportunity for banks, meaning that a limitation of physical branches, with all that this could entail, which leads to network shrinkage, can be considered a threat. In addition, the majority of relevant studies reveal that digital transformation creates opportunities by increasing the customer base through new digital communication channels, thus improving the speed of services; facilitating 24 h transactions with reduced costs; and the provision of rapid measurement of customer satisfaction via improved services. Accordingly, threats to banks arising from digital transformation may include: a lack of properly trained digital staff; customer fears resulting from personal-data-violation risks due to insufficient legal protection; lack of security in case of a technical failure; nonfunctional support of machines due to a deficiency of staff or improper communication; and the inability of elderly customers to adapt to the new data in the absence of physical branches.

Due to the growing interest in the topic, since Jensen's [1] pioneering paper on digital transformation (DT), there have been many definition approaches, the main ones offered by Stolterman et al. [2]; Martin [3]; Liu et al. [4]; Westerman et al. [5]; Solis et al. [6]; Fitzgerald et al. [7]; Bondar et al. [8]; Hinings et al. [9]; and Kraus et al. [10]. Because of the growing importance of digital transformation and its implications for organizations and society, experts from around the world investigated a wide range of topics spanning industries, contexts, stages of development, and theoretical approaches. Many efforts have been made to summarize their work, with the main ones by Legris et al. [11] examining the use of information technologies and analyzing several TAM models by other researchers published between 1980 and 2001 and indicating that perceived ease-of-use variables and usefulness are the two most valuable variables for model interpretation. In their study on the adoption of digital technologies, Venkatesh and Bala [12] studied the positive relationship between perceived efficiency and perceived ease-of-use characteristics and the intention to use digital banking. It is expected that as user experience and familiarity with systems increase, this link will weaken. Reis et al. [13] provided a literature review of 206 papers on digital transformation. Vial [14] examined the works of 282 papers in order to develop a conceptual definition of digital transformation. Kraus et al. [10] analyzed the 39 most influential publications on digital transformation through a qualitative literature review analyzing the three clusters he identified: digital business transformation (including business processes and organizational implications), technology as a driver for digital transformation, and institutional and societal impacts. In the present paper, we adopted Katsamakas' [15] definition of digital transformation as the use of digital technologies to transform a firm, creating business value. He also argued that a firm seeking to maximize its digital transformation's impact should aim to create a sustainable business model (SBM). As noted by Singh and Hess [16], the term "transformation" is not simply change but includes the ability to understand and take the necessary steps when businesses are confronted with new technology.

The digital transformation of banking provides numerous advantages to both banking institutions and their clients [17]. Banks that use digital technologies save time, cut operational expenses, and optimize monitoring, risk management, and control procedures, allowing them to offer higher-quality products and services to their customers. Furthermore, banking services are made available to customers without their physical presence, and branches and services are operated with fewer workers. Consequently, lower operating costs and uniformity of internal processes lead to competitive differentiation.

Notably, as a result of the 2008 financial crisis, the Greek financial industry suffered a substantial recession, as a result of the PSI of government debt and the Greek banking institutions' lack of revenue growth. Greek banks have taken significant measures to satisfy European standards (EBA) as part of their respective restructuring plans, as well as altered their business structures. COVID-19 has hastened the digitization of Greek banks and

the restructuring of their business models in tandem with the Greek economic collapse. According to the NBG study [18], in Greece, where the business digitization index lags behind (63) compared to the EU (100) and the Balkans (77), the need for a digital upgrade of the economy was more prevalent and urgent than ever. Greek banks were called upon to introduce new and innovative digital products and services and to swiftly face and respond to the multiple challenges of the field if they sought to maintain their advantage and lead role in the business environment.

Hence, given that the new reality created in the banking environment is transforming the banking industry, in this study, we focused on Greece and conducted a survey to create a record and comparative study on the views of bank employees and customers on digital transformation and the transition of the Greek banking system into the new digital age (examining the effect of various factors in the expansion of digital banking use, such as gender, age, educational level, etc.).

The most important questions raised in this study about bank customers are: How satisfied are they with new technologies? What is their attitude and intention toward accepting and responding to the newly created digital environment? What is the extent to which new technologies are used and integrated? What are the key factors that are seen as encouraging and those that are seen as inhibiting their decision to use digital banking? How satisfied and familiar are customers with the banks' new services? Similarly, the primary concerns of bank employees are as follows: What are the primary consequences of digital transformation? What are the proposed solutions to the challenges of bank digital transformation?

