

**IMPLEMENTING DIGITAL TRANSFORMATION
STRATEGY THE CASE OF A LOCAL TURKISH BANK**

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**IŐIK UNIVERSITY
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ABSTRACT

Banks' digital transformation process became the most distinctive feature of developed businesses in this millennium, not just a trend or an option to adopt, it became a necessity for growing finance businesses at competitive markets. The goal of this thesis is to focus light upon advantages and effectiveness of digital transformation strategy implementation at one of financial institutions, a “bank” in the republic of turkey through descriptive qualitative research methodology.

When the bank decides to apply digital transformation, all management levels have to collaborate to formulate a strategy roadmap for a long period of years, to shape the right business model in addition to suitable Fintech projects that will follow.

Not far away the finance industry and Banks are the most affected sector by digital transformation strategy to keep on with developing their competitive advantages in the global market. “Fintech” is a portmanteau of financial technology, which is an abbreviation for "financial technology." Therefore, Fintech is a term that relates to software and applications for both computer and mobile devices.

Efficient Fintech application technology affects both internal and external stakeholders. Internally, all managerial processes and workflow upgraded and reviewed in regard to fit with digital transformation strategy. Externally, satisfying digital customer needs. Therefore, achieving desired effectiveness of bank digital transformation strategy, faced major changes and challenges such as choosing main digital projects for deployment, developing and educating staff, priority of digital fintech projects, analyzing customer-centric problems to commence digital solutions, building internal human resources digital culture, designing digital skills and competencies through training and development, drawing digital customer journey roadmap, redefining bank’s communication framework processes to build future digital customer.

Digital transformation strategy of the bank changed the traditional concept of branches, as well as the bank's financial services and relationships with customers, through new projects of fintech Technologies.

Keywords: Digital transformation strategy, financial technology (Fintech), Workflow, Digital projects, Effectiveness.

DİJİTAL DÖNÜŞÜM STRATEJİSİNİN UYGULANMASI YEREL TÜRK BANKASI ÖRNEĞİ

ÖZET

Bankaların dijital dönüşüm süreci, bu milenyumda gelişmiş işletmelerin en belirgin özelliği haline gelen bir trend veya benimseme seçeneği olmaktan çıkıp, rekabetçi piyasalarda büyüyen finans işletmeleri için bir zorunluluk haline geliyor. Bu Tez çalışmasının amacı, tanımlayıcı nitel araştırma metodolojisi aracılığıyla Türkiye Cumhuriyeti'nde biri "Banka"nın dijital dönüşüm stratejisinin avantajlarına ve etkinliğine ışık tutmaktır.

Banka dijital dönüşümü uygulamaya karar verdiğinde, tüm banka yönetim kademelerinin uzun yıllar boyunca strateji yol haritası oluşturmak, doğru iş modelini şekillendirmek ve ardından uygun Fintech projelerini şekillendirmek için işbirliği yapması gerekiyor. Finans sektörü ve bankalar, küresel pazarda rekabet avantajlarını geliştirmeye devam etmek için dijital dönüşüm stratejisinden en çok etkilenen sektörlerdir. "Fintech", "finansal teknoloji"nin kısaltmasıdır. Bu nedenle Fintech, hem bilgisayar hem de mobil cihazlar için yazılım ve uygulamalarla ilgili bir terimdir.

Verimli Fintech uygulama teknolojisi hem dahili hem de harici paydaşları dahili olarak etkiler; Bu vakada dahili olarak; tüm yönetim süreçleri ve iş akışı, dijital dönüşüm stratejisine uygun olacak şekilde güncellendi ve gözden geçirildi. Harici olarak, dijital müşteri ihtiyaçları karşılandı. Bu nedenle, banka dijital dönüşüm stratejisi uygularken istenen etkinliği elde etmek, dağıtım için ana dijital projeleri seçmek, personel geliştirmek ve eğitmek, dijital çözümlere başlamak için müşteri merkezli sorunları analiz etmek, dahili insan kaynakları oluşturmak gibi büyük değişiklik ve zorluklarla karşı karşıya kaldı. Dijital kültür, eğitim ve geliştirme yoluyla dijital beceri ve yetkinlikler tasarlama, dijital müşteri yolculuğu yol haritası çizme, geleceğin dijital müşterisini oluşturmak için bankanın iletişim çerçevesi süreçlerini yeniden tanımladı. Bankanın dijital dönüşüm stratejisi, fintech teknolojilerinin yeni projeleri yoluyla geleneksel şube anlayışını, bankanın finansal hizmetlerini ve müşterilerle olan ilişkilerini değiştirdi.

Anahtar Kelimeleri: Dijital dönüşüm stratejisi, Finansal teknoloji (Fintech), İş akışı, Dijital projeler, Verimlilik.

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LIST OF ABBREVIATIONS

DTS	:Digital Transformation Strategy
Fin-tech	:Financial Technology
R&D	:Research and Development
XTM	:Extreme Teller Machine
ID card	:Identification Card
RPA	:Robotic Process Automation
AI	:Artificial Intelligence
KYC	:Know Your Customer
SBU	:Strategic Business Units
BM	:Business Model
DMM	:Digital Maturity Model
ATM	:Automatic Teller Machine
P.O.S	:Point Of Sale
QR-Code	:Quick Response Code
LCD	:Liquid Crystal Display
GPS	:Global positioning System
EFT	:Electronic Funds Transfer
NFC	:Near Field Communication
SMS	:Short Message Service
TL	:Turkish Lira
SMEs	:Small Mid-size Enterprises
3D	:Three Domains
OTP	:One Time Password
ADSL	:Asymmetric Digital Subscriber Line
PIN	:Personal Identity Number

SSL	:Secure Sockets Layer
FTP	:File Transfer Protocol
TCP	:Transmission Control Protocol
IP	:Internet Protocol
CSO	:Customer Service Officer
IVR	:Interactive Voice Response
Covid-19	:Coronavirus Disease of 2019
NPS	:Net Promoter Score
KPIs	:Key Performance Indexes

CHAPTER 1

1.DIGITAL BANKING ERA

1.1 Introduction

Banking financial services and products touch every part of our lives, whether we check the balance, paying for online purchases or arranging a loan. We expect the same seamless, and personalized experience. Thus, it is not a surprise to hear that delivering great digital banking experience is the top priority for today's banks.

This is the top of the iceberg in terms of digital transformation. Therefore, below the surface there are systemic shifts happening, additionally, banks try to compete more effectively in that dynamic digital world.

Every year, the global amount of digitalization technology increases dramatically. As a result, digitalization has become a distinguishing feature of our society; it is continually modifying and redefining every area of our lives, allowing us to make decisions and assess the outcomes of our efforts. As a result, digital transformation is sweeping the banking sector like a tsunami, fueled by technical advancements that make process optimization and customer happiness a must rather than an option. The process of adapting to a rapidly changing digital landscape in order to satisfy the digital expectations of customers, employees, and partners are known as digital transformation. This adoption process must be actively planned, begun, and carried out. Fintech is entering the financial services sector, while margins in traditional banking areas like managing physical deposit businesses are diminishing

all the time. As a result, fintech companies are flooding the market with new digital financial goods and services. Trust and customer experience have become critical factors in the new banking world's supremacy banking competition.

In terms of our dissertation, bank realized that digital transformation strategy based on main priorities to digitize its financial products and services for all customer levels (SME's, sole trader, normal person customer). First priority is customer experience, that is something banks have improved from what banks have done in the past, and continuously the bank needs to be where the customer is. In the digital age, this is available on any smart device at any time. Second priority is operational efficiency; thinking about digital, there will be many new competitors that are not necessarily only banks, they can be none banks as well and they come from different legacy, much leaner cost structures is needed. Therefore, building operational efficiency with updated managerial infrastructure are at the top of mind.

Third priority is data-driven intelligence; banking has become more and more a data-driven business. Not only managing data is important, but also managing data, banks tend to provide analytics data for customers that do not exist in traditional process, which leads again to improve customer experience and upgrade their financial digital expectations. Therefore, those priorities are all related to each other.

Generally, bank's digital transformation strategy focuses mainly on both front-to-end with end-to-end product services that control and drive customer experience at the right route. At the same time digital transformation, focus on the bank operations for example their core banking platforms, digital projects implementations as well as the entire operational data management controlling. For example, bank implement new digital platforms such as "your bank" platform to provide customers a new seamless digital experience around online self-opening accounts, as well as cash management.

Bank implements a vast number of digital solutions that focus on customer experience using smart devices and banks technologies to do their own analytics (for example; calculating their deposit margins through bank's mobile branch or their official internet website), and self-services through (XTM) machines. Obviously, with the new innovative financial products, they increase customer experience tremendously, in addition to increasing the win rate of new digital customer that is exactly what the outcome needs to be when you think about adopting a digital transformation strategy. In terms of banking artificial intelligence technological

machines, bank has deployed innovative technologies that played the biggest role of moving forward achieving perfect digital transformation strategy.

There is a combination of technology that depends on how embedded in the business process. When we look at how a bank financial system looks, there are things we have to keep in mind; first, it must be a low-touch environment, which means highly automated. As a result, it will lead to understanding that using technology tends to remove manual intervention. Therefore, automating banking processes takes out manual efforts and interventions as much as possible and expands customer experience at the same time.

Second factor is around personalization. Digital customers expect personalized services, when we speak about the experience economy, it is not suitable just to provide a product that fits everyone needs in general, therefore, digital banks shift to personalized products and services based on data inside. Third factor is that data-driven intelligence, bank has recruited data scientists, because all digital transformation strategy aspects and building infrastructure depend on the data-driven intelligence. Therefore, based upon the above factors and challenges, our thesis will discuss implementing bank digital transformation strategy effectiveness and advantages that drive a new era of customer experience, new smart devices and technological machines that goes along with it.

1.2 Mentioning about FINTECH necessity as mainstream and source of banks digital transformation strategy:

Fintech is a short form of "financial technology," and it refers to a wide range of products. The financial services industry is transforming because of new technologies and business models. It used to describe everything from online and bank card payments to heavy funding sites, financial robot advisors, as well as virtual currencies. Paying for something with your phone, moving money with an app, or viewing your bank statement online are all part of the big amount of investment "fintech" business that is transforming economies throughout the world. Fintech has changed banking and finance industries by changing the way of pay and borrowing money.

Global investment in financial technology ('fintech') ventures has more than tripled during the last five years – from under \$930 million in 2008 to more than \$2.97 billion in 2013(Accenture Report,2013).

Fintech is not just for beginners' companies and just banks as financial entities, some of the world's largest corporations, such as Apple Pay and Alibaba pay, are investing heavily in it. This is one of the main reasons for consumer adoption to be quick.

Traditional bankers, insurers, and asset managers have been forced to embrace new digital technologies because of the development of fintech. Like any other rapidly rising business, it is not without its dangers. In comparison to traditional banks, some authorities have struggled to keep up with the rapid rate of innovation. Consider peer-to-peer lending systems, where individuals borrow and lend without going through a bank. In the event that customers default on their loans, these services may not be obligated to set aside as much money. This can be dangerous for both businesses and consumers. As more financial services go digital, data privacy is becoming more of a worry. As more organizations go digital, the issues facing financial technology are certain to grow. Fintech, on the other hand, is more than a buzzword for many companies and consumers; it has a huge commercial potential. The fintech sector is rapidly evolving; fintech refers to the process of developing new technology-based financial enterprises. Fintech is a service industry that leverages mobile-centric IT technologies to improve the financial system's efficiency.

The term "financial technology," or "Fin-Tech," refers to financial solutions that are enabled by technology. Fin-Tech encompasses the complete set of services and products usually supplied by the financial services industry, rather than being limited to certain sectors (e.g., financing) or business models. For example, peer-to-peer (P2P) lending models.

1.3 Research motivation

What are the main motives to write my thesis about implementation digital transformation strategy (DTS) effectiveness and advantages on workflow at bank?

In recent years, especially in the Turkish banking sectors, there is a heavy massive competition between banks for introducing new Fintech products and services, by developing their digital infrastructure to attract more customers and gain bigger market share of financial markets. Fintech deployment varies from bank to bank to convince customers those new models of financial services become easier based on using their smart devices (mobile phones, tablets, laptops, etc.) bank applications to

save customer time and achieve higher level of customer satisfaction. As a bank customer, I personally mentioned cutting to edge new fintech services, which sometimes exceed expectations. With bank digital transformation projects (Your bank, (XTM), and mobile application) formulate a motive to do more research in depth about the effectiveness and advantages of implementing a digital transformation strategy of a bank.

1.4 Methodology and research questions:

1.4.1 Research Problem:

Due to below reasons and necessities:

- Growing competition in the finance sector especially at banks. In addition to,
- Responding to achieve internal & external strategic business competitive advantages.
- Introduce optimum digital bank product and service.
- Converting into branchless bank concepts.
- Overcoming all bank's workload neck bottles.
- Paperless and environmental protection are of primary importance.
- Avoiding bank long time customer's ques.
- Developing customer journeys.
- Building digital bank end-to-end customer experience.
- Reflecting organized internal team working.

Most banks adopt different levels of fintech (digital transformation strategies) to solve internal workloads problems by setting a strategic roadmap to exceed customers' expectations with innovative fintech digital products and services projects.

1.4.2 Research Questions:

RQ-01. How does the digital transformation strategy of a bank be effective in the workflow?

RQ-02 - What are the main advantages of digital projects implementation of bank over workflows?

1.4.3 Research Methodology:

The research methodology is descriptive qualitative one, done through two ways:

1- Primary data collected through online interviews (two sessions on zoom- due to conditions of Covid-19 pandemic) by pre-designed open-end questions model with bank senior (manager digital transformation and innovation department), is responsible for planning and implementing the bank's digital transformation strategy. That senior has delegated from bank senior management to answer pre-sent emailed questions in regard respecting bank privacy policy of disclosing confidential information.

In this thesis we used questionnaire collected primary data at:

- Thesis finding's part.
- Analysis and discussion section.

2 – Secondary data through collecting, studying and analyzing of bank's published annual reports, informative corporate website, bank's publications, as well as bank's social media posts and seniors' business interview videos about the bank's digital transformation strategy's adoption, rollout, and execution.

In this thesis, we used to collect secondary data (bank annual reports, bank publications, bank website information, and Bank social media formal posts) at stated specific parts:

- Explaining background of bank digital transformation strategy evolution.
- Explaining bank strategy group structure.
- Contributing in explanation of bank main digital transformation strategy projects.

1.4.4 Research Approach

In this thesis, our following research method type is qualitative research method. Why go by qualitative research methods? In our thesis, the nature of collecting, processing, examining, and analyzing data of the implementation digital transformation strategy of bank" depends on measuring qualities on certain factors asked in depth by conducting online interviews with bank's senior who are responsible

for planning, and implementing (DTS) at the bank. The use of a systematic methodology to solve problems, explain a phenomenon, or simply analyze an interesting tale is what qualitative research is all about. In our case we followed a predesigned questionnaire depending on “open-end” questions mostly started with (how, what, how much, who, and which), to collect and understand in detail all consequences of digital transformation strategy at the bank.

Because qualitative methods focus on qualities in a sample, or case study that best understood holistically or contextually, which is an appropriate way to build an overview point at the digital transformation strategy. Qualitative methods take a variety of forms depending on the project at hand, and there are a number of tools, it's toolkit they could include things like textual data or social media. In our thesis, the qualitative research method was helpful by collecting important details and data about bank (DTS) through bank annual published reports since 2009, and by bank digital projects published manuals and bank's publications. At the same time, there were introductory videos on bank social media channels considered as supplementary sources of data, which were helpful for the completion of the holistic process. Qualitative research methods provide an inside perspective, focusing on lived experience in order to adopt digitalization at bank by describing what customers and stakeholders are acting and saying orally, rather of imposing an external researcher viewpoint, as well as demonstrating participants' local perspectives, experiences, and tales.

The qualitative research approach preserves the sequential flow of events by using a pre-designed questionnaire to chronicle which events lead to which outcomes, as well as elucidating how and why the digitization process came to be in that state. Qualitative research is likewise comprehensive, providing more than just a fast picture. It recounts the histories of that data and living color with the bank's unique imprint. Through the history of evolving their transformation strategy according to their own bank local terms and conditions such as bank vision & mission, bank ethics and values, departmental and technological infrastructure, as well as banks human resources, culture, qualities, norms, number, and competencies.

Quantitative data could also be enhanced, brightened, and explained through qualitative research. Therefore, qualitative scientific research methods are useful and beneficial for reaching several aims, and they are applicable for a variety of themes with what researchers consider a prioritized sequence of data collection. It is flexible

as long as to get full data by rephrasing questions verbally if any misunderstanding occurs in regard to making sure complete data collection is done.

CHAPTER 2

2.THEORETICAL FRAMEWORK (LITERATURE REVIEW)

2.1 Digital transformation (DT):

What is digital? All companies nowadays are concerned about digital business and digitalization as a medium to develop business toward more spread as well as for more fast delivering information about their products and services. Thus, the banking sector is one of those businesses, which cares about adoption of digital business. Digital is less about any one process and more about how companies run their business. (McKinsey).

McKinsey's definition of "digital" can be broken down into three primary points: (Dorner & Edelman. 2015).

- Creating value at the business world's new frontiers.
- Processes that have a direct impact on the customer experience must be optimized.
- Developing the basic competencies that will underpin the entire business initiative.

What is digital transformation?

Digital transformation according to (Schallmo. 2017) is the term "transformation" expresses a fundamental change within the organization, which affects strategy, structure.

2.1.1 Definitions of digital transformation:

To know more about bank digital transformation, here are a list of definitions of digital transformation:

- Use of new digital technologies, such as social media, mobile, analytics or embedded devices, in order to enable major business improvements like enhancing customer experience, streamlining operations or creating new business models. As such, the digital transformation goes beyond merely digitizing resources and results in value and revenues being created from digital assets. (McDonald & Rowsell-Jones, 2012).

- The realignment of, or new investment in, technology and business models to engage digital customers more effectively at every touch point in the customer experience lifecycle. (Solis, 2014).

- Digital transformation is now commonly interpreted as such usage of information and communication technology, when not trivial automation is performed, but fundamentally new capabilities are created in business, public government, and in people's and society life. (Martin, 2008).

- Business process reengineering (BPR) has a strong link with digital transformation, when (BPR) is the rethinking and reengineering of business-related processes to reduce costs and improve products and services. (Schallmo, 2018).

- Moreover, digital transformation is a "the process of reinventing a business to digital operations and formulate extended supply chain relationships.

- The digital transformation leadership challenge is about reenergizing businesses that may already be successful to capture the full potential of information technology across the total supply chain. (Bowersox. 2005).

- some researchers have defined digital transformation as 'the combined effects of several digital innovations bringing about novel actors, structures, practices, values, and beliefs that change, threaten, replace or complement existing rules of the game within organizations, ecosystems, industries or fields (Hinings. 2018).

Although there is no universally acknowledged definition of (DT), it is widely agreed that as a result of this process, businesses aim to update or establish new business models, improve their operations, and provide distinctive customer experiences.

Digital transformation has become unavoidable for businesses due to the increasing capabilities of digital technologies to generate data and extract information from it. This necessitates skills not only in data generation and exchange, but also in data analysis and translation into actionable information to improve decision-making. As a result, as digital technologies become more widely adopted, new business models

emerge in practically every industry, allowing for new methods of value-added development, deliverances, and capture.

2.1.2 Comparison between digitization, digitalization, and digital transformation:

Digitization is the transition from analog to digital and Digitalization is the process of using digitized information to simplify specific operations. (Vrana, J. 2020)

Digitization as a term is the act of converting things that is "paper-based" or analog into a digital or electronic format, code, or data that a computer can read and interpret. Digitization involves standardizing business processes and is associated with cost cutting and operational excellence” (Ross, 2017).

It is simpler to share data and detect trends in enormous volumes of data thanks to digitization. It may have an impact on any company's key operations and systems, from logistics activities to customer feedback and financing.

Digitalization: while the terms digitization and digitalization may seem alike, they are not interchangeable. The goal of digitization is to turn physical objects into digital formats (i.e., pictures, books, audio, video, etc.). The scope of digitalization is significantly greater. The action of digitization can facilitate digitalization, but the latter always necessitates the former. Digitization is required for digitalization to take place.

“Digitalization is the use of digital technologies to change a business model and provide new revenue and value producing opportunities” (Bloomberg, 2018).

When a company uses digital tools and services to reach out to its customers in new ways, this known as digitalization. “The way many domains of social life are restructured around digital communication and media infrastructures.” (Brenenn, 2016).

It comes up every time they create a new product that adds more value to a customer's life. Moreover, it happens as well in a company adopts a new technology that allows them to outperform their competitors by using digital technology.

Digital transformation: uses digital infrastructures and applications to exploit new business models and value-added chains (automated communication between different apps of different companies) (Kluver, 2010).

For a better customer's satisfaction, digital transformation necessitates teamwork. Informatization is the process through which information technologies, such as the Internet and other communication technologies have revolutionized economic and social ties to the point where cultural and economic boundaries have reduced.

Recapping of the three concepts above, the process of transforming information from a physical to a digital version known as digitization. Digitalization refers to the use of this approach to enhance corporate processes. Finally, digital transformation refers to the end outcome of this procedure.

2.1.2.1 Comparison between digitization, digitalization and digital transformation according to (Focus, Goal, Activity, Tools, and Challenge)




	DIGITIZATION	DIGITALIZATION	DIGITAL TRANSFORMATION
Focus	Data conversion	Information processing	Knowledge leveraging
Goal	Change analog to digital format	Automate existing business operations and processes	Change company's culture, the way it works and thinks
Activity	Convert paper documents, photos, microfilms, LPs, films, and VHS tapes to digital format	Creation of completely digital work processes	Creation of a new digital company or transformation to a digital one
Tools	Computers and conversion/encoding equipment	IT systems and computer applications	Matrix of new (currently disruptive) digital technologies
Challenge	Volume <i>Material</i>	Price <i>Financial</i>	Resistance to change <i>Human resource</i>
Example	Scanning paper-based registration forms 	Completely electronic registration process 	Everything electronic, from registration to content delivery 

Figure 2.1 Digitization, Digitalization, and Digital transformation Source: (Savić, 2019).