The contribution of this paper is three-fold: First, as Kitsios et al. [19] also note, it can provide a valuable guide to the management of banks to adjust their policies (indicatively to introduce policies related to personnel management to build educational and training programs that can aid the smooth transition of employees to the new digital age); at the same time, it can help to serve customer needs to mitigate the negative effects of digitalization. Secondly, it can provide guidance to build appropriate KPIs (key performance indices) to make the digitalization progress useful both for banks (in order to evaluate whether their investments in digitalization are appropriate and whether they produce the expected results) and their supervising authorities to monitor financial systems. Lastly, it adds value by contributing to current academic information, enabling future scholars, particularly those interested in studying the Greek financial sector, to find appropriate ground and base their research on previous literature.

The rest of the paper is organized as follows: First, a bibliographic overview of the key relevant studies addressing the main challenges of digital transformation is presented. Then, the methodology used in carrying out the study follows, along with a comparative assessment of the results obtained against those of previous studies. Finally, the main conclusions and their potential implications are discussed, along with thoughts for further study and research.

2. Literature Review

The modern era of rapid, radical change in the economic and social environment is considered by many to be a transitional stage towards a future in which alternative networks and machines will replace humans.

As stated in Stavrou's research [20], the forms of digital transformation can be divided into three general categories:

a. *Transforming the customer experience.* Digital tools, such as social media, which utilize the digital skills and knowledge of the company aid it in promptly comprehending customer preferences whilst allowing it to export data for future use.
b. *Transformation of business processes.* The use of automated processes allows business executives to focus on strategic processes, increasing their efficiency in this way and contributing to further business development. Meanwhile, the implementation of digital collaboration and visualization tools allows for working away from the

office (teleworking) whilst facilitating collaboration and mutual communication. The COVID-19 pandemic has urged digital transformation to proceed at a much quicker pace in both private and public sectors, to expand telework working hours, and to look for new ways of organizing production both locally and internationally.

c. *Transformation of business models.* Digital transformation is revealed through modifications in the experiences and mentality of the consumer, leading to the digitization of the availability of products and services, as well as the formation of new economic models related to the advanced operations of a company.

The liberalization of capital, technological advancements, digital service innovations, and finally the replacement of indirect corporate loan financing with direct forms of fundraising have changed the operating conditions of banks and the overall range of products offered to customers. Banks that adhere to global digital transformation standards are constantly upgrading their digital services (electronic payments, electronic markets, platforms, social media, and so on) in order to adapt to the changing conditions of ever-increasing competition. These adjustments were noticed sooner than one would expect, because of the COVID-19 pandemic.

As noted by Microsoft [21], digital transformation is based on the four interrelated pillars of: operational improvement; the transformation of products offered; employee empowerment; and the strengthening of customer satisfaction. Bank customers, according to Cuesta et al. [22], are demanding new ways to use financial services as the digital transformation of the banking business evolves. It should be noted that from the study conducted by Laforet and Li [23], when the systematic adoption of digital banking services started in China, in which 300 bank customers were studied, it was found that the three main factors influencing the use of digital banking are: convenience, security, and the benefits derived from its use. Additionally, the success of digital transformation depends on age (younger people are more positive), occupation, and educational level (the higher their level, the more positive they are). Amin [24], after studying the views of 520 bank customers in Malaysia, found that Internet-banking service quality has a strong positive impact on e-customer satisfaction and e-loyalty and suggested that banks should focus on them as part of their digital transformation. Suhaimi and Bin Abu Hassan [25] discovered that perceived ease of use was the most important element in their study on the characteristics that determine the acceptance of digital banking in Malaysia. In their study, the association between perceived usefulness and the intention to use digital banking was not significant, nor was the relationship between perceived self-efficacy and the intention to use digital banking. In their study for Indonesia, Sudarsono et al. [26] observed that during the COVID-19 epidemic, perceived usefulness had an important effect on the intention to use digital banking, while perceived ease of use had little effect on the choice to use digital banking. The findings of these studies could be considered a chance for the banking industry to push regulations that will increase the use of digital banking. In their study for Iran, Shahabi et al. [27] concluded that the spread of COVID-19 can be a significant determinant for providing applicable practices to formulate strategies to improve banking services, increase employee acceptance of digital banking, and make changes to traditional working processes. Diener and Spacek [28] noted that from a managerial perspective, age and employee digital-qualification insufficiency are among the most significant barriers to digital transformation in banking.