According to the below figure, the differences and at the same time the integration between the three concepts of (digitization, digitalization, and digital transformation) are essential to build new business models for organizations to fit with customer experiences and requests. Digitization generally concerns data conversion from analog into digital formation, which represents the first step of digitization

through using computers, laptops, and scanners to switch and convert paper works, photos into digital format basics. In digitization terms the work volume is slightly slow moving and organizations depend on classical paperwork beside digitization works.

Digitalization builds over data and information processing in the working systems in order to accelerate business operations and existing operation processes through fully integrated digital processes and operations through comprehensive information technology systems. While digital transformation finalizes in responding to a vast big data of knowledge exchange and the speediness with ease of information access through smart devices by all society components such as organizations, government bodies, social entities, customers, competitors, and suppliers. Thus, digital transformation centered on building customer experience instead of focusing on operation process itself and focus on end result which representing in value creation for customer and what kind of benefits comes up.

2.1.3 Digital transformation process steps:

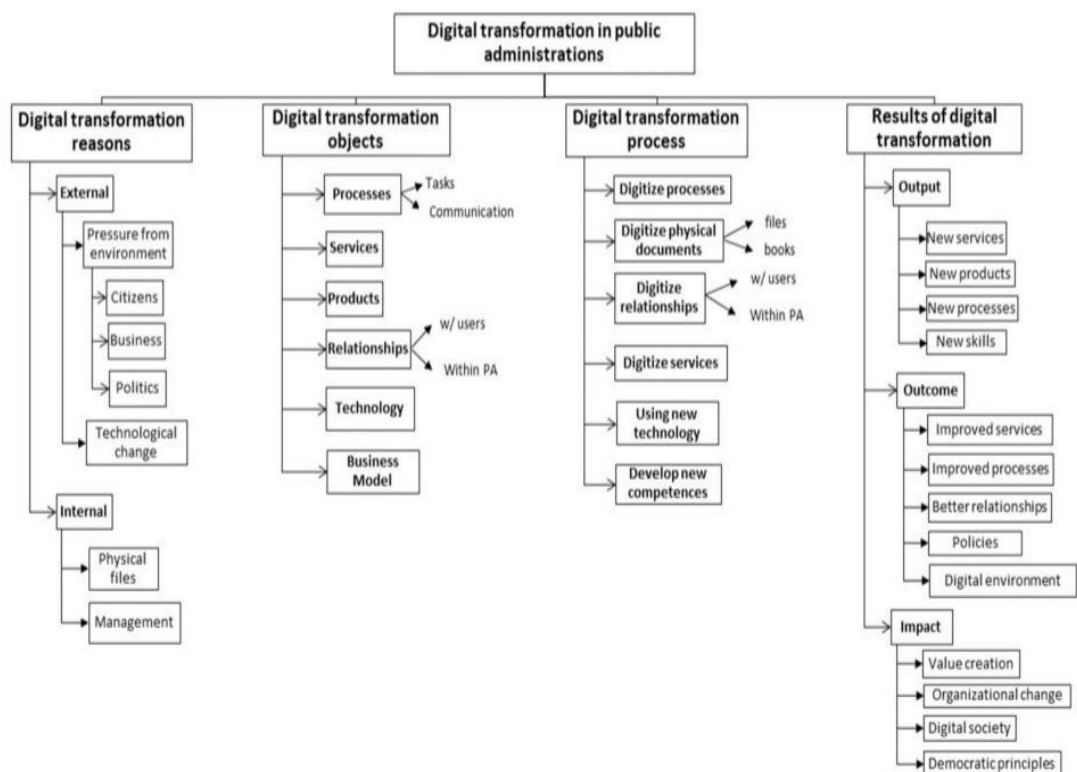


Figure 2.2 Digital transformation process steps

Source: (Mergel, 2019)

Ines Mergel and her colleagues reach through interviews with digital transformation experts' research to find out the digital transformation process steps in specific detailed sequence.

- Digitizing processes:

That means big data, information, and client techniques are all used. According to professionals, digitization initiatives provide a chance to reevaluate current processes, processes flow, systems, products, and services that were previously developed for the offline environment. Directors emphasize that they can adjust the workflow of their specifications, design, and reconsider them while doing so. As well as experts mentioned that deploying digital transformation needs developing employees' digital competencies and skills. Others of them may possess the requisite, the adaptability to channel their passion into learning and engaging in this, in this new approach. However, the new perspective.

- Digitize physical documents files, books, and applications:

One of the most critical conditions for preventing data leakage is to digitize your paperwork employing workflow automation businesses. Allow us to look at the various document recovery methods that businesses use. A plan for securing important papers it is a technique in which all of your institution's papers are saved in a web-based capabilities advantage called a cloud storage which must be designed and managed technically. Upgrade dependable software that protects from viruses, spyware, and other harmful programs on a regular basis. Assure the company system is protected with a firewall and encrypted data. Back up vital data in a timely manner to guarantee data protection. **Digitizing relationships:**

Human, customers, employees, directors, external stakeholders' relationship digitization is a comparatively recent model that has yet to be thoroughly conceived and examined. While numerous events have looked at various areas of interpersonal relationships, there is still a dearth of a thematically oriented assessment of this setting.

Digitizing behaviors lead by digitalizing of all aspects of employee, customer relationship to manage businesses digitally.

- Digitizing services:

Moving from traditional work paper services into offering completely introduced services through online digital channels. In turn, to forward to this step a client touch point services must be redesigned in a digital way through secured and

controlled digital projects that fulfill and cover all business requests and must be easily navigated to make the process quicker and safer without any fault or delay.

- Using new technologies:

Simply represented by adopting businesses developed digital technologies internally and customer touch point digital technologies and applications that can even be used directly or navigated through applications can be signed in by smart devices such as tablets, smart phones, and laptops.

- Develop new competencies:

Building internal digital culture is an essential block for digital transformation. This step can be achieved through discovering the existing employees' digital skills and competencies and based on a newly designed development and training portions can fill the gap between existing and requested digital skills.

Externally, customer digital experience forms a decisive factor. Therefore, the offered digital service must fit with customer expectations, and at the same time must businesses offer help for new digital entrants in order to promote services and make sure that customer is competent to use digital services and benefit from all offered features.

2.1.4. Digital transformation imperatives:

- Customer Focus:

Businesses that are most equipped for a digital transformation and achieve the greatest outcomes know and understand their consumers' aspirations and expectations. Therefore, the first change step is a movement in the corporation's focus from products to customers. Understanding what is better for the consumer puts things in perspective and aids in the prioritization of next activities.

- Corporate Structure:

A transparent culture that accepts change is required for digital transformation.

Get corporate executives and leaders on board with the new digital vision by breaking down internal divisions.

DIGITAL TRANSFORMATION: SOLVING TRADITIONAL PROBLEMS WITH TECHNOLOGY



Figure 2.3 Digital Transformation Imperatives

Source: (informatica.com. 2019).

- Change management:

Often digital transformations fail due to a lack of staff. Generally, people are programmed to stay the same and resist changing, so even if they perceive the benefits, they typically resist change. Change management approaches that are most efficient are those that are matched with the current, dynamic corporate environment.

- Transformational leadership:

During times of upheaval, a competent leader can help employees feel safe. Effective leaders must inspire individuals to take action and make them feel like they are a part of something greater than they are. As a result, every executive and leader has a key role to play in driving digital transformation.

- Technology decisions:

Decisions on digital transformation cannot be taken in isolation. Leaders must work together to portray their respective divisions as well as the firm's corporate aims.

- Integration:

Relying on data facilitates the integration of digital solutions across the organization. The more complex the data strategy becomes, the larger the firm. An effective digital transformation necessitates a simplified data strategy.

- Internal customer experience:

Internal stakeholders experience heavily influenced by digital transformation (employee experience). Receiving employee outputs and delivering consumer-grade technology alternatives substantially empowers staff to deliver an outstanding experience.

- Logistics and supply chain:

A digital transformation has no impact or even a low standard of effectiveness if it does not improve the pace and reliability with customers in order to get their services or products. A digital approach gradual shift to logistics and the supply chain boosts productivity

- Privacy, data security, and ethics:

The vast majority of customers feel their personal information is at risk of being stolen. Data protection should be a top priority when changing systems and practices as part of a digital transformation.

- Evolution of products, services and processes:

Digital transformation implies a shift in how products and services are delivered, as well as the products and services itself. Modern products are more intelligent and provided in a creative way.

- Digitization:

Developing smooth interfaces between digital and physical storefronts is an important part of digitizing a business, with considerable success.

- Personalization:

Customers are looking for individualized service. Utilize digital technologies to better understand customers and create personalized suggestions as well as experiences.

2.1.5. Digital transformation building blocks:

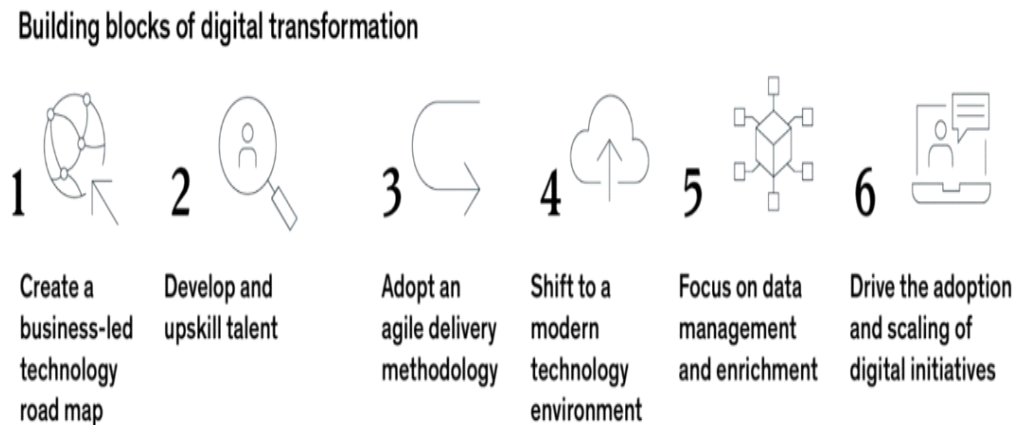


Figure 2.4 Digital transformation building blocks

Source: (McKinsey, 2021)

- **Create lead technology roadmap:**

Executives must first define and agree on a digital vision for their company, taking into account both the overall strategic plan and the value proposition. They may start by analyzing their skills, determining the resources needed, and considering possible collaborations to assist them achieve their objectives.

Companies should evaluate new involvement, transaction, and delivery criteria based on their digital strategy, such as which consumers will interact directly with them and which will be supplied through distributors or third-party logistics providers.

- **Upskilling and developing talents:** (Strategy, Structure, Skills, Systems, Signals)

Organizations should first assess their personnel demands and gaps, considering both current and long-term requirements. They must then see whether any gaps can be filled by developing skills staff, developing strategic alliances, or hiring externally.

- To incorporate any new digital team members into an organization, businesses will require a new structure and deployment approach. They might want to think about establishing a new position that supervises digital projects and reports directly to the ceo. Or chief digital officer may be the title for this position at some firms. Reducing expenses and generating actual impact from digital efforts across the whole customer experience will be major responsibilities.

- To improve knowledge and capacities across the business, businesses should use digital-learning initiatives. They should also promote employees to adopt a development mentality, which allows them to learn on the job and allows them to break free from established routines.

- Streamlined technologies and apps, including workflow management technologies, aid in reducing potential staff onboarding time, raising efficiency, and reducing human mistakes. These technologies may use by digital employees to improve customer interaction and customer service.

- External sources, such as business partners could be used by the top firms to improve skills and drive incremental major shifts across the whole value chain. They may for example, bring in outside thought experts to address to staff on growth and innovation. To preserve the focus on continuous learning, these events and similar efforts should be held on a regular basis.

- Adopting an agile delivery methodology:

A more integrated approach and regular interactions with other executives are required in an agile company. Work teams will share knowledge and suggestions rather than having functions operate in isolation. Businesses must also develop an ecosystem that allows them to test new ideas or technologies and continually refine them based on client input while minimizing risks.

- Shifting to a modern technology environment:

Every digital change must start with new technological capabilities. Businesses should ideally describe these capabilities in their strategic plan, including:

- Commerce integrity services.
- Integration structures.
- Software as a service.
- Front ends.
- Front- and back-end integration.
- Data-intensive services.
- Digital platforms for management and deployment.
- (Micro) custom services.

When establishing new capacities, firms should strive to draw on old systems rather than replacing them totally to promote quick scale-up.

- Focusing on data management and enrichment:

Businesses' information management will also strengthen if they concentrate on establishing unique requirements that would benefit from analytics and defining how they will gather, store, display, and use user information. In turns, that will be reflected in (new product design and development, process analysis, increased sales and marketing, and distribution network).

- Driving the adoption and scaling of digital initiatives:

While digital projects may yield positive results, businesses must deploy initiatives across the board to have a significant impact. Scaling up will necessitate the creation of new corporation wide business procedures. Because conventional channels, such as in-person encounters, will continue to be crucial, businesses will need to handle future problems as their online presence expands.

2.2 Digital transformation in finances sector (fintech ecosystem):

2.2.1 Definitions of fintech:

All financial entities including banks, adopt the term of fintech referring to the applications of digital financial and operations programs and software projects.

The term "financial technology" or "fintech" refers to financial solutions enabled by technologies and the internet. The term fin-tech is not confined to specific sectors (e.g., financing) or business models (e.g., peer-to-peer (p2p) lending), but instead covers the entire scope of services and products traditionally provided by the financial services industry. (Arner, Barberis, Buckley, 2015).

Fin-tech is a term used to explain a technological movement process in the financial entities that offers new business methods and approaches over traditional procedures. It aims to enhance the customer experience and increase process efficiency at traditional financial institutions, and it opens market doors for new entrants who re-design traditional services so that they are more personalized, transparent and accessible via digital channels, offering potential customers alternatives to traditional services provided by the financial industry. (Tatjana. V., 2016).

Corporate finance institute defines fintech: (CFI) refers to synergy between financial services and technologies, which is used to enhance business operations, and the delivery of financial services. Fintech can take the form of software, a service, or a business that provides technologically advanced ways to make financial processes more efficient by disrupting traditional methods.

The financial stability board defines fintech as (FSB. 2019) technologically enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services.

2.2.2 Fintech ecosystem:

For many years, the concept of ecosystem, which is analogous to biological systems, has piqued attention in the business and managerial processes as part of the "system approach". The "natural environment," which expresses the interrelationships between living and non-living environments around these organisms, can be mentioned and referred to as an ecosystem. It is the environment, where elements thrive in addition to the mechanisms that sustain continuity. This system, which is based on numerous balances, continues to run and maintain itself due to close and mutual connections. The negativity experienced in any element of this natural balance affects all the elements of the system as required by the systems approach. (Macklin, M., Poston, 1998).

2.2.2.1 Components of a fintech ecosystem:

Fintech as Ecosystem has integrated components; therefore, businesses that follow the ecosystem must take into consideration each single component as a part of a complete circle. Here are the components (Yazici, 2019):

- New Technologies and Tools: New technology, new economic ideas, and new tools develop as the Fintech ecosystem takes shape. The evolution of mobile and wearable technology, as well as the creation of business models that make it easier to adapt them to the financial sector through changing the concept of socio-economic approaches (such as Behavioral Finance and Sharing Economy) have played an essential influence in the ecosystem's emergence and evolution.

- Banks, Telecom, Technology Companies, social media and Internet Platforms: The most significant facilitators for understanding and using new technologies are, of course, banking, telecom, and technology businesses that have built a heavy and deep infrastructure for applying these technologies to use via mobile devices. With their assets, online platforms or social media tools which have a facilitating and supportive effect.

- Startups: With their unique business models and by adapting the potential afforded by technology, digitalization, and mobile technologies to the financial area, these companies deliver solutions to users. One of the key players in the field of financial technology is the startups, whose basic features can be explained by the “LASIC Principles” (Low margin, Asset light, Scalable, Innovative, and Compliance easy).

- Government and Regulators: The government, which comprises the bodies that provide financial infrastructure, is the institution that establishes the rules of the game and the circumstances of competition through the enactment of legislation. The most important role of the government arises in the stage of climate formation. Policymaking and the understanding of the Fintech concept by the relevant institutions of the state can make it a window of opportunity (Arner, Barberis, Buckley, 2017).

- Financial Infrastructure Providers: They are government-created institutions that ensure the smooth running of the financial system. At the same time, they are the policymakers, regulators, supervisors that are maintaining the infrastructure of the financial system (Engel, 2015).

- Financial Institutions: The key actors in the financial system include banks, insurance companies, and capital market intermediary institutions.

These institutions relate to the huge, slow-moving institutional structures that have historically established the financial system, and which operate within the framework of specific principles.

- Customers and Users: With their want, need, experience and behavioral patterns, individual users (B2C) are the most essential actors in the creation and development of the Fintech area. The essence of the new business model to design is the right determination of users' aspirations, needs, and behavior models. This, however, necessitates a societal perspective and knowledge.

2.2.2.2 Blockchain and Fintech:

Blockchain is essentially a distributed database of records or public ledger of all transactions or digital events that have been executed and shared among participating parties. Each transaction in the public ledger is verified by consensus of most of the participants in the system. (Crosby. 2015).

A 'blockchain' is a particular type of data structure used in some distributed ledgers which stores and transmits data in packages called "blocks" that are connected to each other in a digital 'chain'. Blockchains employ cryptographic and algorithmic methods to record and synchronize data across a network in an immutable manner. (Natarajan, 2017).

Banks are already industrializing their back offices using the same digital technologies that fin-techs are deploying. Industrializing banking processes by automating repetitive procedures and using artificial intelligence (AI) to increase security, efficiency, service speediness and accuracy while freeing up resources for higher-value activities. There are three major factors that make up the value chain of financial services. (Wyman, 2016) namely:

- **The back office:** Records management, policy administration, collections, claims processing, and transaction processing are all responsibilities.
- **The financial product provision:** This comprises product design, capital, balance sheet, risk taking, risk management, and payment services, among other things.
- **The customer platform:** This includes marketing advice, product line management, onboarding, anti-money laundering checks, and search.

Workflow: refers to the series of operational, industrial, administrative, or other procedures that a piece of work goes through from start to finish.

2.3 Digital banking:

Digital banking is about how technology can help employees' work efficiently through: (Capgemini. 2015)

- **Customer Experience:** Delivering a distinct and tailored client / customer experience across many channels. Through:
 - Customer insights: (analytical based segmentation, customer social insight).
 - Customer touch points: (mobile, tablets usages and sales, self-services tools).
 - Digital relationship: (digitally enhanced selling, predictive marketing).
- **Operational Efficiency:** Improving organizational effectiveness, agility and robustness through:
 - Process digitalization: (E documentation, cloud-based services).
 - Advisor enablement: (Workplace in a remote location, SME collaboration).

- Increased productivity: (automation of the workflow, straight through processing, decision-making based on data).

- **Business Model:** Disintermediation, new ecosystems, new sourcing models through:

- Business digitally altered (Remote advisor, product / service augmentation, digital wrapper).
- New digital business: (online business, social broker platforms)
- Digital globalization: (enterprise integration, shared digital services).

This usually necessitates the upgrade of both the front-end and back-end digital innovations to full-fledged digital solutions. As a result, the advantages of such digital front-end solutions in the digital bank are obvious. Frequently, banks fail to upgrade their back-office systems in time to ensure long-term viability.

Digital channels, on the other hand, provide greater agility and flexibility. Various vulnerabilities that can put both the consumer and the bank at danger. As dangers evolve along with the digital channel engaged in digital transformation and their influence on business model innovation, reinforcing digital communications technology with sufficient monitoring and security measures is crucial.

2.3.1 Digital banking and customer journey:

The architecture of banking and finance is changing drastically because of digitalization. Digital delivery channels and other digital tools are driving down operational costs and improving customer loyalty, making consumer service a realistic and appealing business prospect for established financial firms. Thus, using digital channels to reach the unbanked client category gives the possibility to turn financial inclusion into a profitable company by lowering operational costs and enhancing customer loyalty. In addition, digitalization provides alternative assessment techniques that use different forms of behavioral information to measure a customer's dependability with minimal files.

2.3.2 Traditional vs. digital customer journey:

The traditional bank customer experience entails visiting branches with the purpose of speaking with a customer care person, gathering pages of papers to match (KYC) (know your customer) criteria, and afterwards waiting days or a set period for an affirmation decision. (Capgemini. 2016). Customers can now find and apply for

items on their cellphones, as well as transfer money into digital mobile wallets, all in minutes due to digitalization.

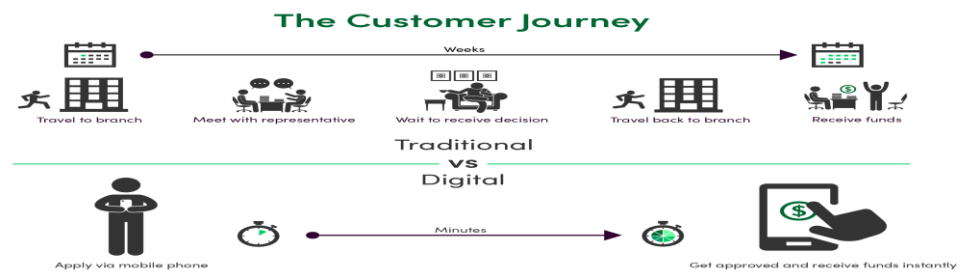


Figure 2.5 Traditional vs digital customer journey

Source: (Anton-Diaz, 2019)

(KYC) know your customer is a powerful solution to confirm the identity of your customers while protecting your business against online fraud and maintaining the highest level of user privacy.

The growing use of smart platforms and applications money services across all segments has emphasized smartphones as a viable tool for bringing financially disadvantaged people into the financial system.

2.3.3 Process model for customer journey and experience:

The customer journey of digital financial services (Anton-Diaz, 2019) consist of three stages:

- Discovery.
- Onboarding
- In addition, continuing use.

Discovery stage:

When clients recognize a need for a financial service, the discovery step begins. It entails three steps by the client in general:

- Creating awareness of what possibilities and options are available.
- Evaluating those options.
- Choosing and deciding the right product.

To create brand awareness and communicate value, businesses battle to capture customers' attention at this stage. When compared to traditional means, digital

consciousness and marketing initiatives may reach more people at a relatively cheap price. Messages may be conveyed in basic terms or with visuals to clients' phones and tablets via digitalization.

Onboarding stage:

Onboarding traditional model:

- When a customer agrees to enroll for a service, the supplier begins a series of steps to verify the customer's identification and eligibility, as well as set up the service.
- This step also includes credit product underwriting choices, thorough information on product terms and conditions, and memorandum of agreement.
- The majority of this procedure used to be paper based, because it needed clients to sit with employees to fill out paper applications and double-check documentation. When paperwork is done via hand, a consumer may be required to visit a financial company many times, which takes time even in metropolitan areas.

Onboarding digital model:

- Staff employees provided tools to enter information directly into a computer rather than simply writing on paperwork as part of the onboarding process.
- Customers can now sign up for a product on their phones or laptops from any place, frequently in a matter of minutes, due to a full digital onboarding process. The consumer benefits from the simplicity and speed of full digital onboarding, while the supplier saves money on work the force.

Know your customer (KYC) may be fully digitized in nations with digitized national identity systems by using provider linkages to the national registration database system.

Continuing use stage:

As operators seek to develop long-term connections with customers, they enter the continued usage phase:

- Product use.
- Customer participation.
- Cross-promotion / selling.
- Answering requests for information or complaints.

Because they are light-file clients, there is a big chance to learn about their financial lives and behavior to continue enhancing and reinventing their service offerings. In addition, customers' engagement with finance companies is confined to periods when they visit branches for transactions or queries, or to costly phone or mail outreach. While digital technologies enable institutions to maintain touch with clients at a reduced cost, they also allow them to build a different form of connection with them.

Customers' digital footprints enable businesses to do a variety of assessments, allowing SMS and other communications to be highly personalized targeted.

2.3.4 Omni channels and customer experience:

The use of a multitude of platforms to engage with consumers and fulfill their purchases referred to as Omni-channel commerce. The interaction between a customer and a retail channel is primarily in terms of three flows (information, product, and funds): (Chopra. 2018).

- The customer receives product and pricing information from the vendor before placing the purchase.
- The order information used by the retailer to move the product to the customer.
- Lastly, the client's transaction would be sent to the seller.

The usage of distinct channels for every transaction assist in the classification of Omni-channel commerce components.

2.3.4.1 Omni-channel banking:

According to (Verhoef's. 2015), preliminary general definition, Omni-channel operations for banks defined as follows:

Synergetic management of a bank's critical and long-term distribution channels and contact points, as well as its key cooperation partners, for the client to view a networked variety of services as ideal throughout the full financial services process.

The client determines on his own, based on his immediate needs, which contact point is the best for him. For the client, the formerly separate bank channels are regarded as one, and only the mode of contact is of importance now.



Figure 2.6 (Environment elements of Omni-channel)

Source: (Menrad, 2020)

2.4 Digital transformation pyramid framework:

Inside corporations, there are three (3) levels (Turchi. 2018) on which digital transformation should tackled:

Layer one (Strategy):

Corporates must examine possibilities and implications (as well as possible risks) of technology-supported business models when creating business strategy in a digital (or digitally enabled) world.

Layer two (Execution):

In practice, execution occurs in two ways within the firm and beyond the organization (toward the market, or the markets the company is willing to serve).

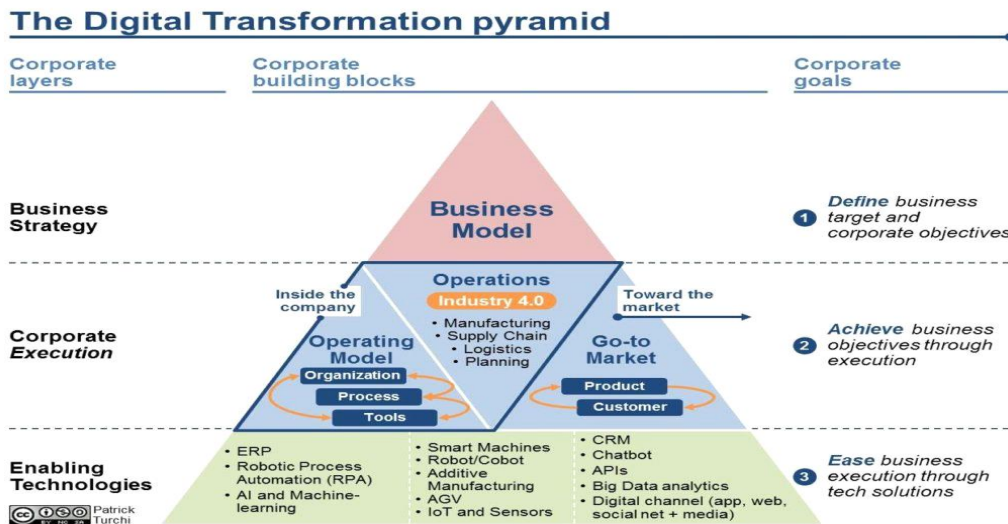


Figure 2.7 (digital transformation pyramid)

Source: (Turchi, 2018)

Technology:

Although technology is a component of digital transformation, it is a facilitator, through the 'execution' blocks, technology assists (and assists) the achievement of the corporate objective and goals. The advancement of the operating model, operations, and the fulfillment of the go-to-market strategy are all made possible by technologies.

Technology, on the other hand, is the catalyst for change at each level of the pyramid and being able to recognize the influence of technology through each level is a critical strategic organizational competence. It is critical to recognize market-driven company issues and adapt strategic reactions, or even predict them with the right strategic move.

2.5 Strategy; levels of digital transformation strategy:

A digital transformation plan, often known as a digital strategy, has far-reaching implications and necessitates coordination and prioritization of the many aspects of digital transformation.

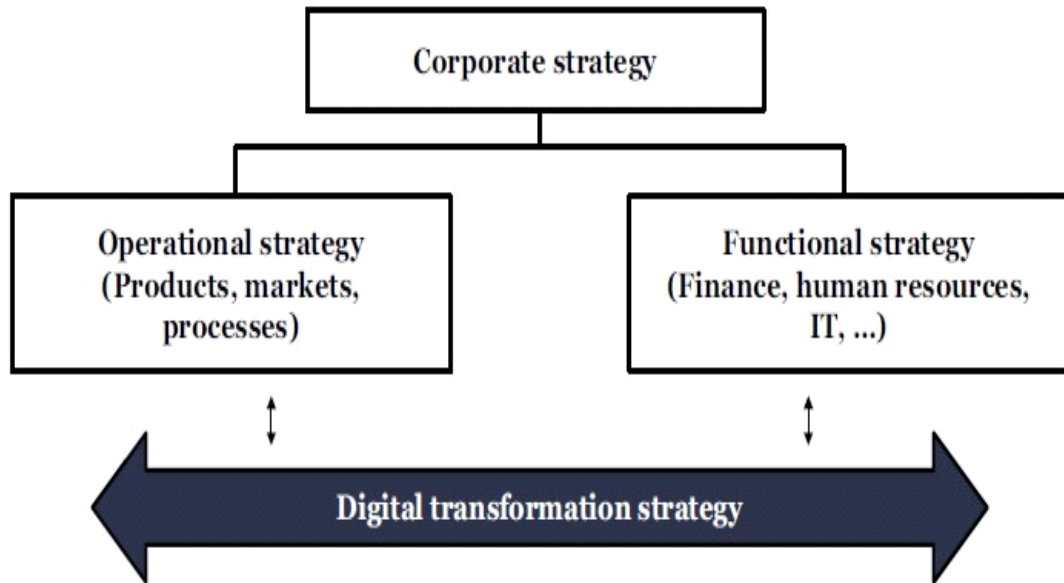


Figure 2.8 (Digital transformation strategy)

Source: (Matt, Hess, & Benlian, 2015).

It needs to be in harmony with other operational or functional plans.

- An organization's strategy specifies how they intend to produce value for shareholders, customers, and citizens. (Kaplan & Norton, 2004).
- The determination of the long-run goals and objectives of an enterprise and the adoption of action courses and the allocation of resources necessary for carrying out these goals. (Chandler, 1963).
- Competitive strategy is about being different. It means deliberately choosing a different set of activities to deliver a unique mix of value. (Porter, 1996).
- A pattern in a stream of decisions. (Mintzberg, 2007).

The operational strategy concentrates on developing new digital products, platforms, apps, updated digital processes and channels. Meanwhile, must be implemented in parallel with functional strategy which played a controlling role including their new digital performance indexes such as human resources, information technology, and finance. By this harmony of the two sub-strategies, the digital transformation strategy will achieve the pre-planned digital goals.

2.5.1 Levels of strategy:

- **Corporate-level strategy:**

Is involved with an organization's general objectives and scope of how value will be provided to various segments (business units) of the company (Turchi. 2018).

- Business-level strategy:

Is concerned with how to perform efficiently in certain marketplaces (also named competitive strategy).

- A strategic business unit:

Is a section of a company for which there is a separate external market for goods or services that is distinct from the company's other strategic business units (SBU).

- Operational strategies:

In terms of resources, procedures, and people, are concerned with how the components of an organization successfully deliver the corporate - and business - level plans.

2.5.2 Digital transformation strategy building approaches:

In this part, a comparison between several approaches will show various experienced roadmaps to apply digital transformation processes and strategies.

2.5.2.1 Esser's approach:

According to Esser's approach, (Schallmo, 2018) there are five phases to a digital transformation strategy's creation and execution.

- Analysis.
- Strategy.
- Design.
- Organizational Impact.
- Transformation.

Table 2.1 Esser's Approach

<p>Analysis</p>	<ul style="list-style-type: none"> - Analysis focuses on four areas: - Customers. - Competitors. - Markets. - Business capabilities. <p>Customer needs and values are analyzed and segmented. Competitors: Their present (market) performances and market placement characterize and measure them. Newcomers to the business are also considered. Market analyzed according to:</p> <ul style="list-style-type: none"> - Size. - Potentials. - Limitations. - In addition, future developments. - Finally: The business capabilities that are now accessible are collected.
<p>Strategy</p>	<ul style="list-style-type: none"> - Strategy phase includes: - Defining market position. - Deciding how the business wants to differentiate itself. - In addition, selecting the customer target group.
<p>Design</p>	<p>Design is based on three areas:</p> <ul style="list-style-type: none"> - A customer experience vision: the customer experience vision comprises a description about what the company hopes to accomplish. - The value proposition responds to the question of how and with what services one might persuade clients. - Identification of opportunities; this process evaluates both existing and new design concepts.
<p>Organizational Impact</p>	<ul style="list-style-type: none"> - Organizational impact refers to: - (People, structure, and culture) within the business. - Processes and systems were also analyzed. - Finally, governance and control are specified.
<p>Transformation</p>	<ul style="list-style-type: none"> - The transformation ultimately dictates the roadmap and program management. - In addition, change management and communication processes must be prepared. - Lastly, defined branding and external communications.

Source: (Schallmo, 2018)

2.5.2.2 PricewaterhouseCoopers' Approach:

(PWC) is a global network of firms delivering excellent management consultants deliver cutting-edge solutions for acquisitions and mergers, management, customer, sales, and marketing, human resources and management decision supporting models, financial transformation, and portfolio investment management.

PricewaterhouseCoopers (PWC) defines six phases (Schallmo, 2018) for digital transformation within framework:

Table 2.2 (PricewaterhouseCoopers' Approach)

Strategy	<ul style="list-style-type: none"> - A strategy developed within the framework of the first phase, and the effects of digital dynamics should be understood here. - The company's current position is determined and a new business model is designed. - In addition, a safety assessment, a value-creation analysis, as well as the legal and tax ramifications are considered. - Finally, corporate culture and human capital were analyzed.
Design	<ul style="list-style-type: none"> - The second phase is the design of the transformation Roadmap. - To these ends, the collaboration model, the value-creation of the network, and the operating model are defined. - In addition, the target architecture, the transformation plan, and the target model for corporate culture are determined. - Lastly, the tax and legal aspects are modeled.
Construction	<ul style="list-style-type: none"> - Construction third phase is the construction which completes the development of a digital business platform. - To achieve this, governance is introduced, and a platform or application is developed. - The operating model and business/IT services are adapted based on this construction. And digital security and skill management are also defined.
Implementation	<ul style="list-style-type: none"> - The implementation phase initiates the previously developed business platform. - Quality assurance and employee training rolled out to ensure a successful transition.
Operation	<ul style="list-style-type: none"> - In this phase, new business models are considered while in operation as running systems. - Here, governance, the platform, and application management and reporting play a vital role.

Review	<ul style="list-style-type: none"> - The last phase is review, which includes performance monitoring and optimization. - For this purpose, service level adjustments made and operational optimizations as well as optimizations to the business model carried out.
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Source: (Schallmo, & Williams, 2017).

2.6 Digital transformation and business model (BM):

Business models (BM) conceptualized in a variety of ways, with one recent example being ‘*the business model depicts “the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities”*’ (Amit, & Zott, 2001). Business model innovation in turn refers to ‘‘*the search for new rationales for the firm and new ways to create and capture value for its stakeholders*’’ (Sathananthan, 2017).

The influence of (BM) on organizational performance becoming better recognized, as is its potential contribution to shaking the foundations of a sector and posing a danger to dominating enterprises. One or more of its components, namely value creation, value supply (or value proposition), and value delivery, may result in (BM), with variable degrees of dominance.

2.6.1 Relation between digital transformation (DT) and business model innovation (BMI):

The terms digital transformation (DT) and business model innovation (BMI) are frequently used interchangeably. As a result, using new digital technology allows businesses to become more competitive, which will display in their business model. The rules of whole sectors and workflows are shifting because of digitalization. As a result, start – ups are being developed. New players are emerging alongside truly innovative business models across the complete organizational structure. Extant research states that the digital transformation of business models is based on a sequential process of activities and decisions, which may affect a single or multiple business model dimensions, or even the whole business model. (Schallmo, & Williams, 2017).

It also discovered that business models are born out of digital business strategies, that digitalization has an impact on the overall business model, and that it is becoming increasingly vital to incorporate the digitalization standpoint into the business model and design process. Digital business models have a distinct logic, and as digital technology becomes more integrated into a company's operations. Thus, new methods to convey the business model will be required, posing several issues for conventional industry executives.

2.7 Digital transformation maturity benefits:

2.7.1 Digital maturity definitions:

The concept of "digital maturity" is strongly tied to the concept of "digital transformation". We can say that digital maturity is the final stage of digital transformation, which companies aspire to achieve, those companies that have achieved such digital maturity, have now witnessed important improvements in the operation of the company, and have also increased customer satisfaction. (Alberto. 2017). Over time, maturing systems (for example, businesses) develop their competencies to attain a desired future state. It describes what a company has already achieved in terms of performing transformation efforts and how a company systematically prepares to adapt to an increasingly digital environment to stay competitive. (Roman. 2019).

Digital maturity goes beyond merely technological interpretation, simply reflecting the extent to which a company performs tasks and handles information flows by (IT). Also reflects a managerial interpretation describing what company has already achieved in terms of performing digital transformation efforts including changes in products, services, processes, skills, culture, and abilities regarding the mastery of change processes (Chanias. & Hess. 2016). Digital maturity-integration of organizational operations and human capital into digital processes and vice versa-digital processes into organizational operations and human capital (Westerman, Bonnet, & McAfee. 2014).

2.7.2 Digital maturity model example:

2.7.2.1 Deloitte digital maturity model (DMM):

To establish a holistic perspective of digital maturity across the enterprise assesses digital capacity through five defined business parameters (Deloitte. 2018). As indicated in the table below, these five basic dimensions split into 28 sub-dimensions:

Table 2.3 (Deloitte digital maturity Model (DMM))

Customer	Creating an experience in which clients see the company as a digital partner with whom they can govern their connected future both online and offline through their preferred channels of engagement.	<table border="1"> <tr><td>Customer Engagement</td></tr> <tr><td>Customer Experience</td></tr> <tr><td>Customer Trust & Perception</td></tr> <tr><td>Customer Insights & Behaviors</td></tr> </table>	Customer Engagement	Customer Experience	Customer Trust & Perception	Customer Insights & Behaviors			
Customer Engagement									
Customer Experience									
Customer Trust & Perception									
Customer Insights & Behaviors									
Strategy	It is integrated into the entire business strategy and focuses on how the company changes or runs to gain a competitive edge through digital efforts.	<table border="1"> <tr><td>Brand Management</td></tr> <tr><td>Ecosystem Management</td></tr> <tr><td>Market & Customer</td></tr> <tr><td>Finance & Investment</td></tr> <tr><td>Portfolio, Ideation & Innovation</td></tr> <tr><td>Stakeholder Management</td></tr> </table>	Brand Management	Ecosystem Management	Market & Customer	Finance & Investment	Portfolio, Ideation & Innovation	Stakeholder Management	
Brand Management									
Ecosystem Management									
Market & Customer									
Finance & Investment									
Portfolio, Ideation & Innovation									
Stakeholder Management									
Technology	Supports the achievement of digital strategy by assisting in the creation, processing, storage, security, and interchange of data to satisfy customer demands at a cheap cost and with low overheads.	<table border="1"> <tr><td>Applications</td></tr> <tr><td>Connected Things</td></tr> <tr><td>Delivery Governance</td></tr> <tr><td>Data & Analytics</td></tr> <tr><td>Network</td></tr> <tr><td>Security</td></tr> <tr><td>Technology Architecture</td></tr> </table>	Applications	Connected Things	Delivery Governance	Data & Analytics	Network	Security	Technology Architecture
Applications									
Connected Things									
Delivery Governance									
Data & Analytics									
Network									
Security									
Technology Architecture									
Operations	Using digital technology to execute and evolve processes and activities to drive	<table border="1"> <tr><td>Agile Change Management</td></tr> </table>	Agile Change Management						
Agile Change Management									

	<p>corporate management and enhance corporate efficiency and effectiveness.</p>	<table border="1"> <tr> <td data-bbox="943 185 1402 293">Automated Resource Management</td> </tr> <tr> <td data-bbox="943 293 1402 367">Integrated Service Management</td> </tr> <tr> <td data-bbox="943 367 1402 441">Real-time Insights & Analytics</td> </tr> <tr> <td data-bbox="943 441 1402 548">Smart and Adaptive Process Management</td> </tr> <tr> <td data-bbox="943 548 1402 622">Standards & Governance Automation</td> </tr> </table>	Automated Resource Management	Integrated Service Management	Real-time Insights & Analytics	Smart and Adaptive Process Management	Standards & Governance Automation
Automated Resource Management							
Integrated Service Management							
Real-time Insights & Analytics							
Smart and Adaptive Process Management							
Standards & Governance Automation							
<p>Organization & culture</p>	<p>Defining and building an organizational culture with accountability and talent management systems to enable development along the digital maturity curve, as well as the flexibility to meet long - term growth goals.</p>	<table border="1"> <tr> <td data-bbox="943 622 1402 696">Culture</td> </tr> <tr> <td data-bbox="943 696 1402 739">Leadership & Governance</td> </tr> <tr> <td data-bbox="943 739 1402 813">Organizational Design & Talent Management</td> </tr> <tr> <td data-bbox="943 813 1402 855">Workforce Enablement</td> </tr> </table>	Culture	Leadership & Governance	Organizational Design & Talent Management	Workforce Enablement	
Culture							
Leadership & Governance							
Organizational Design & Talent Management							
Workforce Enablement							

Source: (Deloitte. 2018)

CHAPTER 3

3. STUDYING AND ANALYZING BANK STRATEGY AND EVOLVING OF DIGITAL TRANSFORMATION STRATEGY THROUGH MAIN PROJECTS

Banks like other organizations need to meet customers where they are, and these customers have embraced digital and especially mobile, many large banks as well as smaller deploy fintech specially to serve the needs of their customers to provide new shaped packages of products and services that they expect in comparison with traditional bank services. Therefore, most banks are heavily investing in user research technologies, digital customer experience including agile management to set up digital transformation strategies fit with customer expectations. Therefore, a good digital transformation strategy must show better engagement in customer experience, agile operation change management, with simple screen wise innovative fintech operator technologies.

3.1 Background of bank digital transformation strategy evolution:

Bank based on practical vision of building customer centric competitive business units, realized the importance of changing into a new digital business model to apply digital transformation strategy effectively, including long-term business strategies with redesigning internal departments and subdivisions in order to allocate responsibilities of formulating tactics and outlines of deploying fintech projects smoothly. Therefore, new departments, divisions, and business units are created, as well as more fintech experts have recruited an expanding range of contacts with external fintech companies and experts. Moreover, improving internal stakeholders' (employees) digital culture and empowering employees' digital participation in order

to introduce new packages of financial products and services to fit with digital customer expectations.

3.1.1 IDEA beginning:

Responding to adopting digital transformation strategy as a roadmap, the bank reorganized the group strategy department with new department layers and subdivisions. Such as:

- The digital transformation group directorate created in April 2018 to execute the bank's digital transformation objectives, as well as Bank's strategic initiatives, in a comprehensive perspective.
- Digital transformation and innovation directorate, product development directorate, and process development directorate operate under the group.

3.1.2 Developing the concept:

Bank like many fintech-adopted institutions, emphasizes the significance of providing interested parties with a simple, quick, smooth, and continuous digital experience. Therefore, digital transformation and innovation directorate added and performed the following measures and committed following obligations:

- Creating frameworks that are centered on the customer.
- Improving procedures and converting them to a digital format.
- Coming up with newer business models.
- Also, in search of digital talent.
- Facilitating cultural transformation.