The empirical studies that have been conducted have tried to identify the factors that positively and negatively affect the successful development of digital transformation in the banking sector from the side of bank customers to the side of bank employees. Based on this classification, a summary of the findings for Greece is presented in Figure 1, which follows.

Type	Author	Data	Key Factors Affecting Digital Banking Transformation
Bank Customers	Santouridis & Kyritsi (2014)	266 bank customers	Survey in suburban area. Important customer factor for using digital banking is usesfulness and transaction security issues. Higher income customers less willing to adopt digital banking
	Batsilas (2018)		Theoretical. Sets 24/7 service and transaction security as important customer incentives for using digital banking, noting the need for digital banking training for employees
	Lantzakis (2018)	180 bank customers	The main reason for choosing digital banking is to avoid queues at branch counters, it is considered secure and is mainly used for making payments
	Tzanopoulou (2018)	120 bank customers	The majority chooses digital banking and the main factors that encourage its use are 24/7 service, time saving, convenience and speed of transaction. The main inhibitors to its use are lack of digital knowledge, transaction security issues and transaction privacy issues. The majority were familiar with new technologies Customers are significantly satisfied. They consider the most important factors for increasing its use to be security (4.46), training of employees (4.28). Age is associated with digital familiarity (younger people more inclined to it)
	Hatzitoliou (2021)	450 bank customers	During the COVID period, the motivation was avoidance of movement (62.2%) and speed (56.4%). The decision to use digital was not influenced by gender, age, place of residence and educational background. The majority responded that COVID changed their buisiness ways to electronic and will not change after the pandemic
	Psallida (2021)	401 bank customers	By using digital banking mainly via their mobile phones, they feel secure and carry out all kinds of transactions. COVID increased digital banking usage and reduced visits to branches preferred by older customers. Proposal: training of employees in digital; redesign of services for older customers
	Tsourapis (2022)	120 bank customers	24/7 accessibility is an important factor in choosing digital banking
Bank Employees	Perraki (2019)	81 bank employees	Familiarity with digital technology is important
	Segounis (2019)	278 bank employees	The majority, although they find digital transformation in banking useful, believes that their jobs are at risk and that this can be mitigated by digital training
	Giatsidis (2020)	161 bank employees	The majority of employees show that they accept the new data and are not negative to accept newdigial methods and practices. Employees do not seem to feel any kind of threat from the digitalization of banking operations, they ask for guidance, training and training opportunities. Age is an important factor.
	Kitsios et al. (2021)	161 bank employees	Processing a larger amount of work faster. Age and educational level impact the use of digital banking.
Both	Tsetos (2019)	160 bank customers and 107 bank employees	Customers and employees both had a fair to very good understanding of new technologies, with employees having a slightly higher level of understanding. Employees are more likely to conduct transactions via web-banking and mobile baking. The most important reason for customers to use digital banking is speed (4.61) and the 24/7 service for employees (4.77). Customers' security concerns (3.35), as well as employees' lack of knowledge (2.95), are the most significant barriers to using digital banking. Satisfaction with digital banking is high, higher for employees (4.04 compared to 3.71). Employees estimate that the main consequences will be job losses (4.03) anddevelopment of digital skills (3.96). 91.6% of them consider that the digital transformation of banking has not yet brought the expected results and that it should be based both on investments in digital products and services and on employee training as digital culture is an important factor for the transition

Figure 1. Synopsis of key findings of the main recent studies for Greece [19,29–39].

3. Data Description and Methodology

A survey was conducted and the views of bank customers and bank employees on the factors that act for/against promoting digital transformation in the Greek banking sector were analyzed and evaluated. More specifically, a sample of 215 participants were surveyed, 97 of which were bank customers and 118 bank employees (working in the

National Bank of Greece, Piraeus Bank, Alpha Bank, and Eurobank), and the influence of factors determining digital banking expansion was examined.