3.2 Collecting Data:

3.2.1 Summarizing pre-designed (open-end questions) questionnaire:

This thesis is based on qualitative research methodology, and in accordance with obtaining more details and specific information about the bank's digital transformation strategy implementation. Thus, in order to examine the bank's digital transformation qualities an (open-end) questions design-based questionnaire has been planned, and several communications in addition more connections have been arranged in order to coordinate an appointment with bank's seniors, who are responsible for planning and applying digital transformation strategy. Thus, alongside

this thesis an online using (zoom) program, an interview discussion was held with the bank's **senior**. Who is the manager of (digital transformation and innovation directorate) after conducting two sessions of online interviews through zoom platform, at date 02.04.2020 a reviewing and revising works done in order to summarize bank senior voice records to optimize useful information about bank digital transformation strategy considerations.

Thesis questionnaire consists of four sections, each section focuses upon obtaining useful outcomes for specific inputs

Thesis questionnaire consists of four sections, each section focused upon obtaining useful outcomes for specific inputs questions and divided by several pointed open-end questions.

- Section 1 is asking questions about (digital transformation strategic level).
- Section 2 is asking questions about (digital transformation strategy effectiveness on managerial process).
- Section 3 is asking questions about (the effectiveness of bank (DTS) on human resources).
- Section 4 is asking questions about (the effectiveness of bank (DTS) on customer services).

3.2.1.1 First section: (digital transformation strategy level)

1- What are the main motives to adopt a digital transformation strategy at a bank?

The motive is for moving away from traditional bank industry approach or product based traditional model into modern approach. The motive of moving from final product-oriented structure approach to customer experience oriented structure. Most banking sector strategies based on a product-oriented approach depend on setting product features and doing some developments, but sometimes they lose customer experience. Therefore, a customer-oriented approach is putting customers at the center and so we have to think about customer insides, and have customer empathy to know about their feelings, expectations and their concerns. Moreover, digital transformation strategy (DTS) is the transition from process oriented to experience oriented. Thus, we consider here that customer experience is the key factor and motive. The third motive is to move from the automation part to optimization. As we know automation

is an important part of digital transformation, but we rely more on optimization part, because when you set up the system you have to improve optimization and system efficiency as well that will lead from interaction with customer demand model into interaction with customer journey that means:

- Thinking about customers (start to end).
- From signing up for specific product, we must draw up.
- The customer journey, their touch points, decision moments to buy specific products, as well as controlling customer journey by our customer satisfaction team following a reactive approach. Therefore, if a customer has a problem our team comes up with a solution for that problem to make sure that customer is fully satisfied.
- Customer journeys try to solve customer problems before happening and state critical points of that journey.

2- What are the main strategic strengths of the bank's digital transformation strategy?

- First strength point of the bank's digital transformation strategy (DTS) is our team (employees). Human resources asset.
- Employer open-minded culture.
- Internal culture is a major strength factor.
- The commitment of senior management to apply digital transformation strategy (DTS).
- Outsource consultancy from (BIG4).
- Top management support for operational and tactical levels.

3- How did bank build digital transformation strategy culture?

- Internal stakeholders (employees)?
- Based upon Gardner research & consulting company model factors:
- Technology transformation
- Digital optimization
- Digital collaboration

The result is digital culture transformation, so without building culture of transformation within a bank, it is hard to build digital transformation (culture eats strategy at breakfast)

Therefore, our first step was building a culture of transformation. To do that, we did some activities to employees such as:

- Capability programs.
- Employee's skills set.
- Heavy employees training programs.
- Digital investing training program (focusing on bank digital projects).
- Digital ambassador program.

External stakeholders (customers)?

Evaluation of customer's outputs as the end part of digital transformation strategy (DTS) by applying different models to improve customer experience as a key factor.

4- How did the digital transformation strategy (DTS) at the bank build distinctive strategic business units (SBUs) among Turkey's appealing finance market?

Before starting bank's digital transformation strategy (DTS), we did some organizational changes:

- Formulating digital transformation group.
- As well as the product development department. They were established 10 years ago.

And in the last 3 years we create new business units in the organizational chart:

- Customer experience and process development department.
- As well as creating a new business unit that I am managing, which is, digital transformation and innovation department.

3.2.1.2 Second section: (Digital transformation strategy effectiveness on managerial process).

1- According to the digital transformation strategy (DTS), are there any departmental combining in response to fit with the digital transformation strategy (DTS)?

When you think about (DTS) it's not a work of one unit, it's a transformation of the.

- Strategic group.
- HR group.
- Products group.

- In addition, credit group.
- It is a big change; we think for whole process (front-end part & back-end part) processes.

The front-end part starting point is (customer experiences), and improving that experience is a must, and how customers perceive and evaluate bank products.

- Mobile bank application.
- Internet-banking applications.
- Bank cards.
- Bank digital services, etc.

While **the back-end part** of digital transformation strategy is for digitalizing of;

- Collateral management marketing department.
- Human resources (HR) department.
- Information technology (IT) department was also affected by the (DTS) process.

2- Did digital transformation strategy (DTS) shorten or combine several managerial processes into one or fewer numbers?

For managerial processes, digital transformation strategy (DTS) improves internal employee's experience. And moreover, such as:

- Eliminate and jump up on bureaucracy.
- Useful usage of screen wise.
- Deleting unnecessary documents.
- Overcoming unnecessary processes.
- Applying lean management model.
- Short process.
- Ease of use.
- Result oriented.
- Process department start reforming all business processes in process optimization model

3- How did the bank digital transformation strategy (DTS), transfer workload to customers?

As we know the digital transformation strategy (DTS) is a continuous process focusing on customer experiences. Therefore, the goal is to minimize the work for the customer, not transferring workload to him. Digital transformation strategy's (DTS)

projects like insurance products (pension), in the past they were not applied by digital channels, but now based on bank's (DTS), customers can apply pension products by digital channels. An essential goal of (DTS) is to reduce workload on branch's employees as well as saving customer time.

4- What are the major workload neck bottles solved by applying a bank's digital transformation strategy (DTS) projects?

Documentations: one of our successful projects is branchless banking, when you go to a branch you ask for some products like transfer or deposit money by signing a receipt. Now digital projects enable customers to do all these by digital channels through tablet or smart phones and get a copy of receipt by emails. Sometimes customers got approvals through mobile applications and emails without any paperwork. Another project is by applying a smart voice program; by using a digital assistant called chat pot through a mobile banking application, they answer all customer questions and investigate. Our main goal by improving customer experience is to save customer time without needing to visit branches with a slogan (easy & reliable transactions).

5- How did the bank digital transformation strategy (DTS) save paperwork?

Customer wise (as external side), we focus on mobile approvals for most customer transactions using smart phones. For internal processes we also apply some projects to reduce paper work, therefore we set a goal to minimize paper work depending on soft copies more than paperwork, using archived department goals and focusing on using less paper work.

6- How did DTS, save various service time consuming?

One of the bank's digital transformation strategies (DTS) objectives is reducing customer service time, because service time is a critical point in customer satisfaction.

Therefore, if its long the customer will be not satisfied, in the meantime we didn't measure the service time for specific transaction, but we doing this measurement automatically by the systems with the business management by tracking how much time does service consume while the (CSOs) providing services, so we measure the waiting time by operation management.

3.2.1.3 Third section: (The effectiveness of bank (DTS) on human resources)

1- How staff communication style affected and responded to the digital transformation strategy (DTS)?

Internal employees' mobile application, it is a human resources department's application. What we did as a part of the digital transformation strategy (DTS) program, when we applied a project and prepared team culture transformation. We have activities like digital talks. Through those talks published and advertised through (HR) applications by sending message information to all of employees.

Nowadays all of them are online (team viewer, zoom), so communication top-bottom is getting faster. The message reaches more than 5000 employees in minutes, and they react to the message very fast. Therefore, using (DTS) as a mean helps to spread information quickly between all bank human resources.

2- How did (DTS) give employees (especially frontline employees) clearness of duties to perform his/her job efficiently?

The (DTS) program goal is to reduce workload on frontline branch employees. Therefore, (DTS) gives them clearness to do their task efficiently. To make DTS more efficient for front-line employees, we analyzed data. How many branches do transactions with a digital transaction number?

To decrease the workload on employees, by using this data we improve digital projects & programs. So, our goal for branch employees in the next ten years according to the bank's digital transformation strategy (DTS) is just to provide financial advice and consultancy for the customers as well as for corporate customers. We have a product support team, so if there is any lack of information with the customer service officer (CSO) about any product features they call back support team to solve the problems and get full information.

3- How bank digital transformation strategy (DTS) develops KPIs (Key Performance Indexes)?

Our digital transformation strategy (DTS) is based on moving from process oriented to experience oriented. Therefore, specific classifications like financial KPIs (profits & some financial ratios) are unchangeable. However, when you initiate your own digital transformation there are new KPIs coming up based on moving from a product-oriented model into customer-oriented model. The old one (classic bank product oriented KPIs) such as;

- How many products are being sold? (Number of sales)
- How many cross sales were achieved? (Numbers of related sales)
- How many sales are achieved by each branch?
- How many credits we did.
- How many deposits we made.

Those are typical (KPIs) for any traditional bank. But when you move into customer-oriented model KPIs, we moved to net promoter score model (NPS) by doing:

- Customer satisfaction survey about customer usage of digital channels.
- Measuring customer satisfaction rate.

Therefore, moving from automization into optimization is about how much you improve your process settings and improve organization (KPIs). In digital transformation strategy (DTS), digital is the center. However, the key performance indexes (KPIs) all about:

- The increase of digital customers.
- How many customers come through digital channels?
- Bank's digital sales.
- How many products are sold through digital channels?
- Revenues from digital products.

4- What is the impact of bank digital transformation strategy (DTS) application projects on employees' motivation for work?

I would not say application projects, because we have digital programs. Under each program, we have specific projects; therefore, we call them (digital strategic projects). Some of these projects are visionary projects, derived from bank vision. Therefore, employees see these projects come real, so they are really motivated when they touch them, and want to participate. Within a project, because they know and believe that project is newly released and will develop existing or new products or services they deal with. Sometimes they develop new business models, so they feel projects are exciting and motivating.

5- How did the bank digital transformation strategy (DTS) save -performance time consumption- of employees?

I can say we have a project named robotic automation process (RAP). It is a software robot that projects to reduce the process routine (repetitive tasks) for the operational employees (FTE) (full time employee). Therefore, (RPA) software

eliminates unimportant plus unnecessary tasks for employees. In addition, that robot software works 7/24, and actually saves some processes time. As a result, (RPA) projects affect positively on saving employees working time by concentrating their performance on important tasks.

6- How did bank digital transformation strategy (DTS), affect and improve employees' competencies, performance and skills?

We decided to create a training program for employees called (improving digital skills set). It is mainly designed for:

- Improve employees' digital skills.
- Create new digital competencies, containing.
- Innovation skills.
- Data analytics.
- Customer experience building.

7- How did the bank's digital transformation strategy (DTS) affect training programs?

At the bank, we consider training as a continuous process for digital transformation strategy (DTS). We are conducting basic training programs twice a year, and the main goal is a digital skill building set for employees.

3.2.1.4 Fourth section: (the effectiveness of bank (DTS) on customer services)

1- How did customers evaluate projects of the bank's digital transformation strategy (DTS) at satisfaction scale rate?

The main goal of digital transformation strategy (DTS) is to improve customer experience, and that experience is improved. Therefore, we understand that our bank digital transformation strategy (DTS) program is successful.

2- What is the percentage of bank digital transformation strategy (DTS), transfer service workload to customers?

In terms of completing transactions by the customer him-self through digital channels is about 85%, while the remaining number of customers doing these transactions by branches (traditional model).

3- How did the bank's digital transformation strategy (DTS) affect the rising number of digital customers?

Big part of digital customer regulation (digital on boarding) is regulated by government bodies in addition to the central bank by publishing new regulations. Until

the end of May or June (digital on board) will be available in Turkey. We can do video conferences with the call center agent and the customer can digitally open an account in the bank without any need to go to a physical branch. This will positively increase digital customer numbers in general not only in our bank.

4- According to the bank digital transformation strategy (DTS), how many bank mobile applications downloads increased?

Annual reports, google play retail banking 35% increased number of transactions, 45%.

3.3 Today bank's digital reality projects:

According to a scan of bank sources, we found that bank focus on digital customer needs and expectations. Therefore, taking a role in improving digital customer experience was one of the main motives of looking and deploying innovative fintech technologies in specific time series sequence that enables building internal and external stakeholders' digital culture. Therefore, planning, formulating, and implementing one single digital project in action must be compatible with backward and forward other digital projects in sequence and in building as well as upgrading strategic digital experience. However, below there is a list of some customer touch point's digital projects such as:

- ATM
- Corporate bank dynamic website.
- Bank mobile banking.
- Your bank digital platform.
- XTMs
- P.O.S technology.
- Investment application for stock market exchange.
- QR payment
- Voice guidance (IVR) system.
- Digital assistant.
- Tablet digital signature.
- E-Services and accounting integrations.
- QR code checks.

3.4. Fintech and agile management structure at bank:

When the bank decided to build its own digital transformation strategy, the agile management approach was the best roadmap to follow, which enables the bank to manage one digital project by breaking it into several steps or phases. As well as agile approach management allows different working groups to release their finish and complete segment of project's work. Nowadays most banks – including the case bank - are heavily investing in end user research technologies and forming their digital experience including agile for digital transformation.

A good digital transformation strategy must show better engagement in agile change management to improve internal operations in order to enhance customer experience. On the other hand, the bank benefits from agile management methods by enhancing decentralizing of digital project controlling and implementing processes separately from other projects without forgetting the holistic digital projects compatibility. All digital projects at the bank according to the agile management approach, pass-through several steps in order to complete the production of this project.

A digital project is composed of small phases or sprints, each of which results in a mini project. Finally, the digital project backlog outlines how new features interact with current features and how to combine numerous additional advancements into a single digital project. Then there is the sprint backlog, which contains a list of activities that must be accomplished during a sprint; each sprint includes planning, prototyping, reviewing, and implementation stages.

Mini projects given at the conclusion of each sprint. With each sprint, new features to the digital project were introduced, which has contributed significantly to the project's overall growth. Following the completion of all sprints with appropriate validation during development, a final delivery completed digital project with less possibilities of failure produced.

3.5. Bank's strategy group structure:

This thesis is based on a qualitative research approach, therefore before writing (bank's strategy group structure) paragraphs to summarize useful information about structure changes, in depth readings and detailed based search done upon the last three years of bank annual reports since 2018, especially strategy section in each report.

Which discusses in detail the main structure changing in response to deploying the bank's digital transformation strategy according to the agile management approach. Therefore, strategy group department with its subdivisions, directorates and offices redesign and reorganize functions, tasks, responsibilities, and setting human resources updated plans and allocations in numbers and acquisition of digital competencies and skills. However, new departments were created such as digital transformation and innovation department, innovation center, product development directorate, and bank academy that works through digital channels for training and development.

In order to activate strategy group role in deploying the mainstream of holistic bank's digital transformation strategy, specific digital functions and duties delegated to group such as:

- The creation of a digital transformation and innovation culture across the bank.
- Oversight of the complete digital transformation initiative.
- Fintech integration processes must be coordinated.
- Consistently improving the consumer experience.
- Achieving perceived unity among internal and external factors in communication.

To have a panoramic view and to understand the bank's own agile managerial approach and how the bank adopt and deploy digital transformation strategy, this thesis focuses on strategy group sub-department's function, duties and responsibilities to accumulate all digital projects. Therefore, strategy group consists of main integrated departments, departments, directorates, divisions, and business units will be scanned in the following paragraphs from duties and responsibilities viewpoints to formulate a panoramic vision about bank digital transformation strategy.

3.5.1 Planning and corporate performance management department:

To know more about this department, this thesis examines the department staff main responsibilities to know their participation role in building bank digital transformation strategy:

- Determine the bank's medium- and long-term strategies and policies in accordance with the bank's shared vision, considering the board of directors and top management's views.
- Coordinating goal-setting initiatives with the business units and putting these goals into action.

- One of the goals is to update the specified strategy in line with changing conditions, therefore creating an optimal environment for the bank to attain its full potential.
- Develops performance standards in areas under the strategy group's purview.
- Manages quality improvements by compiling, analyzing, and interpreting performance statistics and information.
- Undertake regular capacity study to assess the efficacy of services as well as customer satisfaction.
- Monitor and assess whether the bank is operating in accordance with its strategic goals.
- As the lead for activities including customer, product, and channel efficacy, developing new projects, and maintaining current projects up to date.

3.5.2 Strategic program management office:

After searching in bank sources, this thesis found that strategic program management office is responsible for implementing and accumulating internal managerial digital projects by synchronizing with roadmap of general digital transformation strategy, therefore, main duties dropped upon this office such as:

- Managing essential initiatives that come within the framework of strategy and engage the bank's whole workforce.
- Conducting program-wide management of projects aimed at a specific sector or group within the range of strategic goals, as well as building a project management approach, the department draws the blueprint, especially for new digital initiatives.

As results of strategic program management office, was responsible for completing some projects in the previous duration and move forward steps in the internal managerial digital ladder including:

- Robotic Process Automation (RPA): this software digital project is being done to enable the employment of robotic process automation technology in all operational processes and manually executed standards, as well as detecting all recurring operations in order to reduce or delete superfluous ones.

- Early warning system: this system helps processes and action assignments to control via a banking application in accordance with business clients' early warning final status.
- Branch experience: inside bank, a new design study completed with their own specialists in order to adapt to changing business models and identify branch objectives. This initiative intended to improve consumers' branch experiences by connecting them to digital resources.
- 1010 Explorer: alongside with this thesis in scanning digital structure, we notice that according to the bank's social responsibility, building young digital experts was one strategic goal for the bank, in order to provide an internal fintech market with local future experts. Thus, 1010 explorer project developed with the goal of finding, training, and developing at least 1010 passionate explorers aged 10 to 14 years old on coding to build new digital expert generations. Moreover, all project graduates will follow up to make sure that given digital skills are under continuous future development process.

3.5.3 Corporate communications department:

Digital transformation strategy at bank built upon effective communication process. All fintech digital projects implementation need pre-communication based on market surveys, collecting customer needs and expectations, and stand up on new innovative fintech technologies. All of these communications result as inputs for coming next digital projects. As well as through-communications in order to assess the effectiveness and smoothness of implementing digital projects internally.

Finally, after communications to make follow-ups and measure customer experience development and satisfaction upon specific digital projects and use it as feedback for the next fintech digital project. Therefore, the corporate communication department at the bank operates under the strategy group and is responsible for implementing marketing communications methods for the bank's digital strategy priorities and goals with interested parties. Aside from the functions listed above, this department is led by an understanding of its corporate social responsibility in all promotional efforts and digital initiatives involving consumer touch points.

3.5.4 Digital transformation group directorate:

The digital transformation group directorate was founded in April 2018 with the goal of implementing one of bank's most critical strategic initiatives, namely the bank's digital transformation objectives, in a comprehensive manner.

3.5.4.1 Digital transformation and innovation directorate:

Fintech is one outcome of digital innovation, to build a strategic competitive business, innovative ideas and innovative businesses come in the top margin achievers due to making ahead steps forward and fulfilling customer expectations from products and services. Bank had been forced to follow innovative fintech technologies by various rates of fintech adoption due to their own internal limits, visions, restrictions, digital expert human resources availability, corporate values, local market regulations, internet availability, new smart phones and devices availability, as well as amount spending money for adopting fintech technologies. In our thesis we examined that according to bank vision beliefs and values, that fintech technologies and innovations are a necessity for the future of the bank.

Digital and innovation creativity is considered as one of the most important inputs in order to achieve a competitive advantage over other banks in the Turkish market, at the same time to build and upgrade customer experience and expectations about the various new packages of products and services digitally.

In 2018, digital transformation and innovation directorate has been founded under strategy group structure to relay more importance to follow up innovative fintech digital projects worldwide and to study the possibilities of deploying appropriate digital projects internally. Through this directorate manager, two online (zoom) sessions were held to obtain answers about the thesis predesigned open-end questionnaire in order to understand bank digital transformation strategy status and conditions. To stand on all modern fintech innovation digital projects, some charges delegated to digital transformation and innovation directorate such as:

- The digital transformation and innovation department is also responsible for fintech integrations that assist the bank carry out new and creative business models.

- According to the bank fintech integration process, and in order to improve customer experience, the bank commenced with five (local, international) fintech companies to benefit from new partnerships with up-to-date fintech business models to provide solutions that improve customers' lives.
- One of that fintech partners is “COMpay” which can customers use a QR code to make card-less transactions at specified ecommerce websites.
- Provide a simple, swift, seamless, and uninterrupted experience to internal and external customers.
- Setting motto of digital transformation strategy which is: “our route is digital, the future is with you, and our focus is people,”

Digital transformation and innovation department undertakes the following:

- Creating customer-centric structures:
- Improving, optimizing, and transferring procedures to a digital environment.
- Coming up with fresh business models.
- Keep searching for digital talent.
- Contributing with cultural change

The digital transformation program's programs strive to improve the experiences of internally and externally stakeholders by utilizing integrated methods and technology in the categories below:

- Business unit engagement.
- Process and infrastructure.
- Business model.
- Customer engagement
- People, culture.
- Data analytics.
- Governance and organization.
- Managing innovation

Under supervision of digital transformation and innovation directorate, 5 out of 37 projects completed in 2020, completed projects:

- Digital transformation strategy and roadmap.
- Robotic process automation.

- QR code payment.
- Real-time campaign management.
- Internal customer gamification.

3.5.5 Product development directorate:

The success rate for any digital product is customer experience. Therefore, bank digitally trained staff delegated responsibilities to integrate customer centricity upon digital products and services design. In the digital age, bank's digital products and services have not been sufficiently introduced with a modern appearance, thus, fact said that successful digital products' visual appearance is just the top of a huge iceberg.

We have the unseen side under water, the unseen part of the iceberg depends on product design, customer experience (which in turn depends on customer's perspectives, expectations), business model, and product functions. At the same time fintech digital products must focus on product quality concept, which in fintech terms digital product quality is the deliverances of intangible benefits that are measured with customer retention and satisfaction scales.