The sample was drawn in June 2021 through the use of the random data-sampling method (to ensure the randomness of selection and sample representativeness [40]), using a self-administered questionnaire of closed-ended questions. The surveyed (bank employees and customers) were informed that their participation was voluntary and anonymous. They were also informed that they could withdraw from the survey at any time without them having to explain. Data collection took place over a period of ten days. The questionnaires were shared electronically through the use of the Google Forms platform and were sent via social media (Facebook and Instagram) or email. After completing the questionnaire, the sample members sent their responses electronically. The statistical analysis performed was both descriptive and inductive. The responses to the questionnaires were analyzed in order to draw conclusions based on the main structural characteristics of the sample (gender, age, and educational level) and the impact of the pandemic.

The questionnaires included 5 questions about the sample's structural characteristics, 18 questions about both categories of the sample (bank customers and bank employees), and 7 additional questions about bank employees only. The questionnaire was designed in this manner to allow for comparable conclusions to be drawn between the two categories and to identify any differences between them, as well as for the findings to be comparable with those of previous relevant studies on the two categories so that trends could be identified (as discussed below). This is also one of the main contributions of this study, as the majority of studies in the literature (as shown in the above analysis) refer to only one of the two categories.

The structural characteristics of the sample participants, i.e., bank customers and bank employees, are presented in Figures 2 and 3, respectively.

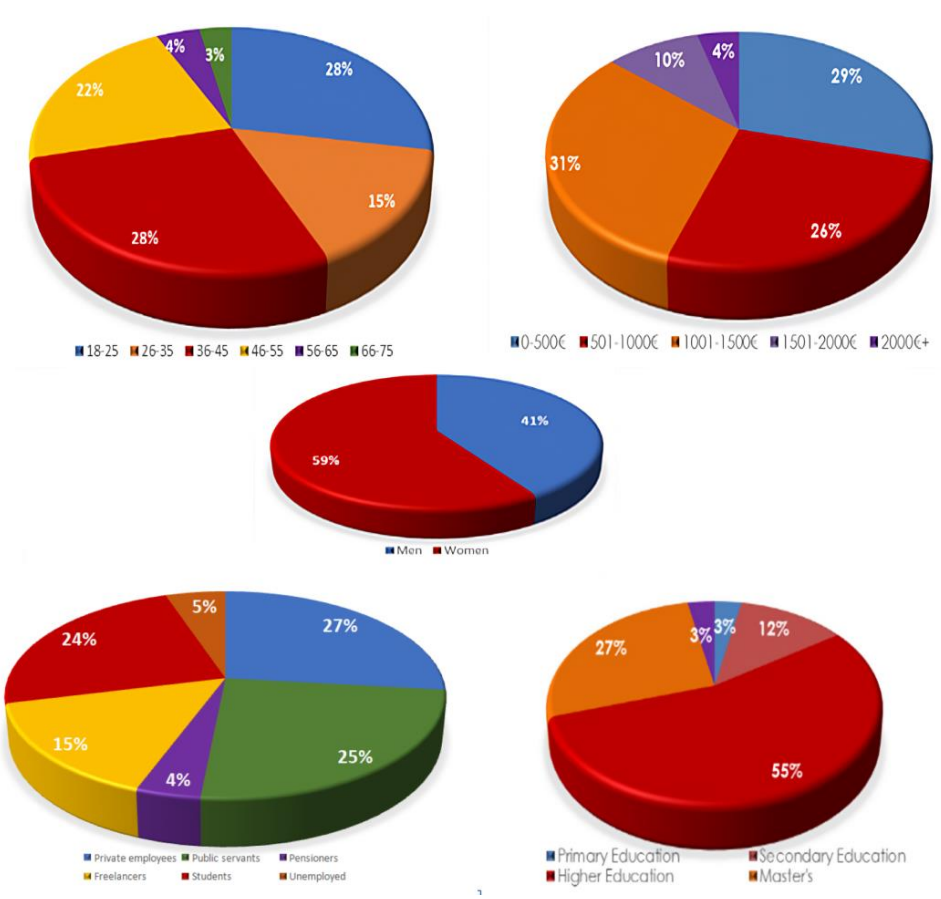


Figure 2. Structural characteristics of bank customers sample.

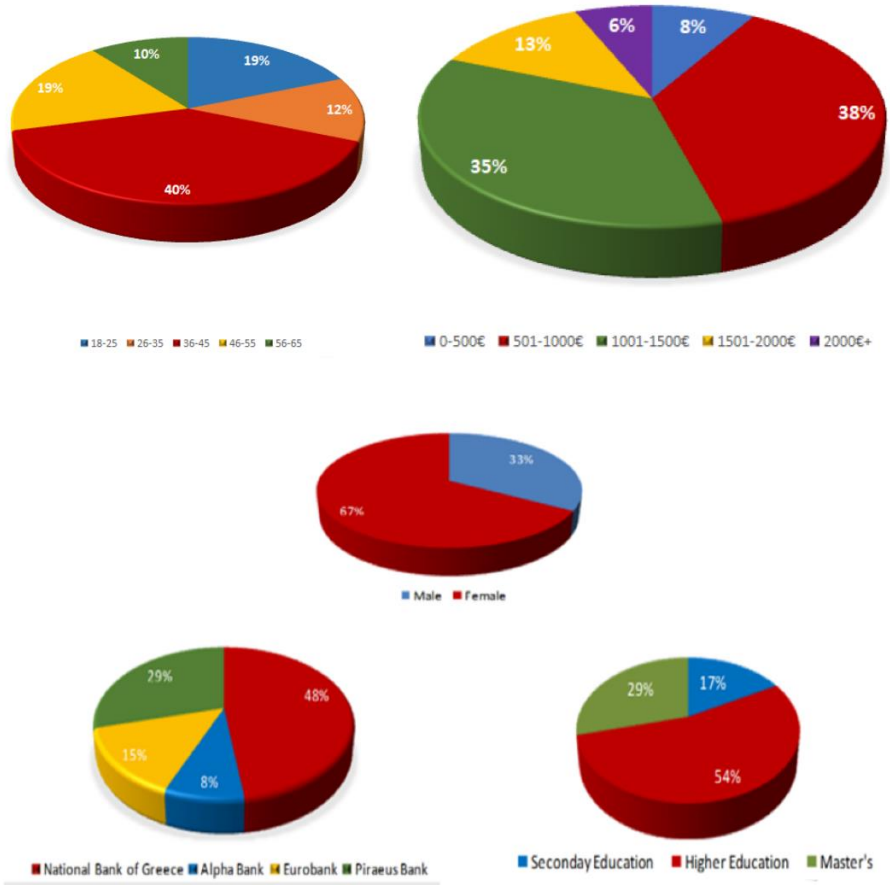


Figure 3. Structural characteristics of bank employees sample.

4. Empirical Findings and Discussion

4.1. Bank Customers Analysis

The main findings of the bank customers analysis are summarized below. In total, 43% of the sample of customers answered that they had a very to very good level of knowledge of new technologies, with only 22% saying that they were somewhat familiar. There was a longitudinal increase in the level of knowledge and familiarity of customers with digital technologies compared to the studies of Santouridis and Kyritsi [29], Lantzakis [30], Tzanopoulou [31], Tsetos [32], and Psallida [33], which shows the positive evolution and acceptance of the digital transformation of the banking sector in Greece.

The marginal majority (53%) of the sampled and surveyed customers claimed that they had made account payments or purchases through a third party, nonbanking organization, whilst 61% considered the electronic trading platforms offered by the Greek banking system to be significantly user-friendly. A total of 70% of customers claimed they would use online applications to open an account, issue a credit card, apply for a loan, or transfer money. According to Lantzakis [30], the results are consistent with Psallida [33] and show that COVID has had a positive impact on the expansion of the range of transactions carried out by the majority of bank customers, who previously only made digital payments.

In addition, 90% of customers agreed that electronic transactions have improved their quality of life due to technological developments. These findings are in line with those of Tzanopoulou [31], Tsetos [32], Batsilas [34], and Tsourapis [35], which concluded that 24/7 service is one of the most important motivators for using digital banking, and Psallida [33] and Hatzitoliou [36], which concluded that COVID-19 changed the way of banking (to avoid travel and save time) by increasing digital transactions and that this will not change after the pandemic is over. These findings are independent of gender, age, and

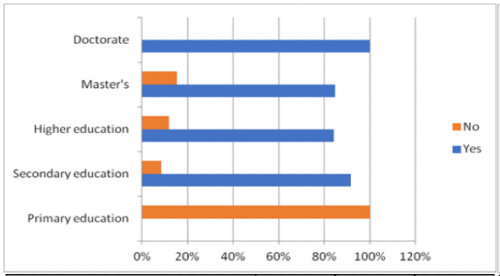
educational background. Note that the importance of saving time was also specifically highlighted in the studies by Lantzakis [30] and Tzanopoulou [31].