It is important to make the quality of digital products matching customer expectations through product utility and repeated accesses, which in turn represents increasing customer demand for bank's digital products and services. In addition, banks' digital products and services should interact with external operations and market distribution as a strategy for selling items to clients. It is a distribution of the information about product functions within an external environment in order to increase market awareness and generate customer interest in the service or product.

Business model determines not only the type of business but also the basic principles of product functioning and developing strategy. Therefore, organizational features determine the production of digital product or service and implementation of digital business. In the digital era, more flexibility and switching business models followed instead of bureaucratic legacy in order to provide demand value for customers to increase the customer satisfaction and accordingly ensure long-term success.

3.6. Analyzing bank digital transformation strategy process:

Depending on figure (02) of (Mergel, 2019) about digital transformation process steps, analysis of how bank deploy the digital transformation process steps to build a panoramic view about building digital strategy.

- Digitizing processes:

Process department in the bank started reforming all business processes in the process optimization model. Building an internal system depending on digitizing all bank data -clouds- after evaluating the existing processes and information flow to eliminate and jump up on paperwork and communication as well as bureaucracy.

By a useful usage of screen wise and deleting unnecessary or duplicated forms or steps as well as overcoming unnecessary processes itself. That step is deployed by applying a lean management model, which focuses on basic concepts (short process, ease of use, and result oriented).

An example for digitizing internal processes is applying a project named robotic automation process (RAP), which is a software robot that reduces the process routine (repetitive tasks) for the operational employees (FTE) full time employee and eliminates unnecessary processes.

- Digitize physical documents: (files, books, applications)

Branchless bank application is one of our successful example projects of a bank, when customers go to a branch, you ask for some products like transfer or deposit money by signing receipt previously.

Now digital projects like (mobile branch) enable customers to do all these by digital channels through tablet or smart phones and get a soft copy of receipt by emails digitally. In turn, customers got approvals through mobile applications and emails without any paperwork as well as bank saved and controlled all those processes by using a secured system. Internally, major processes shifted digitally by applying soft wares projects to reduce paperwork, therefore, the goal of minimizing paperwork depending on soft copies more than paperwork, using archived department goal and focusing on using less paperwork.

- Digitizing relationships:

Bank depended upon the concept of (front-end, back-end) model in order to digitize relationships of the bank workflow process. The front-end part is the beginning point specified by customer experiences. Enhancing and improving customer

experience formulate an essential block in digitizing relationships. Therefore, bank customers perceive and evaluate bank products through (mobile bank application, internet-banking applications, bank cards, and bank digital services).

Moreover, the back-end part of digital transformation process is encompass for digitalizing of (collateral management marketing department, human resources (HR) department, information technology (IT) department, and all managerial affairs). Moving from the automation part to optimization that means set up the system in digitizing relationships. Therefore, bank improved optimization and system efficiency as well that will lead from interaction with customer demand model into interaction with customer journey. Moreover, redesigned thinking about customers (start to end), as well as for signing up to specific financial products or services.

- Digitizing services:

Bank applied a bundle of digital projects to digitize all bank financial services and products since the decision of digital transformation was taken a sequential developed digital service project offered in customer touch points (in branch) such as (ATM) machines, (XTM) machines, e signature on digital tablets. In addition (out of branch) such as mobile branch, POS, "Your bank" platform (QR) code payments models.

- Using new technologies:

Bank depending on digital transformation strategy upon adoption and deploying of new developed digital projects fit with customer experience and achieve a competitive advantage over other financial institutions. Customer in touch digital projects offered a vital role for new developed technologies such as mobile branch and (XTM) machine.

Internally, the innovation center played an important mission to keep the bank in touch continually with the latest editions of fintech technology by hosting local and international fintech experts and building basic digital knowledge with all modern used technologies and applying the suitable projects after measuring the efficiency of those technologies.

- Develop new competencies:

The basic step of building a culture of digital transformation. Planned and designed some activities to upgrade employee's digital culture such as (capabilities programs, employee's skills set. Heavy employees training programs, digital investing

training program) focusing on bank digital projects, as well as applying digital ambassador program internally.

Bank created new digital competencies, containing innovation skills and data analytics for building and evaluating employees' digital skills.

On the other hand, the evaluation of customer's outputs as the end part of digital transformation strategy by applying different models to improve customer experience takes place as a key deception factor to find solutions for any expectable problem.

3.7 Main digital transformation projects:

Bank like other organizations in deploying digital strategy need to meet customers where they are, and the potential customers have embraced digital especially through smart mobile phones, therefore, fintech innovation technologies created especially to serve the needs of their customers demand by providing new digital products and services packages that they expect.

In this section of the thesis, beside bank annual reports, we heavily used bank corporate website through navigating into branchless banking webpages as secondary sources (as mentioned for link in references) of information to examine and have detailed information, as well as panoramic vision over all bank digital projects.

Bank seeks to use the newest digital and technology breakthroughs in financial transactions to achieve its goals under control of the digital banking product development unit to offer their customers innovative and satisfied digital products and services.

3.7.1 Bank dynamic website:

In this qualitative thesis, through observation and examining the research model, we specify one of the digital banking product development unit controlling areas, which is the bank corporate website. Through the corporate bank website, the digital banking product development unit plays an important role by making product's awareness of existing and newly launched innovative digital products, explaining the way of digital products usage and benefits.

For example, XTM machine's locations and using features, however, introduce easy navigating access to download bank mobile application, or even through opening an online account with (Your bank) approximately 8.02 million visitors annually,

ranks 261st among the most visited websites in Turkey. Dynamic and functioning features of bank's website:

- Bank corporate website offers various customers with optimization ways to access their choices by different languages in Turkish, English and Arabic.
- Search tools have improved, making it easier to find the information you need.
- The website design has a flexible interface that provides a better experience for users on smartphones, tablets, and laptops.
- Provide customers with information and assistance about receiving MoneyGram application forms online.

Dynamic and interactive website screen face for several services such as:

- Money exchange rate service.
- Profit share calculation options.
- Finance calculation offers & options.
- Pension calculation.
- Open an online account.
- Applying for bank cards.
- Career admission.
- Offer "investment" application downloading option for precious metal & gold buy and sell.
- All bank branches, (ATMs) and (XTMs) locations.
- Chatting with a digital assistant.
- Access to download bank mobile application.
- Contact of customer care and bank social media links to follow on.
- Using the website as a communication medium with internal and external audience and investors by listing detailed publications, informative manuals about specific services & applications.

3.7.2 Bank mobile branch:

Mobile banking branch is the most famous and touchable point for customers in general. However, before any adoption or launching of a bank's mobile branch, banks must focus on customer financial service needs and categorize them into simple icon titles. Customer perception and expectations are important in order to provide simplicities of design and ease of use.

As the next step, motivating customers to move on digital financial services through mobile branches is considered as another challenge for marketing and distribution efforts. In our thesis, a bank mobile branch built on software developed to enable making video calls features to the mobile branch app. Moreover, enable as well remote for customer acquisition, and allow customers to do video calls with the customer call center via the mobile exclusively in-house. As well as functionality enhancing efforts for the transmission of many transaction sets to the mobile Branch continued in order to achieve high digital product value while also improving user experience.

Bank mobile branch boasts further standard design features with color and themes alignment as well as customer experience enhancements. All bank efforts for mobile branch development revolve about customer personalization features, offered by adjustment options between developed menus. While payment processing alerts are now available via the mobile branch. In terms of motivating existing bank customers moving to mobile branch digital financial services, they made all digital banking transactions free of charge in-between bank accounts as well as to other banks accounts during working hours.

In terms of raising bank mobile branch downloading records, downloading instruction published at bank's website, as well as customers can get live help for downloading mobile branch through digital assistant, even any customer can get live voice assistant by calling customer services hotline where three options of languages can select (Turkish, English, and Arabic).

Because our thesis depends on a qualitative research approach, we intended to scan and examine all various details of the research subject, which emphasize bank digital transformation strategy effectiveness, that make it useful to have a focused look about banks digital projects technical features. Therefore, herewith below a simple instructions of bank mobile branch downloading and activating Steps:

- Download bank mobile branch.
- Enter customer number and temporary password.
- Verified phone number.
- Enter password in SMS, which came to your phone.
- Create a 6-digit password that can be used for mobile phones. Internet branch and telephone banking.

- Enter the mobile branch with the specified password.

Valuable question comes to mind for all bank's customers, including bank's customers, which is, what kinds of digital financial services and transactions can be performed with bank mobile branch in comparison with the vast physical bank financial services? Bank mobile branch provides easy access for digital financial services and transactions such as:

- All kinds of money transfers (Turkish Lira, foreign currencies).
- Bills payment.
- Precious metals and foreign exchange transactions.
- Stock trading.
- Requesting bank cards and setting their passwords.
- Navigating access to (Your bank) platform.

Without any transaction fees for the above services. As well as the bank, in order to maximize customer experience alongside human value, deaf and dumb customers open an account using sign language with video calls without going to the branch through the bank mobile branch.

3.7.3 ATM machines:

(ATM) stands for -automated teller machine- it is an electronically banking outlet machine, considered one of the earliest digital technologies used as a fintech. ATMs enable bank clients to complete their bank transactions without help of a branch representative or tellers 24 hours a day. Bank considered ATM machines one of the most useful technologies today that connects our digital world to the physical one by simply putting in a bankcard that can instantly call hard cash from your bank account. And has modified machines with innovative and value-added digital services through operational options like foreign currency exchange, QR code account access, and three options of operating languages (Turkish, English, and Arabic) to cover more customer categories as well as improving customer experience.

ATM geographical coverage and availability reach in total at the end of 2020 until 1080. (586 out branch, 424 in branch, and 70 of them offsite) considered as a decisive factor of customer satisfaction ratio, and a competitive advantage represents bank positioning power.

Bank follow a strategic (ATM) location distribution policy in-house as well as out- house positioning strategy to cover all possible customer's demand locations to satisfy customers. In the other hand, bank made agreement with Turkish post office to allow bank's customer using post office (ATMs) as same as bank's own (ATMs) to widen geographical availability over market wide.

3.7.3.1 ATM machine technical working features:

Standing upon one of the oldest fintech technologies, which is ATM, this thesis in order to enrich this thesis paper will examine in detail technical and operational features of ATM. Therefore, an ATM (automated teller machine), plays all 400 parts. Weight approximately 200 kg. It starts working with the verification of the card that you insert, whether it is yours or not, this done through the black stripes on the card we have, black section of the card contains a few million small magnets with both positive and negative charges (Bowen. 2022).

The ATM has two readers to scan them. As soon as the first reader after inserting the card checks whether it's the original card or not, the second reader checks whether the password you entered matches the four digits (PIN) number of the card. Once your password has been confirmed the (ATM) will connect with the bank networks. Servers in the bank now check the client account to know whether you have enough balance or not, and send the results to the ATM.

3.7.3.2 ATM machine main parts:

The mainboard: is the (ATM's) processor, which holds the (CPU) memory and links all of the (ATM's) components. The device that scans the cards and banking information saved on the chip or magnetic strip on your card is known as a card reader. Most card readers and ATMs are able to read Europay, MasterCard, and Visa style cards. Display an (LCD) screen that shows what the customer is doing. Keypad, which is an ATM entry for secure data such as the passcode in the transaction amount.

Cassette, which is the part that holds all of the cash, consists of four racks. Cash dispenser is the element that sends the money from the cassette to the platter. Printer, which prints your receipt. Power supply, which provides the (ATM) with an external energy source. (I/O) board, this is the route that manages connection between the

(CPU) and the internet or a telephone connection. Modem, this carries out the processor's communications over the internet (Kagan. 2021).

3.7.3.3 ATM machine features in action:

Various types of notes can be placed in the cassettes. Depending on the amount you enter, the rubber roller inside the machine will pull out each note and deliver it to the conveyor belt, now a sensor scans the note width and the thickness. If the thickness is high, the machine will detect those two notes are stuck to one another. On the other hand, if the thickness is less than it is identified as a fake note.

All such notes go into a reject bin. Once the scanning is complete, the money will travel on the conveyor belt and will be delivered out to the customer. The (ATM) can count to five notes per second. In the meantime, the computers in the bank record this transaction, count the remaining balance and send it to the (ATM), so that it can be printed on the receipt and delivered to the customer. This process can be done in just a few seconds. All (ATMs) were provided with alarms that deliver signals to the nearest police station as well as it was provided with (GPS) device (Bowen. 2022).

3.7.3.4 Transactions can made with bank ATM machines:

Bank ATM machines as a digital communication channel with customers modified and enhanced to offer more easy financial services such as:

- Withdraw money.
- Quick withdrawals.
- Account view.
- Bills payment transactions.
- Money deposit.
- Money transfer.
- Buying physical gold coins.
- Exchange currencies (TL, USD, and EURO).
- Getting a bankcard password.
- Balance inquiry.
- QR code account entrance.

3.7.4 “Your bank” platform:

Bank made forward step in concept of fintech open digital banking through (Your bank) is the world's first interest-free digital branchless banking platform, the simplest and quickest method to become a bank customer and get financial services digitally without visiting a branch. which depends less and less on human intervention as well as more on completing financial service digitally, therefore, bank planned and implement a digital portal that enable bank’s customers opening a bank account digitally through “Your bank” digital platform.

As we know in traditional banks, opening a bank account as a primary phase to deal with a bank requires customer visit to bank branch physically, as well as needs some investigations form bank side like customer’s identity card, or making sure of business entities.

In terms of completing opening an account process, there are some documents to sign live in person, that process automatically passed by “Your bank” account digital platform. Through the "Your bank" platform, customers can fill product applications online. Creating products and services focused towards easy, lean online banking. As well as opening accounts and credit card applications through the internet. In our thesis in order to stand on bank digital project’s features, we intend to enrich this paper with steps of opening “Your bank” digital account as well as stand on that portal customer benefits. Therefore, with “Your bank” platform, customers can:

- Open a bank account without visiting a branch.
- Make an application for bank cards.
- Make use of your home, car, and personal finances.
- Learn about private pension plans.
- Customers may cover themselves and their family members by purchasing life insurance.

Your branchless digital bank advantages contain the largest variety of digital products package in Turkey. “Your bank” digital platform adds attractive features for digital customers to draw attention and encourage them for converting digitally like no account maintenance fee, no (EFT) and transfer fee, as well as free money withdrawals.

Herewith the following paragraph, this thesis paper specifies steps of entering and activating “Your bank” platform account, and enrolled as digital customer:

- Download bank mobile branchless application from the App-Store or Play Store.
- Follow the instructions in the "become a customer" section in this app and fill out the form online.
- After filling out the form, the customer must let the camera read the backside of the chip ID card by following the directions on the screen.
- By bringing the back of the phone closer to the ID, the customer enables the information to be read with NFC.
- Moreover, bank notify smart devices that customers can apply with any smartphone with NFC feature. In addition, can apply with Android phones as well as iPhone with IOS 13 and above operating system).
- Then the customer must show his/her face to the camera by following the directions.
- Then the customer can connect to a video call and talk to the bank's customer representative.
- As well as a bank set time frame for those video calls, which can be made and applied between “09.00-23.00” every day.
- During this video call, for a more quality interview, customers must notice that the surrounding environment must be bright, and the customer's identity and face must be clearly visible.
- After the meeting on video call, customers can approve the contracts on the screen and complete account opening.
- Logging into a bank mobile application again, using a temporary password specified in SMS that will be sent to the customer after account opening process completion.
- Customers can benefit from all the digital products and services provided by mobile banking by logging into bank mobile within 36 hours with a temporary password that will be sent to you after application date.
- Cash cards, which customers will use in shopping and ATMs, will be delivered to the address that customer gave in the application form by courier as soon as possible.

Bank offers various categories of accounts through the “Your bank” platform. Each account has specific advantages and benefits, to improve customer experience

and add differentiation of digital product value in terms of standing on customer needs as a digital open bank platform.

3.7.4.1 “Your Bank” platform account categories:

3.7.4.1.1 Current account:

Like a traditional current bank account, with “Your bank” digital current account, customers can do all banking transactions wherever and whenever they want, without paying any extra fees. Additionally, to cover all side of studying “Your bank” platform, here with the below list of “Your bank” platform digital current account features and benefits that can digital customer use as shown below:

- Customers do not pay any account maintenance fee.
- Customers do not pay money transfer fees when sending and receiving their own money.
- When a customer needs cash, he can withdraw your money from all bank (ATMs) 3 times a month, with a maximum of 2000 TL per transaction, without paying any commission.
- Even if a customer does not have his card with him, he can deposit and withdraw money with the mobile branch (QR) code.
- Customers win many points with “Your bank” current account, with debit card; customers earn points for shopping, which they make from your account as an advantage to motivate customers to move to a digital current account, at the same time improving customer experience.
- Money transfers from abroad transferred to “Your bank” digital current account without any deduction.
- The possibility of opening digital accounts in different currencies is an option for customers. Therefore, they can open an account in any currency they want effortlessly.
- Customer earns 0.25% gold points for all his purchases with your bank card. As soon as the gold points he earns exceed 10 TL, they are transferred automatically to gold current account.

3.7.4.1.2 Digital participation account:

The bank is playing an important role in the Turkish financial market, therefore, offering a profit margin through short-, medium-, and long-term investment can be achieved with 0% tax advantage by using a digital participation account.

It does not matter more or less; “Your bank” participative account customers earn more with “Your bank” savings. By digital account 24/7 customers can withdraw money whenever they want with added profit for the date of withdrawal.

3.7.4.1.3 Gold account:

The bank offers an investment opportunity with “Your bank's” gold account, in order to direct customer wants into the digital side of investment with precious metals especially gold exchange. No matter how the investment, big or small, though, the customer can evaluate his savings in a safe way through digital channels. Moreover, here are “Your bank” gold account features and advantages:

- Customers can use “your savings” digitally easily without risk of being stolen.
- If a customer gives an order, the bank on behalf of the customer monitors markets for his transactions if the invested amount is starting from 2000 TL and above, as well as the bank, can trade gold deposited for the customer at the price he wants.
- The opportunity to physically buy gold with “Your gold” account whenever the customer wishes is his option, the customer can physically receive gold in his account from bank (ATMs) or branches.
- Customers can buy and sell gold at very advantageous prices day by night.
- The freedom to convert foreign currency savings into gold is an option customers can also buy and sell gold against USD or Euro.

3.7.4.2 Summarizing “Your Bank” platform major advantages for bank customers:

- High profit share: under the slogan, “more profit share is yours”, bank “Your bank” account’ customers can increase their (Turkish Lira TL, Gold, Dollar and Euro) savings and investments with advantageous profit share.
- Withdrawal from All (ATMs); the opportunity of “Your bank” digital account customers to withdraw money from all bank (ATMs) 3 times a month, up to 2000 TL for each transaction, without commission. As well as all Turkish Post offices (PTT) ATMs are included in the campaign. This offer was valid until 31 December 2021.
- Advantageous rates day and night of exchange; bank digital “Your bank” account offer advantage in foreign exchange and gold markets is available, so customers can get the opportunity to invest with advantageous exchange rates 24 hours a day by giving in advanced exchange limits instruction, and automatically trade for him at whatever price customer want.
- Free account maintenance fees: “Your bank” digital platform savings account with no account maintenance fees is available by that digital platform. Therefore, there are no money cuts by paying account maintenance fees.
- Free (EFT) transfer fees: by “Your Bank” account, customers will never incur any charges for remittance transactions in all currencies. Not only are “Your bank” members free of charge but transferring Turkish Lira (TL) money to other banks is free of charge as well, 24 hours a day.

3.7.5 Extreme transactions/teller/ machine (XTM):

In order to fulfill digital customer expectations and needs as well as to improve customer digital experience, bank offer out branch digital financial service channels such as internet branch banking, mobile banking, and “Your bank” digital platform continuously develop in terms of capacity and capability. The number of XTM machines at the end of 2020 reach (89) items. As well as bank, focus upon in-branch digital project developments such as XTM (Extreme Teller Machine) in order to face increased customer needs and expectations about in-branch financial digitalization services.

In general, there are several problems with today's banking experience from both customer and banking points of views. At branch banking customer's time is lost to the traffic in the queue. At the same time, banks lose money for high-cost office infrastructure, human resources, as well as fixed branch expenditures in return for limited financial service periods. With ATM banking, customers can perform a limited range of transactions and bank have a lack of customer contact.

By telephone banking, customers have long waited times and face interviews complexes of user experience, while banks have to encounter high volumes of non-profitable transactions with a risk of negative user experience and word-of-mouth, banking world is in need of a new service model in order to consolidate the unique strengths of varying channels. Thus, bank put a digital vision of in-branch as well as out-branch digital transformation strategy in order to fulfil the capability and velocity needs for future digital banking with main features (cost-effectiveness, augmented, service bundle, penetration, velocity, and flexibility). Therefore, the bank introduced the (XTM) machine as a digital project in order to activate bank workflow as well as the above digital vision features in-branch.

History back of deploying (XTM) digital project at bank. Bank created the Mini-branch bank concept instead of (XTM) for micro locations and low population areas, based on the idea of modifying and enhancing (ATM) machines. Moreover, hard (IT) efforts were done by an internal bank to develop (XTM) related software for making the best connection of face-to-face digital financial services under the (XTM) project name.

In 2013, field (XTM) tests were done by developed software and hardware, in small numbers as a trial version at specific locations. Then, more than 36 items of (XTM) machine activated under service in different locations Turkey wide.

(XTM) stands for (Extreme Transactions/Teller Machine), (XTM) is a new interactive and innovative digital banking experience which is Extreme the humane, with specific human intervention touches. It provides bank branch comfort and elegance on top of enhanced customer self-service experience via tablet-like touch screen. (XTM) is an innovative banking product, where both (ATM) transactions and branch transactions are performed visibly at the same machine.