Half of the sampled customers were significantly satisfied with the services offered in the network of stores with which they collaborate, and although the transition from physical service to digital channels was—more or less—positively reviewed by 44% of customers, 66% of them claimed that in the future, they would be unwilling to collaborate with a bank operating exclusively on digital terms. The findings confirm those obtained by Tsetos [32]. As shown in the diagram and the corresponding Pearson chi-square test in Figure 4 below, the educational level of bank customers had a statistically significant effect on their decision to utilize electronic applications for basic banking functions such as opening an account, issuing a credit card, applying for a loan, or money transfer, in accordance with Tsetos [32].

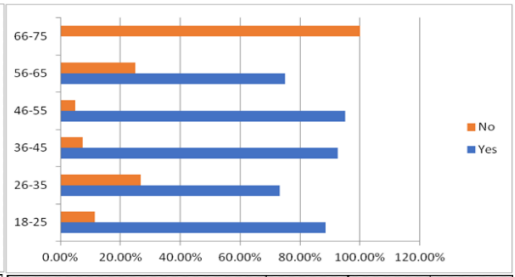
Educational Level	χ2	df	p
Pearson Chi-Square	9.523	4	0.049
Likelihood Ratio	10.548	4	0.032
Linear-by-Linear Association	5.275	1	0.022
Valid N	97		

Figure 4. Pearson Chi-Square test on the decisiveness of a customer's educational level on their decision to utilize electronic applications for basic Banking functions: account opening/credit issuance/loan application/and money transfer.

85% of customers would recommend an e-banking service or application to others. As shown in the relevant diagrams and the respective chi-squared Pearson tests in Figure 5 below, educational level and age had a statistically significant effect on this proposal. These findings are consistent with those of Tzanopoulou [31] and Tsetos [32].



Educational Level	χ2	df	p
Pearson Chi-Square	18.634	4	0.001
Likelihood Ratio	13.288	4	0.010
Linear-by-Linear Association	3.368	1	0.066
Valid N	95		



Age	χ2	df	p
Pearson Chi-Square	22.267	5	0.000
Likelihood Ratio	16.750	5	0.005
Linear-by-Linear Association	1.882	1	0.170
Valid N	95		

Figure 5. Diagrams and Chi-Squared Pearson test effect of Customer educational level, on the decision to suggest a service or electronic banking application to others.

As seen in Figure 6 below, age and level of Education had a statistically significant effect on a customer's depth of knowledge concerning new technologies and on their familiarity. Furthermore, educational levels were found to statistically and significantly influence the assessment of functionality in terms of usability of the existing electronic platforms of the Greek banking system ($F(4) = 3592$, $p = 0.009$). These findings are, once again, in line with the above findings on the effects of educational levels (found to be relatively higher at younger ages) and also with those of previous pertinent studies by Tzanopoulou [31] and Tsetos [32], therefore confirming the long-term significance of the findings.

	EDUCATIONAL LEVEL			AGE		
	F	**df**	**p**	**F**	**df**	**p**
What is the level of education regarding new technologies?	6.126	4	0.000	2.454	5	0.039
How familiar are you with new technologies?	7.440	4	0.000	5.369	5	0.000

Figure 6. Statistically significant ANOVA of educational levels and Age with regard to the level of knowledge and familiarization of customers with new technologies.

Bank customer estimates for the key positive and negative factors of digital transformation are presented in Figure 7 below. It becomes apparent that the key factors positively influencing the utility of new digital products and services are: immediate information (86%), control of the transaction (85%), and low costs (79%), followed by ease of use. Negative factors include anxiety concerning the loss of employment (80%), issues of privacy (63%), and security issues (57.5%), followed by an approximately 50% lack of knowledge of/familiarity with new technologies and lack of human contact. These findings are consistent with those of Tsetos [32], confirming the long-term significance of the findings.

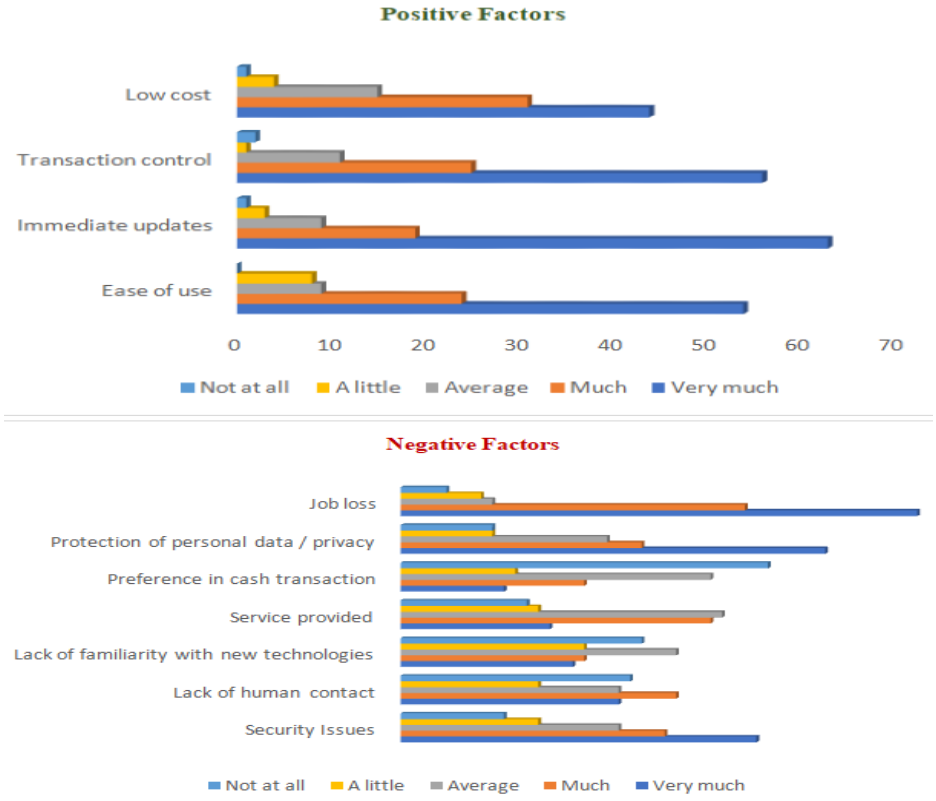


Figure 7. Customer evaluation for positive and negative digital transformation factors.

The positive and negative factors were statistically and significantly affected by the educational level of bank customers and their age, as shown by the ANOVA correlation, and they are presented in Figure 8 below. The findings are in line with those of Tsetos [32], confirming the long-term significance of the findings.

EDUCATIONAL LEVEL	F	df	p
POSITIVE FACTORS			
Speed	13.365	4	0.000
Ease of usage	6.156	4	0.000
Immediate updates	3.217	4	0.016
Transaction control	2.896	4	0.026
NEGATIVE FACTORS			
Lack of human contact	4.037	4	0.005
Lack of knowledge/adaptation with new technologies	4.326	4	0.003
Preference in cash transaction	2.637	4	0.039
Security concerns			
AGE	F	df	p
POSITIVE FACTORS			
Ease of usage	4.711	5	0.001
Immediate updates	2.662	5	0.027
NEGATIVE FACTORS			
Lack of knowledge/adaptation with new technologies	4.274	5	0.002
Security concerns	2.887	5	0.018

Figure 8. ANOVA of educational level and age with the positive and negative factors that statistically and significantly affect customers in the use of alternative networks.

Regarding the effects of customers' gender, according to the *t*-test as shown in Figure 9 below, it was found that gender statistically and significantly influenced a customer's responses to the following two positive factors for the use of alternative networks: speed (t (47, 96) = 2.75, $p = 0.008$) and ease of use (t (55.08) = 2.60, $p = 0.012$). It is interesting to note that women rated speed and ease of use higher than men did.

	t	df	p	*MEN*		*WOMEN*	
				MEAN	STD	MEAN	STD
Speed	2.754	47.963	0.008	1.760	1.101	1.240	0.508
Ease of use	2.602	55.076	0.012	2.030	1.174	1.470	0.710

Figure 9. Statistically significant effect of gender *t*-test on positive factors, for the use of alternative networks.