3.7.5.1 Exist (XTM) machine properties:

This in branch digital machine with the below features create digital value added for upgrading digital experience as well as giving enhanced digital financial banking services and reduce workload for branch employees through XTM characteristics (Kırdinli,2015) as specified below:



Figure 3.1 XTM Machine

Source: (Kırdinli, 2015)

1. Face-to-face communication.
2. A4 scanner.
3. A4 printer.
4. Application forms.
5. Contains camera and audio system.

Therefore, bank clients may perform all transactions via (XTM) with a bank representative online by clicking on the live connection button. The bank customer representative has full control over (XTM) throughout the call. Therefore, customer service officer playing important role in concept of (call management) options at (XTM) such as:

1. Accept calls.
2. Terminate call.

3. Mute voice.
4. Hold / stop video.
5. Resume video.
6. Change representatives' status.

All the above call management features add more options to improve customer digital experience.

3.7.5.2 XTM machine managerial and operational process options:

In order to examine effectiveness and advantages of all banks digital projects (In-branch, Out-branch), our thesis discuss in details of operational and managerial processing features of XTM machines as we see below in order direct customers into new innovative customer journey experience:

1. Scan and print any needed documents.
2. Dispense and except banknotes.
3. Retract banknotes.
4. Reject banknotes.
5. Dispense coin.
6. Check money availability.
7. Print receipt.
8. Take customer centric photos.
9. Monitor device's status.

3.7.5.3 Bank XTM machines provide customer' self-digital variety financial options such as:

1. Balance inquiry.
2. Money deposit.
3. Money withdrawal.
4. Check acceptance.
5. Account opening.
6. Balance sheet inquiry.
7. Statement printing.
8. Money transfer.
9. Payments.
10. View currency / loan rates.
11. View customer information.

12. Receipt printing.

With bank (XTM), customers have the advantage of making signatures on touchable smart sheets just as in traditional bank Branch documents signature, while talking face-to-face to bank customer representatives. The (XTM) machine is not a new generation of (ATM), it is a unique digital innovation of a bank transformation model aroused from a future vision, so according to (XTM) banking can be more humane with limited human intervention.

3.7.5.4 Bank (XTM) machine-based branch hierarchy:

In order to develop a digital transformation strategy, as well as a competitive step forward of future open banking, the bank designed its own XTM based structure bank branch. That branch consists of XTM machines as well as ATM machines empowered by a group of teams including four people: one manager, one retail-marketing expert, one micro marketing expert and security assistant.

In-branch XTMs provide services to local and foreign customers in three options of language (Turkish, Arabic, and English) through XTMs placed at branches to fit with a high number of foreign customers. With video call service at XTM branches, deaf customers can access banking digital financial services using sign language.

3.7.6 QR code payments digital project:

QR code is an abbreviation of Quick Response code, a type of 2D barcode that used to provide easy access to information through a smartphone (Parkavi. 2018).

The QR code sticks out with three little squares in the bottom and upper left corners, as well as the upper right corner. The overall code is made up with a grid of little squares. The code carries less information as the number of squares decreases, and vice versa as the number of squares increases.

Each QR code is made up of numerous nominally square modules, including an encoding region and function patterns such as finder, separator, timing patterns, and alignment patterns. Data cannot be encoded using function patterns, and the QR code symbol is bordered on all four sides by a silent zone. We have observed QR codes implemented in our day-to-day lives, yet not too long ago these QR codes were mostly seen as a shortcut to access a business webpage or restaurant's menu.

Recently QR codes have been dominant in payment capabilities and can be used just if you have Smart devices with camera and QR code scanner application. According to the fintech concept, digital QR codes payments today is one of the most successful and rapidly developing areas of the payment system, which many analysts in the field of Technology and fintech predict a bright future for that digital payment model.

For online and offline sales in this scheme is virtually. Seller generates a code that he places on the purchase page of his site or on any screen near the cash register. There are several variants of the codes when using payments, the first involves the seller encrypting his payment details, and as a result the buyer scanning this code on his smartphone to enter the amount of purchase himself, then confirm the payment.

The simplicity of this method is strikingly obvious. In comparison with traditional payment systems, we can say that the infrastructure of traditional payment systems is significantly inferior to payments at least because it removes unnecessary intermediaries from the seller and buyer chain. The seller and buyer now only need to have an open bank account to transfer funds.

How QR codes payment mechanism works?

Today businesses spent an unimaginable amount of money on payment terminals. Therefore, QR code payment system offer customer a digital payment option, it's enough to print out a sticker with a code and stick it next to the cash register to do payments, besides a business not having to spend money on acquiring services which as a result can lead do the decrease of the cost of their services and goods. Fintech nowadays adopt QR code payment Systems and put it under implementation, in order to achieve reduction of commissions from the spread of QR code payments will benefit the primary.

The bank deployed an OR code payment system in order to improve both parties' benefits (Businesses and end-users). For the bank, a separate round of the spread of QR payments took place in 2020 against the backdrop of the pandemic.

These payments have come in handy in the context of the global Coronavirus pandemic, a social distancing. Many restaurants and other service Industries began to use bank placed QR codes payments with menus or listed services at a distance from the cash register. By bank QR code payment system at fast food, or cafe there is no need to communicate with salesperson, or cashier, it's enough to scan barcode from

the menu, make an order, pay for it online and just pick it up observing all quarantine measures (Sorensen. 2021).

Bank customers can pay for their purchases on recognized internet websites and company sales sites without providing any personal information. Thus, due to the payment with QR Code service provided in partnership with Com-Pay Fintech Company, clients may make payments with the QR code without providing card data on the e-commerce websites. However, Com-Pay approved e-commerce websites for QR-code payment such as the famous e-commerce website (N11.com).

3.7.6.1 Points must consider with online QR payment at bank:

- The QR code payment option is just accessible on Com-Pay approved e-commerce sites.
- Only TL current accounts can be used to make payments.
- The QR code screen should redirect to the order page when a payment is completed on an approved e-commerce website.

3.7.6.2 Steps of QR payment in bank:

- After signing on to the bank mobile branch, go to the left list and choose "QR code transactions".
- In the QR code transactions menu, select the "make payment" tab from the top tab.
- Click the "scan QR code" option after selecting the account you wish to use for payment.
- At the permitted e-commerce websites, scan the QR code on the payment screen
- Accept and finish your financial transactions.

3.7.7 Internal employees' mobile phone application project:

Bank intends to spread digital transformation strategy culture among employees internally, though launched "internal" application in 2016. As a means of rapid interactive tool, which operates on an infrastructure created like a social media app, it helps employee engagement and decreases the amount of e-mail messages through its informative processes. This app shortens communication distances between various

branches, from the east to the west of Turkey. Thus, all bank branches and departments are able to exchange their digital talents, digital competencies, skills, digital needs training, task completions, features of digital projects and corporate future vision and values with one another. Internal employees' app played an important role in assisting employees by sharing solutions in order to solve technical plus digital problems that they face and discussing new innovative digital projects in order to build inter-project awareness before launching projects.

3.7.8 P.O.S digital project:

A P.O.S system is a combination of hardware and software that businesses use to manage and centralize over their operation processes digitally, such as sales volume, financial analysis, analyzing sales by item and payment type, online payment with delivery integrations, inventory control, as well as customer marketing campaigns. (P.O.S) stands for (Point Of Sale).

In 2018, the bank launched a digital project named (my pocket mobile). Which was one of the first smartphone P.O.S applications in the banking sector. P.O.S (my mobile POS) project was one of the most beneficial digital projects in the bank digital transformation strategy for both sides of bank clients (businesses (Retail-SMEs) and end user clients).

Because it covers a wide range of payment transactions out of business locations, enables retails and SME businesses to reach customers and complete payment transactions wherever their location is.

As well as by keeping businesses controlling all financial payments remotely. However, it is a multifunction solution that allows smartphones to accept payments from credit cards and (ATM) cards, allowing for greater convenience and mobility, particularly for merchants and SME companies.

3.7.8.1 Bank's "mobile P.O.S" working process:

This thesis mentioned the operating features of mobile (P.O.S) working system to examine that digital project in detail as below:

- "POS" menus can be used after logging into a bank mobile branch.
- Enter card information as well as transaction information on bank "POS" sales menu.

- From the application screen that opens, the selection of linked account and blocked account, the sector of activity and working condition can be selected.
- Then the "3D Secure and "GO – Pay securely" payment screen opens.
- On this screen, the OTP (One-Time-Password) is sent to the mobile phone of the person making the payment. Then the payment process is completed.
- Payment transactions made with bank "POS" have been listed. In addition to cancellation and refund processes, it can be done by end-of-day tracking.

According to the above mobile (POS) features, both businesses and bank digital customers do trustful transactions easily.

3.7.8.2 Desktop and mobile P.O.S solutions:

The bank offers POS system solutions in different packages, depending on the businesses preferences, digital experience, and digitalization adoption level. Thus, bank provide POS system solutions varied from desk POS systems until contactless POS, mobile POS, and virtual POS solutions. Therefore, the marketing department at the bank is always tracking business clients in order to improve their POS system experience by explaining new innovative features and advantages of the new digital POS editions. Nowadays mobile POS systems have become a necessity not an option, because end-users expect easy, and secure payment systems against their purchases and shopping of goods and services.

If businesses or retailers did not respond to their customer requests, their sales will decrease as well as losing their customers to other competitor businesses that offer easy POS payment solutions, thus POS is really forming a competitive advantage.

In this thesis in order to study the digital transformation implementing effectiveness and advantages of the bank, a panoramic overview of POS system solutions will examine the features and advantages of various POS solutions system categories offers.

3.7.8.2.1 ADSL POS system:

With the ADSL POS system, which works over the (ADSL) line (internet), bank's clients do not pay any extra fees, regardless of the number of transactions. Main features of (ADSL) POS:

- With the (ADSL) POS system, it provides a cost advantage and the opportunity to process faster.
- It provides uninterrupted service with its redundant working feature.
- It is more suitable for workplaces with a large number of transactions.
- It has a faster remote upload facility.
- It allows clients to use your ADSL POS device and computer simultaneously over the ADSL line.

3.7.8.2.2 Cash register P.O.S:

The new generation of cash register POS systems, do both functions as a POS machine and as a cash register. Previously they were separate devices but with cash registers and POS devices they combined in one machine with this innovation. Cash register POS system enables transactions to be carried out on a single device. In line with the action plan of the Ministry of Finance, integrating the cash register and POS system within the scope of combating the informal economy.

Cash register POS systems are devices that enable instant transmission of data to the Ministry of Finance and are compatible with all bank cards. After-sales (receipt/invoice) information instantly transmitted to the revenue government administration. Thus, control and supervision provided in the electronic environment.

3.7.8.2.3 Mobile POS system:

With mobile POS digital systems using GPRS technology, considered as a frog leap in the digital payment systems, business clients can reduce costs while offering fast and convenient mobile transactions, and meet their end user expectations of fast, easy, and secure payments at their existing locations. Main features of mobile POS:

- It allows performing transactions at every point where mobile phone operators serve for companies that make heavy sales in the field.
- It communicates with the bank over a mobile phone line.
- With a portable POS device feature, serving customers outside the company is available.
- It offers the advantage of fast and mobile transactions. It brings cost advantages for businesses and retails.
- The provisioning time is shorter than fixed POS product systems.

- It is suitable for companies that do not have to use cash register POS.

3.7.8.2.4 Contactless POS:

With the contactless POS system, as a business or retailer they can make transactions contactless in a practical way that keeps bank cards out of touch even with devices. Which speedily used especially during Coronavirus pandemic in order to keep social distancing and out of touch strange objects. Main features of contactless POS:

- No need to pay an additional fee to have a contactless POS.
- It allows performing transactions up quickly, easily, and safely by simply zooming in, without inserting the card to spend on the POS device.
- Customers can make contactless POS transactions without need for a password when the amount of payment is up to 350 TL, if the amount of money exceeds 350 TL, a password from POS to complete the transaction is needed.

3.7.8.2.5 Virtual POS:

Bank offers a virtual POS payment system in response to the increase of demand for a mechanism of payment against online shopping and purchases. Therefore, according to its digital transformation strategy, as well as a part of POS payment system integration, it will introduce a virtual POS payment system, which is used for shopping on e-commerce sites. This digital payment system also called VPOS (Virtual POS) provides the opportunity to shop online via credit card. Virtual POS working process:

- It is not a physical POS, which is a P.O.S that is working over web pages.
- When end users shop through a website, they can easily enter credit card information on the payment screens at business or retails webpages.
- The given information reaches the bank, and authorization of the transaction is taken.
- The amount of the transactions that are provisioned will be deducted from the credit card limit of the customer, and then transferred to the company or retail bank account.

3.7.8.2.5.1 Virtual POS payment system types:

Free POS features:

- It allows payment by card in e-commerce sites and virtual stores.
- You can apply as a business or retailers for Virtual POS through bank branches.

Which is a completely free product.

- Free POS (virtual POS) supports installment options with bank credit cards.
- The end users can make payments inside or outside country borders with all local and international credit cards.
- By VPOS, businesses or retailers can perform all operations such as reporting, manual POS, sales and returns.
- It provides a secure payment with 3D secure.

Free (POS) requirements on the website of the business member:

- Confidentiality agreement
- Distance selling contract
- Return agreement
- Contact information
- Active payment page
- Product price information
- SSL certificate (SSL protocol is the encryption standards between the user and e-commerce sites).

An SSL certificate (Kaspersky. 2022) it is a digital certificate that authenticates a website's identity and enables an encrypted connection, SSL stands for (secure sockets layer) and is security protocol that establishes a secure connection between a web server and a web browser.

3.7.8.3 Collection system:

3.7.8.3.1 Collection system features:

- A POS solution periodically collects from credit cards.
- System works on the mail order principle. The information received from customers who entered into the system by business members. This is how the collection works.
- Set payment/collection periods on a daily, weekly or monthly basis.
- Only an internet connection is sufficient at the member workplace, because collection system products do not require a website infrastructure.

- It is a completely free of charge product.
- All operations such as reporting, manual POS, sales and returns are available.
- This system is suitable for businesses such as private schools and private teaching institutions, compounds administrations, associations and foundations, companies that receive subscriptions such as newspapers and magazines regular payments from the internet.

3.7.8.3.2 Conclusion of bank mobile POS main customer benefits:

- There are no charges, fees, costs or device expenses with my mobile POS.
- Increases the speed of transactions.
- Secure and safe transaction.

3.7.9 (Continuous form cheque) digital project:

The bank provides firms that rely mostly on cheque payment more digital options in order to improve digital experience and spread digital financial culture among potential target clients (businesses, retails, and end users). Thus, a continuous form of cheque program can make the process of releasing the cheque more easily and with less faults by continuing the cheque digital program.

3.7.9.1 Main advantages of (continues cheque form) digital program:

- With this digital software program, computers can make cheque information entries with pre-pre-formulated information list.
- This program avoids bank customers from making double entries by transferring the cheque information from the accounting system, which they use, to this program.
- It saves time spent on writing cheque by hand.
- Reduces mistakes and cheque tampering.
- Providing controlled periodical cheque history reports.

3.7.10 Bank QR code cheque:

One aspect of innovation is by mixing two components together to get a new modified, innovative item. Thus, recently fintech has developed one measurement for bank's cheque security by adding and encoding a more secure verification process with QR code upon cheque. Thus, no more than smartphone cameras and QR code scanner applications are needed to benefit as a dealer from QR code cheque. However, the bank added that innovative technology to the bundle of digital projects as a tool for improving customer security feelings towards his financial payments by cheque.

To conserve bank customers at the safe side when dealing with converted or transferred cheque. Until the date of preparing this thesis, the bank prepared QR code cheque especially upon customer demand as an optional feature for cheque verification. Banks (QR Code) cheque features:

- Bank has no difference with other QR code banks cheque. Only QR code is on the check and intelligence information can be obtained due to this code.

- Persons holding the QR code cheque can easily, with Findeks mobile application of (Credit Registration Office), access the cheque history of the drawer by scanning the QR code on the cheque.

- The advantage of being able to see the past cheque payments of the drawer with scanning QR code makes bank customers dealing with cheque safer.

- Due to the QR code check system, any deletion, scraping, tampering or any other chemical forgery can be detected in the information on the cheque. Which makes business life safer for all parties.

3.7.11 E-services and accounting integrations at bank:

MT-940 is an international electronic account statement format. It generates transcripts of all your account events in a standardized format or a variety of digital forms that may be customized to meet the demands of your customers. Thus, in order to fit with businesses global accounting integration demand and stand on their expectations, bank offer e-accounting services (MT-940) format. Upon business customer request, bank records all account activities and reports can be received on (daily, weekly, or monthly) basis as often as client orders for (SWIFT MT-942) format E-services via e-mail or (FTP). By uploading the account statements, Business clients received all recorded statements and reports in (MT-940) format to their accounting

system. Therefore, bank business clients can automatically collect all account transactions easily.

3.7.12 Bank tablet digital signature project integration:

The bank in 2018 in order to digitalize internal customers in touch operational processes. At the same time working alongside with environmental protection protocol to minimize paper works and save wasted resources, launched a tablet digital signature project as a part of digitalizing all internal managerial and operational processes. Which allow customers to perform all physical in-branch counters desk processes and transactions signatures digitally.

3.7.12.1 Features of digital tablet biometric signature:

The bank applies digital tablet biometric signatures because as a result there is no visible difference between biometric signature on tablet and wet signature upon normal paper. Moreover, both signature types refer to handwritten signatures. Thus, same result with digital way plus more cost efficiency by eliminating wastes of paper.

The difference between two signatures is that a wet signature is written manually on paper using a pen with or without ink. While biometric signature is placed manually on tablets or other digital devices by using a digital pen. A digital pen is a type of input device that records a user's handwriting or brush strokes and converts handwritten analog data made with "pen and paper" into digital data, allowing the data to be used in a variety of applications. (PC magazine.2022). The bank customer can put his personal signature at the signature section on the documents such as (information and request forms, receipts, etc.) after that transactions via tablets can be done.

3.7.13 Bank digital assistant (Chabot) project:

As we discussed previously in this thesis, bank digital transformation strategy focuses through its sprint's digital projects on building customer digital culture as well as developing and leading digital experience journey toward achieving future banking with full financial digital services and products. Thus, developing the customer's digital culture became a necessity.

The bank launched in 2020 virtual digital assistant, to lead customers directly to the requested financial services or product effectively, moreover, digital assistant can

chat with customers and help them in performing banking services and transactions effectively by full information of the bank's services oriented.

3.7.13.1 How to reach virtual digital assistant?

Digital assistant can be reach 24/7 through various digital channels:

- Bank mobile application
- Bank internet branch
- Bank formal webpage
- As well as through bank WhatsApp channels through call center

numbers.

Bank's customers can easily through website, internet branch using Google Chrome, Safari, and Firefox browsers connect with digital assistant visually. I-Phone users can contact visually through the mobile branch after the activation process of (IOS) application. Android 7.0 and above application browser can contact visually through mobile branch after the activation process.

3.7.13.2 Benefits of digital assistant:

- Bank's customers can get information about bank financial products and services packages.

- Digital assistant can guide clients smoothly for many transactions such as account, cards, financing, account password, money transfers, credit card/debt payments, invoice and other payment transactions handling processes.

- Helping customers with finance cards and profit shares calculations.

- Providing customers with instant exchange information as well as exchange rate calculations and records.

- Customers can easily learn the nearest branch and ATM locations.

- Digital assistant plays an important role in reducing operational workloads upon customer relations officers (CSOs), therefore, within these related kinds of works, can currently be conducted on digital channels.

3.7.14 Voice guidance (IVR) system:

Digitalization in general aims to save customer time that is wasted in bureaucracy and routine. Moreover, fintech projects in particular aim to convert all

banks' financial services into digital processes in order to enhance customer experience and offer faster and secure communication ways of contacting banks to achieve financial services. Therefore, the bank applies (Voice Guidance System) to customer call center numbers.

When a customer calls the bank, they will hear a welcoming message through the (IVR) voice system. Bank's customers can access the optional menu in a fast, easy and secure way without making any pressing number. It is enough to say the action that the customer wants to do with a few words. For example, customers can say things such as words (password, account balance, mobile device activation, or credit card password). Moreover, (IVR) system automatically leads to the right requested section of service.

3.7.14.1 Bank (IVR) voice guidance system benefits:

Same as all digital projects discussed above as a part of bank digital transformation strategy, this thesis examines the benefits and advantages of each digital project applied in the bank. Therefore, we focused on bank's (IVR) system benefits (Alvaria,2021) such as:

- Getting a direct service menu instead of a complex traditional dial-in voice response system and wasting time with sequential menu options is zero, which makes it difficult to find the action to perform.
- Intelligent call routing.
- Supporting internal employees in busy times by directing calls for non-busy customer service officer's phones.
 - Improving the customer journey to direct service without time waste.

3.7.15 Investment application:

Nowadays banks and financial services institutions are not anymore just for providing customers limited financial services as money depositing, transfers, but moreover, to lead and direct customers in stock exchange and precious metal investments. Thus, the bank deployed a digital application through the department of foreign exchange and precious metals, in order to motivate bank's customers to intern and enroll with the online stock investment world. As well as providing him a safe and secure investment environment by investment application.

Modern fintech digital projects go further than offering customers easy fast digital payments, towards analyzing customers buying behaviors through recording the most favorite online purchases, most purchased items, offering historical purchasing records, as well as personal budget planning models upon customer request. Therefore, in order to improve customer investment experience, as well as maximizing e-wallet customer's profit shares, the bank developed an investment application to cover more statistical records and indexes in order to provide online stock exchange deals with more informative investment data that lead them to the right investment portfolio. Thus, through Investment application, bank customers gain instant access to:

- Stock markets, foreign exchange.
- Precious metals, stocks, investment funds.
- In addition, customers can trade on streaming live prices.
- This thesis depending on qualitative research method, going to examine in more details Investment application digital project features and advantages:
 - Exquisitely design watch lists at investment application, allow tracking stocks, foreign exchanges, precious metals, or investment funds.
 - With that application, customers can tailor and customize their own portfolio and watch lists however they desire.
 - Customers can trade currency pairs at market rates twenty-four hours a day 7 days a week.
 - On investment application, customers can take advantage of streaming live prices, and look for the best and latest price every second.
 - Providing customers with detailed graph technology, intuitively designed graphs, charts, and indicators, gives them a clearer picture of the product's performance, so they can adjust their investment position.
 - Investment application comes equipped with a complete set of trading orders, so customers can fully be in control of their portfolio, so never miss trading opportunities at the right rate levels that customer wants.
 - Investment application continue to work and keep an eye on the markets even if it is not turned on. Therefore, with the alert feature when a rate reaches a certain level customer can specify and notifies on that instant.

3.8 Human resources management role as an asset for bank digital transformation strategy:

In order to implement an effective digital master plan, corporations need software, hardware as well as brain ware. The last one can be valuable more than other wares, because strategy success depends on the human way of deploying digital projects. Thus as much as humans are aware of digital strategy integration as that strategy will be effective.

Alongside human resource's role and importance, the bank considers human resources one of the most valuable parts in the bank's digital transformation strategy. Therefore, when the bank deciding to implement digital transformation strategy, relies enormous efforts on building digital culture among bank's employees in order to overcome all internal stakeholder's digital lack of experience obstacles, many steps accomplished by digital fintech training and development courses to ensure the right human staff with right digital competencies and skills. However, in this qualitative thesis we will stand on the most important actions that bank executed in order to build and develop employees' digital competencies and skills.

3.8.1 Bank innovation center:

In order to combine digital software projects alongside human resources digital touch experience, the bank developed the bank's slogan into "Our route is digital, our focus is people" and in February 2020 bank launched an innovation center.

Why the bank was created (innovation center)?

At innovation center, innovative digital ideas and projects that appeal to the future with board of directors' vision prioritize experience, enhance workplace standards and help to develop the financial industry of the future. Innovation center aim to maximize customer experience and employee happiness in their digital transformation journey, which they embarked on with their approach. It is created by using a bio-innovation concept, which focuses on inventive, instrumental, long-lasting, and green technologies for human issues that are inspired by nature.

Materials used in the center are bio-friendly and recyclable. As a center, most of the employees will feel good and produce innovative ideas for our customers. Topics such as customer experience, thinking design, financial technologies and digital conversations are at the forefront of our center work list. The center hosts not

only bank employees, but also anyone with an innovative idea will be able to benefit from opportunities of innovation by working with the innovation center.

Innovation center target to produce innovative digital ideas, concepts and projects that prioritize:

- Customer digital experience.
- Raise digital banking working standards.
- Shape the new models of the fintech sector of the future.
- Implements new digital fintech projects to integrate innovation and sustainability into all business processes.
- Setting new customer digital experience terms.
- Design-oriented thinking workshops.
- Experiencing financial technologies and digital transformation models.
- Providing a comfortable and different environment in order to motivate employees and enable creation of new strategies that will carry out the fintech banking industry forward, as well as supporting the development of individuals. Where employees will have the opportunity to express their ideas and thoughts.
- Arrange brainstorming of digital strategic project workshops.
- Participating in digital conversations.
- Analyzing customer experience studies. Which implemented with the necessity of realizing new and original business ideas in order to step ahead in an open competitive environment.

3.8.2 Adopting modern technological, digital training and development programs:

Digital training and development courses fill the gaps of employees' digital needs. Thus, the bank based on develop slogan "Our route is digital, our focus is human" that interrelated digital strategy with human resources touches, depends on innovative training and development policies tend to transfer all the technical, digital knowledge and skills that employees need through banking training programs to run and fit with digital transformation process developments. Inspired by the "flow and agile" theory to perfect the training experience, bank design training and development programs offer different methods, designs of learning and development journeys with bank academy. Virtual classroom infrastructure blends agility in the flow of training

with the video portal system and academic portal infrastructure, provides a personalized learning experience, and offers it to all employees. Therefore, the bank designs and develops training activities plan annually for all potential employees (end-to-end) by keeping digital training needs in focus with the design-oriented thinking method. Also, the bank take important steps to advance their careers.

3.8.3 Bank academy:

Bank academy as a portal has launched to provide an end-to-end training and development experience through its digital and physical channels. Through this portal, it keeps all training systems under one roof in an integrated structure. Bank academy develops its training systems and processes with the principle of lifelong learning during work life, and personal development for bank employees with the hybrid-learning model.

Bank academy benefits from smart classroom infrastructure in the bank as well as synchronous or asynchronous virtual classrooms. Thus, employees always stay in flow, uninterrupted training and development activities. Bank academy supports participant employees with training content that can attract the attention of trainees at any time with rich content on digital learning and video tube platforms. In addition, the bank academy has a green-box studio affiliated to education technologies, also feeds its catalog with in-house customized video content. All the above training and development utilities at bank academy aims to build internal digital culture changes in order to fit with new innovative fintech digital projects as well as activating the bank digital transformation strategy in a way that maximizes bank competitiveness and market positioning strategy.

3.8.3.1 Learning, training and development journey at bank academy consist of six different faculties:

- For new workers, there is a basic banking faculty.
- Faculty of sales and credits (for presenting products and services to customers).
- Faculty of operations and risk management (for organizational efficiency and service quality).
- Faculty of personal development (for personal competency building).
- Faculty of management and leadership (to develop organizational culture).

- Digital development faculty (to develop and adopt new digital training programs).

Digital training and development courses fill the gaps of employees' digital needs. Thus, the bank based on develop slogan "our route is digital, our focus is human" that interrelated digital strategy with human resources touches, depends on innovative training and development policies tend to transfer all the technical, digital knowledge and skills that employees need through banking training programs to run and fit with digital transformation process developments. Inspired by the "flow and agile" theory to perfect the training experience, bank design training and development programs offer different methods, designs of learning and development journeys with bank academy. Virtual classroom infrastructure blends agility in the flow of training with the video portal system and academic portal infrastructure, provides a personalized learning experience, and offers it to all employees. Therefore, the bank designs and develops training activities plan annually for all potential employees (end-to-end) by keeping digital training needs in focus with the design-oriented thinking method. Also, the bank take important steps to advance their careers.

3.8.3.2 Smart classroom project:

Bank, alongside with the digital strategy supporting process, established "smart classroom" as training and development center at the headquarters campus base. Virtual classroom training experience integrated with Microsoft teams to take up the next higher training and development level. All training and development programs for internal employees are held by virtual classroom webinars and live broadcasts during Covid-19 pandemic as well as certificate ceremonies held online as well.

Smart classrooms equipped with technological equipment and both distance education and hybrid education can be done in this classroom. Smart classroom aims to provide an interactive training experience for both instructors in addition to bank employees who attend training programs. Thus, smart classroom equipped with:

- Smart board.
- Moving camera system.
- Lighting and sound systems that were installed in the classroom.

3.8.4 Deployment of digital culture activities among bank employees:

3.8.4.1 Robust idea platform portal:

A website with an improved interface, the robust idea innovation portal. The new platform includes elements that support employees' efforts to produce ideas. The robust idea platform webpage of the bank collects all new ideas submitted by employees.

All ideas considered as part of the management process, and then put into effect.

3.8.4.2 Digital communication plan:

Plan for digital communication aims to raise awareness of digital culture adoption within the bank. Month to month digital bulletins are published as part of the communication plan, in addition to organizing online events with experts' representatives who are well-known individuals in their respective fintech fields.

3.8.4.3 "Internal employees" mobile application:

As we discussed previously in this thesis, an "internal employees App", which designed like a social media application, but here in this part this application will be discussed from human resources perspective, that examine internal employee's mobile application advantages such as:

- Enhancing contribution and interaction among employees.
- Reduce volume of e-mail communications through easy informative application processes.
- Reducing distances between all managerial levels as informal communication channels. As well as motivating decentralization leadership models in order to enhance and improve digital transformation strategy projects implementations.
- Enabling each employee at bank branches and departments widely spread in Turkey to share their happiness, values, comments, digital experience, innovative ideas, and Customer centric problem discussions with each other.

3.8.4.4 Idea competition (idea-thon):

In order to discover more young digital talents alongside with the theme of “banking of the future”. Bank organized an idea competition on behalf of university students in order to stand up innovative digital banking products and services, in cooperation with “career platform top talent”, to support digitalization development of university students, in addition to creating a motivated environment to generate ideas for future banking models.

Bank’s idea-thon held entirely online for the first time in 2020 due to the Coronavirus. Valuable ideas generated by university students, the top evaluated three ideas rewarded and prized from the bank side.

CHAPTER 4

4. FINDINGS ANALYSIS DISCUSSIONS AND CONCLUSION

4.1 Findings:

In this part of our qualitative type of thesis, we will present the outputs and achieved findings of stated thesis title (Implementing digital transformation strategy, the case of a local Turkish bank).

The research findings resulted into two divisions due to covering both sides of bank digital transformation strategy internally and externally. Therefore, bank digital business model changes, and bank digital projects findings will be specified in detail.

4.1.1 Bank digital business model changes finding results:

Through writing Journey of this thesis, all aspects of bank transformation from traditional bank concept into digital bank concept are examined and focused on through internal managerial processes changes, staff training, educating, and cultural development in order to fit with the new digital bank working concept. Additionally, external impact examined through customer experience responds against new innovative digital projects design, features and benefits. The main outcomes of digitalizing bank's financial products and services since strategy began almost 10 years ago.

We stand as well in this thesis on bank digital implemented projects in order to touch out the effectiveness and advantages of implementing digital transformation strategy and obtaining financial products and services of the bank digitally. According to this, we found that the Bank's digital transformation strategy is a necessity to perform in the Turkish competitive financial market. As well as more effective digital

projects and aspects, gives the bank more competitiveness over competitors and more smoothness on internal workflow.

Additionally, speediness of deploying digital project time scale before other competitors gives more powerful positioning as well in the market and within customers minds. Therefore, transforming into a digital bank is not still an option to build the future banks, it becomes a necessity.

When a bank decides at the strategic bank level, to implement an effective digital transformation strategy there are some organizational structure changes that come out inside the bank to respond to digital transformation strategy needs. Therefore, the bank quickly responded to those structural changing needs by creating new divisions, departments and groups such as strategy group, which is mainly responsible for implementing bank's digital transformation strategy, as well as digital and innovation department, with product development department to make bank's digital strategy roadmap implementation more effective.

Bank moved into a decentralized business model in order to activate the business unit's decision-making process in specific digital projects accomplishments, and the departmental internal working process inside bank structure to apply and respond to all digital changes in a perfect way.

Additionally, the bank deployed an agile management model as a way to activate internal managerial communication processes to fit with digital strategy implementation requirements.

Employees' digital skills and competencies training programs held by the bank, alongside with internal digital culture building and sharing among employees. Many digital projects basic orientation sessions conducted, as well as internal chat application software designed to play digital culture informative and deployment roles. Moreover, in order to spread internal digital culture, a direct employee's participation in implementing the bank's digital projects takes place next with fintech and digital experts.

As a result, the Human resources staff of the bank play an important role in the success of the bank's digital transformation strategy. We also found in this thesis that implementation of bank digital strategy is based on customer experience which is considered a decisive factor for the succession of bank digital transformation strategy.

Moreover, the bank played an important role in educating, informing, and improving customer experience and continuously evaluating their needs and wants

through digital channels. As we found out in this thesis, that bank's digital transformation strategy is a continuous process, with non-stop visionary decisions. Thus, 23 new cutting-edge digital projects were implemented during the almost 10 years period of time when top management of the bank decided to convert from traditional bank financial services and products into new innovative digital packages of services and products.

Most of the bank's digital projects were strategic targets. Thus, top management tried always to motivate all levels of employees, in order to take their roles and participate in executions and achieving formation of digital strategy through many internal communication channels such as internal employees' mobile application, that activate all communication process between all employees all over bank branches as apart to enroll them in the digital transformation strategy.

In addition, to get their comments immediately to respond to their notice and comments. Meanwhile, to stand on the mass of problems that the customer service officers face in dealing with customers to find Solutions immediately.

The bank in order to make digital transformation strategy effective rely on an important role for employees training and development. Therefore, creating a training academy with various faculties and majorities was a necessity for exploring essential and digital training needs analysis. Thus, each employee specified in a planned, designed training program in order to fulfill digital gap competencies and skills and to make sure that all bank employees have satisfied standard of digital skills that enable them to help and provide customers with full information about banks digital products and services in detail.

4.1.2 Bank digital projects findings result:

In this qualitative type of thesis, we found out that important causes and reasons of a bank implementation of digital transformation strategy comes through advantages, features, workflow effectiveness, numbers, operational options, spread, layout, appearance design, easy navigating, and usage of deployed and implemented customer-touched digital projects through sequential time of periods.

Alongside with internal operational applied digital projects integration, such as robotic process automation (RPA) program, that reviews routine processes, which

includes repetitive tasks for the operational employees and eliminates unnecessary tasks automatically.

Additionally early warning system program that manage workflows and sign actions via banking applications. Therefore, in this part of the findings section, a spotlight and mentioning of bank digital projects findings as an important part of implementing bank digital transformation strategy aspect.

Bank corporate website sufficiently considered a valuable customer's touchpoint communication channel, with SMEs clients, sole traders and personal customers, through navigating icons and electronic pages that leads customers in a smooth way to get full information about the requested digital product or service. With such a dynamic bank website, customers can navigate to mobile brunch application downloading as well as "your bank" digital platform. In addition to 24/7 digital live assistant.

Bank mobile branch is one of the most common spread aspects of implementing a bank's digital transformation strategy. Which enable smartphone holders by downloading bank applications to move from traditional bank financial services and products into new innovative digital Banks Financial Services and products.

ATM machines are one of the oldest fintech technologies, which all banks including our case bank, considered an essential aspect in digital financial services. Thus, a convenient number of (ATM) machines allocated between vital areas. As well as a joint venture agreement held with Turkish post offices to benefit from their (ATM) machines in order to increase availability of locations and numbers of ATMs.

"Your bank" digital platform is an important digital achievement for the bank. Moreover, a step for a fully digital open bank world.

Another finding in this thesis alongside a bank digital project is (XTM) machines. (XTM) machine represents a new digital finding that summarizes all banks' financial products and services in one machine. With less customer service officer touch based on XTM digital project deployment found, the bank created a new designed bank branch structure consisting of four persons (one manager, one retail-marketing expert, one micro marketing expert and security assistant) named mini branch.

QR-code digital payment project in consistency with smartphone holders add a lot of payment options at markets as well as online shopping.

POS System digital project has been deployed by the bank with its various kinds of POS systems such as ADSL POS system, cash register POS system, bank mobile POS system, collection system, contactless POS as well as virtual POS system.

The other side of the bank digital project aspect is continuance form cheque program. Which is a kind of software program that enables banks to provide customers under special demand and is considered a dependable way for writing correct cheque.

One additional digital project found created and deployed in sequence with digital transformation strategy effectiveness of the bank is QR-code cheque. It is an Innovative way by adding QR code over cheque in order to provide secure payments and transfers with high quality digital verification for cheque.

The bank added to his digital projects bundle one more digital aspect that is digital tablet signature at all customer service counters within brushes. As a part of this qualitative thesis findings, which is focusing upon the effectiveness and advantages of implementing a bank's digital transformation strategy on workflows, we must mention the vital digital project role of virtual digital assistant, which in turn provide instant help for bank's customers as a digital communication method.

The (IVR) voice guidance system is one part of digital strategy. The bank provides digital customers with an investment application platform to cover digital investment for the bank's customer's day by night over stock exchange and precious metal exchange.

Another important finding that affects the implementation of digital transformation strategy and adds value for strategy effectiveness is bank innovation center, through that innovation center digital discussions, meetings with digital experts, brainstorming sessions, digital idea generating took place for internal employees as well as for external digital experts.

Bank academy plays an important role with building internal staff basic managerial basics in parallel with improving employees' digital competencies and skills, which provide digital transformation strategy with compatible human resources.

4.1.3 Questionnaire Findings:

In this thesis depending on qualitative methodology, some findings summarized from conducted open-end question type of questionnaire, though here are some

discover finding points through questionnaire that enrich the quality of this thesis findings:

- When the bank decided to apply digital transformation, strategy followed customer experience oriented structure instead of final product oriented structure. Which changes the strategic thinking design in setting bank financial products and services in order to fit with the new digital bank model.
- As well as optimization models followed in the bank instead of automation models especially in interactions with customer Journey.
- Additionally, In order to build a digital transformation culture, the bank depends on Gardner business model which focuses on three elements (technology transformation, digital optimization, as well as digital collaboration).
- According to questionnaire answers and findings. Bank in order to build effective digital transformation strategy over workflow, bank must focus upon vital points: **F**irst, the front-end part, which start by customer experience reached point of digital financial services and products, in parallel of how customers perceive and evaluate bank's digital projects. **S**econd, the back-end part, which focus on digitalizing process as collateral management marketing, in addition to human resources department as well as to information technology department integrations to formulate effective bank's digital transformation strategy.

One more important questionnaire related finding was that beside traditional bank evaluation key performance indexes (KPIs), a new set of digital related (KPIs) implemented In order to evaluate success of digital transformation strategy. The bank follows a new (KPIs) set that was developed especially for assessing the bank's digital project success. One important aim for the bank through continuous deployment of strategic digital projects is that bank's customer officers will be a financial advisor instead of bank services or products executor and provider.

4.2 Analysis and discussion:

According to the thesis title which is (Implementing digital transformation strategy, the case of a local Turkish bank), and after mentioning findings in the previous section in this thesis. We arrived at the discussion section, in which we will

answer the research questions through focusing on making analysis over connections and relationships between the goal of this thesis - which is proving that the bank's digital transformation strategy has effectiveness and advantages on the bank's workflow - alongside with the findings that we discovered and listed in previous section.

Moreover, the research questions as stated before are:

- RQ-01 - How does the digital transformation strategy of a bank be effective on the workflow?
- RQ-02 - What are the main advantages of digital projects implementation of bank over workflow?

Will be fully answered by the following part of the discussion and analysis section. In this thesis, we followed a descriptive qualitative research methodology through (examining, focusing on, and scanning) all aspects of digital transformation strategy. Additionally with specific digital implemented projects at bank by extracting and summarizing useful information from Bank's:

- Publications.
- Annual reports.
- Social media posts.
- Informative published videos about digital projects features and benefits.
- As well as examining the bank dynamic informative website.
- Moreover, we conducted an open-ended question type of questionnaire.

In order to extract and obtain more useful information about the bank's digital transformation strategy from inside.

The questionnaire's questions were asked and answered directly by a bank senior who is responsible for managing the innovation and digital transformation department at the bank.

Thesis data has been collected, and all findings presented in the previous section. Thus, in this section of discussion and analysis, we will analyze findings to discover connections and correlations of implementing bank digital transformation strategy including strategy digital projects- on the effectiveness and advantages of strategy on bank workflows.

According to research obtained data, we discovered that effectiveness and advantages of implementing bank digital transformation strategy on workflows, has achieved due to the sequential planned implementations of digital transformation strategy projects, as well as due to the integration between two aspects; First aspect, inside bank managerial changes, like building new digital transformation business model, in addition to digitalizing internal top-bottom communication channels as well as optimizing financial services and products submitting processes. Second aspect, which will focus on customer achieved benefits and advantages from bank customers touching digital projects and specifying reflects on digital strategy effectiveness and increase potential advantages on bank's workflow that we will discuss and analyze in detail.

4.2.1 Analyzing bank digital business findings in comparison with PricewaterhouseCoopers (PwC) standard digital phases:

In order to discuss and analyze the first aspect, we have to analyze the new bank digital business model features and characters. To do that analysis, we compare by using thesis findings bank digital business model with one famous standard digital business model that has been listed in literature review previously.

Depending on this thesis's literature review. PricewaterhouseCoopers (PwC) defined digital transformation maturity of businesses into phases.

As well as evaluates digital capabilities across six clearly defined business dimensions: (Strategy, Design, construction, implementation, Operations, and Review). Herewith the table a comparative analysis between bank digital business transformations applied model features with (PwC) digital transformation business approach.

Table 4 .1 (Comparison between Bank digital business findings with PricewaterhouseCoopers (PwC))

Strategy	
PWC digital business Phases	Bank digital business model findings
<p>A strategy developed within corporate framework.</p> <ul style="list-style-type: none"> - Effects of digital dynamics should understand. - The company’s current position is determined, and a new business model designed. - Corporate culture and - human capital analyzed 	<ul style="list-style-type: none"> - A visionary digital transformation strategy planned almost 10 years ago under slogan; “<i>Our Route is Digital, The Future with you, and our Focus is People</i>”, in order to convert form traditional bank concept into digital bank. - Bank realize that digital variables of fintech will hit eventually banks financial products and services, thus, a sequential deployment of internal and external digital projects applied in consistency with bank digital projects development plan. - In respond to applying bank’s digital transformation strategy, bank develop new bank structure by adding - Strategy Group with its subdivisions and department. - In addition to follow agile, lean management approach in applying digital projects within bank. As well as a new innovative bank structure layout designed with four employees and named Mini Branch, especially to fit with XTM machine digital project as well as to achieve cost efficiency. - Bank deployed bank digital culture among employees though scanning employees’ digital background as a first step to design training programs in order to fill employees’ digital skills and competencies to prepare their enrolling and participating in digital projects accomplishments. - In the other hand, bank create bank digital innovation center to make digital culture as a basic educating background for bank digital culture, in which internal and external digital experts are hosted to discuss new innovative fintech last editions.