4.2. Bank Employees Analysis

Concerning the surveyed bank employees, the main results are summarized below. In total, 62% of bank employees believed that the transition of Greek banks to the digital environment has already yielded the expected profits, while this estimate was 8.9% at the time [32]. It is estimated that this is a result of the exponential increase in the use of digital banking applications and services after 2019–20 due to the COVID pandemic.

Bank employees' estimates of the consequences of digital transformation are presented in Figure 10 below, where one can discern their conviction that this transformation will lead to a highly competitive environment (83%) and job losses (75%). The latter assessment, as mentioned above, is common to both customers and employees. What is more, 65% of the sampled employees claim to view the digital transformation as one which will lead to the development of their skills. As a result of the aforementioned, approximately half of them have estimated that the development and upgrade of their positions will be directly correlated to efficiency, i.e., digital transformation will contribute to the productivity and efficiency of banks.

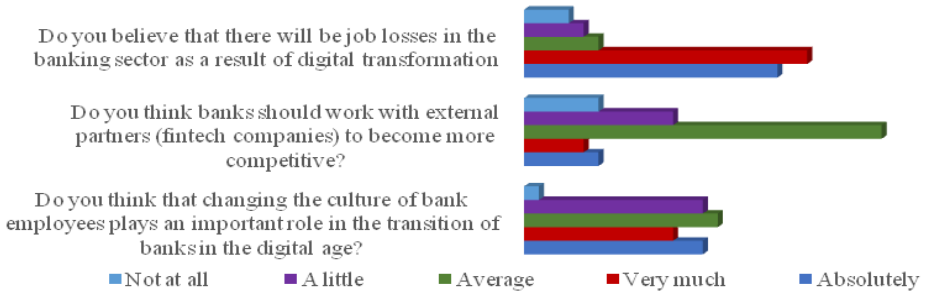


Figure 10. Bank employee estimates on the impact of digital transformation factors.

Almost half of the surveyed banking employees (46%) estimate that maturation in the banking culture will play a pivotal role in this overarching transformation. According to the relevant study of NBG [18], digitization is a function related to two factors: the environment and human capital. The discernment of the interviewed employees was in full agreement with the above study, as when asked the relevant question, they answered (87.5%) that in order for banks to achieve digital transformation, they must invest in both factors. In fact, 62% of them replied that the banks they work for train them through seminars and/or training programs for the development of their digital skills.

These findings are in line with those of Tsetos [32], Perraki [37], Segounis [38], Giatsidis [39], and Kitsios et al. [41].

A comparison of the correlations of the demographic data with answers given by bank employees did not reveal any significant variations regarding the findings given by bank customers. As shown in Figure 11 below, age was indeed found to have a statistically significant effect on most questions answered by bank employees regarding the effects of digital transformation, per Giatsidis [39] and Kitsios et al. [41].

	F	df	P
Job loss	3.968	4	0.008
Development of employee skills	4.832	4	0.003
Position upgrade for efficiency	2.882	4	0.034

Figure 11. Correlation of ANOVA effects on digital transformation and bank employee age.

5. Concluding Remarks

The results of this paper may provide banks' supervising authorities with guidance to build appropriate KPIs (key performance indices) to chart and monitor the digitalization progress. Indicatively, banks may utilize them to determine if their digitalization investments are suitable and producing the desired effects, and supervisory authorities could introduce policies or programs to promote the digital adjustment of bank customers. Academics may utilize these results to discover an appropriate basis and frame their future study.

It should be noted that the data that led to the findings of this study were and should be evaluated under the constraint that they were, as mentioned, collected electronically. Therefore, the bank customers and bank employees surveyed had familiarity with the technology (otherwise they would not have been able to answer the questionnaires).

Additional research could also include the analysis of a larger sample of bank customers and bank employees, classified into more categories such as urban and nonurban regions, to account for this factor and to allow for the comparison of data per bank on the progress of systemic banks' digital transformation. It could also be extended to a similar study of nonsystemic banks as well as loans and credit management companies (servicers) (which are also supervised just like the banks by the Bank of Greece) which are growing as they take over the management of an increasing part of the Banks' "overdue" loans.

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