Design	
<ul style="list-style-type: none"> - Design of the transformation Roadmap. - Collaboration model, the value-creation network, and the operating model are defined. - In addition, the target architecture, the transformation plan, and the target model for corporate culture are determined. - Lastly, the tax and legal aspects are modeled. 	<ul style="list-style-type: none"> - According to questionnaire findings, the bank draws digital transformation strategy as a continuous process roadmap with non-stop due to continuous developments and innovations in the fintech industry. - As well as collaborating with digital expert persons and business entities such as (BIG4) fintech companies and others. That will result in following and implementing systematic planned new innovative digital projects within the bank as a continuous process as well. - The bank achieves value creation through a customer centric financial service design approach, which improves customer experience through providing them with innovative digital projects in order to add value to customer experience within the new digital financial operation model. - Additionally, each digital project designed and implemented as s separate entity until finishing all internal processes, then joining the bundle of accomplished bank's - Digital projects and put it under service in touch with customers. - Depending on questionnaire answers, bank digital transformation strategy, which mainly affects customers in the Turkish market regulated by government bodies in addition with the Turkish central bank by publishing new rules and regulations to organize and control financial services and its security. - Moreover, Digital customer regulations such as (digital on boarding) has organized all legal sides of financial

	<p>Digital dealings. Therefore, the bank follows all governmental digital limitations as well as government legislations.</p>
<p>Construction</p>	
<ul style="list-style-type: none"> - Completes the development of a digital business platform. In this phase, governance introduced and a platform or application is developed. - The operating model and business/IT services are adapted based on this construction. - Digital security and skill management are also defined 	<ul style="list-style-type: none"> - In against this phase, bank digital project such as "Your bank" platform examined in operational, security and data privacy features from three perspectives: - Firstly the blockchain and fintech security system, which enable it as a platform for operating all bank financial services such as opening bank accounts, adding deposit, doing money transfers etc. in a secure, legal, and confidential digital way. - Secondly, operators, who are bank's employees with defined specific digital skills and competencies can managing and controlling and auditing digital project platform (Your bank) as moderators before and during introducing for external use, in order to make sure that customer receiving full digital service features as well as making sure of well-constructed digital financial platform is actually ready for use. - Third perspective is customer perspective: which focuses on how customers perceive bank digital projects, and how they react accordingly through customer experience against digital product service benefits achieved. - As well as the impact on digital platform color and logo with easily designed navigated screens, time consuming measurements for customers obtaining financial services. These entire features determined the bank management skills in managing, monitoring and controlling bank's digital platforms.
<p>Implementation</p>	

<ul style="list-style-type: none"> - The implementation phase initiates the previously developed business platform. - Quality assurance and employee training rolled out to ensure a successful transition. 	<ul style="list-style-type: none"> - Depending on thesis data and findings, the bank through its Strategy Group departments and business units make planning, organizing, implementing, and quality controlling upon each digital project applied, even old and New ones, as an integrated financial digital series. As we noticed by presenting the bank's digital projects during a ten years of period in order to make sure of full internal sequential integration of digital project deployment with smooth upgrading for customer digital experience. - As an example, the bank in the last two years made heavy focus on using QR code in response to fit with new innovative fintech technology as well as in facing Covid-19 pandemic and keeping social distance measurements in mind. Therefore, several usage of QR code in the bank varied as a sequence of development from mobile branch QR code payments, providing bank's (ATM) machines with QR code account entrance feature, to the special edition of QR-Code secure confirmation of bank cheque. - Moreover, the bank training academy plays an important role in filling employees' gap with basic digital skills and competencies, in addition to educating employees with new innovative fintech digital projects operating features.
Operation	
<ul style="list-style-type: none"> - In this phase, new business models considered while in Operation as running systems. - Here, governance, the platform, and application 	<ul style="list-style-type: none"> - In against of this phase, bank put digital projects under action in touch with customers and building other - dependable digital projects as an operational process in Order to navigate for a new developed digital project as a running system.

<p>management and reporting play a vital role.</p>	<ul style="list-style-type: none"> - An example of that is any customer can navigate to an investment application online stock exchange application or your bank platform through mobile branch application. Alternatively, customers can open an account digitally through an (XTM) machine. - Moreover, Instructions of digital project operating features, benefits, and way of working manuals are explained in detail for customers through bank live digital assistant, customer’s hotline contact numbers, and bank digital informative videos on social media, which played an important role in two ways of communications with external interest. - Stakeholders improve customer experience as well as medium of reporting customer problems and solution in dealing with bank’s digital projects.
<p>Review</p>	
<ul style="list-style-type: none"> - The last phase is review, which includes performance monitoring and optimization. 	<ul style="list-style-type: none"> - In comparison with the review phase of PwC, the bank as we saw by questionnaire’s first part answers, moved in building digital transformation strategy from the automation part to optimization. - When automation is an important part of digital transformation, the bank relies more on the optimization part, because when setting up digital systems they improve optimization and system efficiency, which in turn lead from interaction with customer demand model into interaction with customer journey. - That means full performance monitoring through: <ul style="list-style-type: none"> • Thinking about customers (start to end). • From signing up for specific product, bank draw up. • The customer journeys. • Their touch points. • Decision moments to buy a specific product.

	<ul style="list-style-type: none"> - As well as bank controlling customer journey by customer satisfaction team who follow a reactive approach. - Therefore, if a customer has a problem, the bank team comes up with a solution for that problem to make sure that customer is fully satisfied. - As a result, the customer journey roadmap tries to solve customer problems before happening and state critical points of that journey.
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Source: (Thesis Author).

As we observe the analysis above of the bank digital transformation business model in comparison with PricewaterhouseCoopers' approach (PwC) standard phases, we found that the bank fully fits with (PwC) digital business model building phases. Moreover, the bank built a sustainable digital business model in order to apply continuous digital transformation strategy.

Business model actually make bank workflows leaner, flexible, and smoother flowing because there is an obvious digital transformation strategy stated through clear composed bank vision. Which made the bank top management level committed for digital strategy pledge before other management levels.

As well as they realize that each employee is responsible in turn and form an important part in moving into the digital bank concept. Moreover, moving from automation which is an essential step for digital transformation into optimization affects and makes bank workflows more effective.

Although depending on improving customer experience lead bank to redesign all bank's financial products and services alongside with digital projects perspective, starting from drawing new innovative customer journey from end-to-start instead of product focus in traditional one, which specify internal employee roles accordingly in:

- Digital financial product or service instruction provider, mostly through digital channels more than traditional customer face-to-face physical interviews.
- Bank internal digital processes controller and recorder.

- Customer experience analyst.
- As well as financial advisors.

All above analysis makes bank workflows mostly automated and digitalized, as well as simplifying obtaining financial products and services of the bank through digital channels. Which in turn answered the research questions of this thesis that the digital transformation strategy of the bank is effective and advantageous over workflow.

Moreover, enabling bank's employees to interfere with customers just if they face a problem, or if they need financial advice.

According to the bank senior stated in questionnaire answers, the future bank employee role will be defined as financial advisor due to the bank's digital transformation strategy, which positively transfers bank workflows into a new developed level of effectiveness scale and creates a new bank digital business model.

On the other hand, depending on customer experience through bank applied digital projects, customers can perform all traditional bank financial services by themselves by bank digital channels without any time wasting in bank ques or long travel distances. In order to answer thesis questions, which revolve about the implementation of digital transformation strategy advantages and effectiveness over local Turkish bank workflows, we discussed and analyzed bank digital transformation business models in comparison with PwC standard phases.

More analysis is continuing over bank's digital projects to prove the effectiveness and advantages of digital transformation strategy on workflows at bank. A bundle of the bank's digital projects introduced under service since the bank decided to convert from traditional bank model into digital bank model 10 years ago.

According to the thesis findings, we found that some of the bank digital projects applied internally in order to enhance and empower digital infrastructure inside the bank, upgrade and modify the internal communication channels from top to bottom and managerial processes such as internal employees' mobile application. Which benefit in making sure that human resources of the bank are sharing digital culture among all bank's employees as well as standing on customer faced digital problems in order to find fast help solutions.

Additionally, this application played a vital role in shortening formal communication lines between top and bottom managerial levels as identified formal

communication channels, informing, messaging, publishing orders, and sharing all working activities and bank social moments with others.

Moreover, an internal digital project implemented inside the bank is a robotic automation process (RAP) for modifying the workflow effectiveness of internal bank's operational processes. This software is designed to work 24/7, as well as the mission of this software digital project is to reduce routine process, repetitive, and eliminate unimportant tasks for full time employees to focus more on vital and value-added task and resulted positively on saving employees working time by concentrate their performance on important tasks which in turn raise bank implementing digital transformation strategy effectiveness and advantages over workflows.

Additionally in building indoor digital infrastructure, the bank created an innovation center with vital aim in deploying digital bank concept culture internally as a base home for new innovative fintech discussions by hosting fintech expert persons and business entities. That makes the bank's internal stockholders touch the truth of digital transformation strategy importance, as well as being a fintech developer with its local and internal capabilities.

This convinces bank's employees firstly with the importance of bank digital conversion, secondly making them satisfied by working with an updated and developed digital environment. In addition, gain competitive advantages over other local banks to have digital research and development as a bank innovation center base.

Bank innovation center played an effective role in discovering new fintech applications, examining and experiencing digital projects and ideas before the implementation phase. As well as keeping employees always with the latest editions of local and global fintech discoveries. Moreover, open a free zone for sharing digital ideas in order to empower the agile flow model.

Keeping on indoors bank's digital project analysis. Turn on bank academy, in the last three years bank heavily invested in building employees digital skills and competencies alongside with keeping training and development for basic banking and managerial competencies as well. That academy divided training into six basic faculties and designed continuous training programs for each employee according to the training needs analysis gap. During the pandemic of Covid-19 duration most training sessions were held online. Therefore, Smart training classes are equipped with multifunctional innovative sound system sets and movable cameras in order to create

an interactive training environment. That in turn will lead to more digital practices during training sessions as well as a forward step for digital culture internal deployment among employees. As a result of bank academy analysis, in addition to selecting digital channels for transfer training program goals. As well as enriching employees' digital experience.

There are more benefits and advantages for training digital academy such as employee acquisition of basic and innovative digital skills and competencies. Which in turn directly in positive way the effectiveness and advantages of implementing digital transformation strategy on bank workflow by in house well digital trained staff.

Additionally, gaining cost efficiency by avoiding other training costs (meeting room expenditure, travel fees and accommodations for trainers and trainees).

Moreover, one more valuable advantage of digital training academy, that bank's employees all over branches in Turkey can participate in training courses and be tuned to their work now of finishing training sessions, that will keep employees alongside with daily working duties without any significant unnecessary absence. Which in turn keeps bank workflow going on smoothly and effectively.

4.2.2 Analyzing bank digital projects advantages and effectiveness on bank workflow:

In this part of analysis and discussion, we will analyze the effectiveness and advantages of implementing the potential bank digital projects that are directly in touch with the customers on the bank workflows. As we discovered in this thesis, that bank digital transformation strategy implementations translated into indoors and outdoors digital projects. Therefore, those outdoors digital projects are advantageous and effective, as this will positively affect bank workflows. Therefore, we will analyze the potential advantages of outdoor digital projects.

Mobile branch: Bank mobile branches can be considered as portable bank branches held by each bank customer. Thus, by spreading of smart devices, especially smart phones in customers' hand, that resulted in executing all bank traditional services such as; (money transfers in Turkish Lira and foreign currencies, bills payment, precious metals and foreign exchange transactions, stock trading, requesting online credits and loans, as well as requesting bank cards or setting card passwords).

All these actions performed by customer himself through bank mobile branch instead of visiting physically bank branch, and take part of crowded que, then waiting for free bank employee to have a single traditional service.

On the other hand, the increase of bank mobile branch application downloads, will increase the number of bank digital customers who request financial products and services through digital channels. In turn, that reduced physical visits for bank branches by the number of digital customers' number, which makes free time space for customer service officers to deal with important financial and investment issues and solve stuck problems. Which makes employees working time more effective and reflects a smoother effective workflow.

Bank's customer service officers (CSOs) role in mobile branch is limited to some interventions firstly in building and developing customer experience by helping customer after downloading bank mobile App. in confirming password as well as providing with features instructions, then secondly, playing back support role when any problem arose with digital customer through digital or physical communication channels.

Bank website: The dynamic, interactive design features and navigated icons of the bank website made digital communication culture easy to understand and connect between both parties (bank, and external stakeholders). Therefore, bank website provide several advantages for potential bank customers such as:

Full financial products and services variety information, navigation to download mobile branch in addition to easy access to (Your bank) platform, calculating long term deposit profit share as well as benefit from the availability of live digital assistant 24/7. All mentioned above website features in turn decrease workload on traditional (CSOs) if a customer fulfills his needs or expectations.

Due to the above bank website features and characteristics, a positive value for bank digital projects bundle has been added, and a more effective communication channel has been created, which in turn formulate a first targeted digital visit to have primary knowledge about bank financial product and services before even doing physical visit. Moreover, a mass of financial products details as well as profit share calculations add more advantages for the potential bank customers. Therefore, by using an informative interactive bank website, most of customers' repetitive questions can be fully answered.

Even if the answer is not available, customers can easily contact a digital live assistant, to have more detailed information. As well as customers can have an investigated tour among available financial products and features, and allow the chance to download or enter other digital projects like mobile branch. Which enables customers in many cases to have full answers about their questions. Thus reduces the number of customers' physical visits to satisfy his requests.

As a result, this digital project brings out multi-advantages for bank workflow as well as adding more effectiveness for bank employees' working time in avoiding all listed answers at the website to make them concentrate in developing digital customer experience in addition to serving unique physical branch visitors.

ATM machines; Turn on the bank ATMs machines benefits analysis. As all banks, the bank put a moderate number of ATMs machines under use in touch with customers 24/7. But more modification and development features added to ATM machines such as foreign currencies (Euro/USD) exchange which will transfer all customers willing to exchange money to execute this process digitally by themselves through indoors and outdoors ATM machines. In addition, entering a personal account by QR code through a mobile without a bankcard has heavy usage especially during Covid-19 pandemic, as customers can buy gold through ATM machines.

All these features of ATM machines reduce traditional bank financial services pressure from (CSOs) as well as upgrading customer digital experience to execute these services by themselves. Which in turn reflects the effectiveness and advantages of bank implementation of digital transformation strategy including digital projects on workflows.

"Your bank" digital platform is one of the top aspects of bank digital transformation strategy. Through this platform, the bank has really moved forward with the digital future bank model, which enables digital customers to open all various bank accounts (Current, long-term deposit, and investment account) completely online.

A digital communication process between the bank (CSOs) and digital customers who have new chip national identity cards take place for confirming a secure account opening for 24 hours.

All account documents are approved digitally as well as bank cards sent to customers by the post office. Additionally, bankcard password sets are digital as well. That is considered a future step for the digital open banking concept, which will be the

basic step for having bank financial products and services completely online. Therefore, bank digital transformation strategy moved forward to digitalize banking concept, that in turn make bank role just monitoring account security and developing digital customers experience through operate accounts completely online.

By time passing, making financial banking products and services totally digital, as well as reducing the culture of time-consuming physical bank branch visiting rate and receiving more effective time consuming financial services regardless of geographical distance from traditional bank and waiting que time as well as the long time consuming of opening an account process.

XTM machines are another finding in this thesis alongside with bank digital transformation strategy is XTM machines. These (XTM) machines create valuable advantages and an effective value added for bank workflow through formulating mini full financial services branches.

Most bank services and products can be delivered to customers digitally (opening accounts, bills payments, account balance check, credit request, money transfer, foreign money exchange, as well as money deposit and withdrawals).

All processes executed by (CSOs) remotely from the customer care center base, by interactions with customers in front of the XTM screen. Multifunctional XTM machine enables (CSO) as service provider full control over financial service against customer requests. This digital channel reduces workloads on branch employees especially at neck bottle working time when they lead and advise physical branch visitors to do their financial services in interaction with XTM machines.

Moreover, the XTM machine represents a new digital finding that summarizes all banks financial products and services in one machine with fewer customer service officers in touch. At the same time the bank achieved competitive advantages over competitors in the local Turkish financial market because it's the first bank to deploy such a machine.

The bank through applying XTM machines digital projects achieve effectiveness and plenty of advantages on bank workflow. Actually, XTM machines create a new branch digital concept which is a mini branch that can be structured on just four personals in order to develop bank digitalization concept as well as providing development for customer experience.

P.O.S payment system, especially mobile P.O.S and virtual P.O.S highly affect the effectiveness and advantages of implementing digital transformation strategy when

(SMEs) achieve fast responsive, secure, cost free and reliable payment methods out of their cashier desk. At the same time, SMEs customers are highly satisfied with the delivery payment model at their places without any need to go doing physical payments as a traditional model.

Virtual POS encourages Omni-channels and online customers to supply their purchasing products and services with a more secure payment model. As well as increasing the volume of purchasing number which in turn comes with more sales records and profits for SMEs by covering additional layers of potential online customers because they follow that digital virtual payment model. Therefore, Mobile POS and virtual POS as a part of bank digital strategy externally affect as a medium and enhance positively SMEs trading as well as their end users to do more purchases at their places with secure, trustful transactions against their dealings.

QR code payments, the bank provides the bank's customers digital facilities such as QR code payments, which spread recently as an innovative fintech product, which enables all smart phone holders to do payments without need for bankcard through mobile bank application.

Heavily use comes out especially during Covid-19 pandemic duration, in turn, besides enabling customers to keep social distance as well as avoiding hand touching in most of the markets and online shopping, it's somehow replaced using and issuing bank cards and provide a fast, secure, and healthier digital payment method.

As well as upgrade digital customer experience as a new digital facility. Without forgetting the bank role of monitoring all payments securities. Thus, all payments through QR code calculated automatically and reflected to the account balance spontaneously without human intervention upon customer request.

Bank digital facilities: the bank's digital facilities found out such as continuous form cheque program, QR-code cheque, and digital tablet signature in order to enrich bank fintech digital culture deployment, as well as step for digitalizing all bank aspect to fit with coming future open bank with providing digital means to make secure trustful transfer and payments.

All above digital facilities come with upper-level standards of customer experience in order to fit with end users' financial digital expectations.

IVR voice guidance system and digital assistant; to maximize the effectiveness and the advantages of interaction with customers, the bank developed (IVR) voice guidance system. which leads the customer directly to his goal when contacting the

bank just pronouncing special words such as (password request, account balance check, credit, etc.) directly leads him to the right department In order to deliver him the right target service without any disturbance or time waiting waste.

That digital facility will lead to more customer satisfaction and upgrade their loyalty with fast response from the bank side. Additionally, digital live assistant also helps the customer service department by answering a vast number of repetitive questions about the bank's financial services and products.

Moreover, it can provide full information and instructions about the bank's digital projects features and benefits in full. Which in turn saves branch and CSOs working time to concentrate on more critical customer's problems.

Investment application: Despite digital financial products and services, banks nowadays are interested in stock exchanging. Thus, the bank provides his potential target customer a digital investment platform. That application has fulfilled the stock and precious metal exchange as a safe platform, with specific features that enable customers to do buy or sell action at previous stated price level 24/7. That application adds more variety on bank digital strategy financial services' diversity that in turn add more advantages for bank services and workflow.

4.3 Conclusion:

After the above detailed analysis of bank digital transformation strategy through (examining bank's digital transformation business model in comparison with (PwC) standards, as well as specifying and analyzing the implemented main digital projects since the decision of bank digital transformation strategy was taken almost 10 years ago. Moreover, the result is the research questions, which are fully positively answered. Therefore, the advantages of implementing digital transformation strategy in a bank was highly rated as well as has multi advantages achieved over bank's workflows. Therefore, as a conclusion of this thesis, bank' digital transformation strategy effectiveness and advantages on workflow resulted in the following below listed aspects:

- Eliminating internal bank bureaucracy.
- Activating decentralization managerial model especially at operational level.

- Eliminating repetitive tasks and processes for full time bank employees.

- Redesigned and restructured bank financial services and product in more effective packages' depending on (front-end / back-end) integrations concept instead of traditional concept that depends on product or services itself.

- Deployment of fintech digital culture inside the bank as a visionary future working culture.

- Activating internal managerial communication process between top and bottom.

- Keeping internal employees always with all updates, customer instant problems, and social touch through "Internal employees' mobile application".

- Collecting and sharing digital and innovative development fintech ideas through the bank innovation center.

- Following an effective, lean, and agile flow business model.

- Continuous upgrading of all internal employees' digital skills and competencies.

- Bank's digital projects keep social distancing measurements on during Covid-19 pandemic time.

- Replace partly the high cost of physical branch number expansion policy into more effective fintech digital projects development policy.

- Achieve more effective strategic competitive advantages by fast and first implementing digital projects over local financial competitors.

- Increasing number of digital customers in the last 2 years.

- Bank's digital customers executing all traditional financial services through digital channels, which reduce working pressures on bank's employees.

- Although face-to-face communication between bank representatives and digital customers decreased, continued communication between bank and digital customer convert to sustainable connection and relationship cover all customer financial life aspects.

- The digitalization of all banks financial products or services or even requests or acquisitions of traditional bank services like (credits) digitally, made bank workflow more effective with fewer mistakes due to less human touch.

- Through bank digital projects, customers especially (mobile branch) customers can save all payment receipts electronically approved in softcopy.
- Digital customers can execute money transfers, deposits, as well as withdrawals in a more secure way than traditional ways.
- Convert digital customers from concentrating over how to obtain financial products and services to evaluate the quality of bank financial services or products in comparison with other digital bank services among the financial competitive market.
- Bank digital strategy –through dynamic website- provides digital customers with the options of investment through calculation of long, medium-, and long-term deposits digitally by inserting intended money amount and investment periods to formulate initial ideas about investments without any need for branch physical visits. That makes customer officers work more efficiently and effectively with pre-decided investors.
- Bank’s digital transformation strategy keep internal employees always with last versions of digital skills and build new digital competencies through annual training and developments programs, in turn reflects in more professional employees in touch with digital customer, as well as all potential employees that reflects in developments of digital projects.

4.4 Recommendations:

At the end of this thesis about implementing digital transformation strategy, the case of a local Turkish bank. We noticed the importance of implementing modern fintech digital projects inside the bank over the bank workflow as well as over bank customer satisfaction. Thus, building digital customers through upgrading customer experience with vast digital projects gives more optional variety and advantages for them to do their own financial services at any place where they are as well as at any time without any delay or waste.

Building bank digital structure as a business model of work gives the bank a valuable competitive strategic advantage over competitors in the financial market. Therefore, digital transformation strategy is a continuous business process, still needs modifications as long as fintech development is in process. As customers' expectations and experience are always in progress, a bank digital strategy must be developed to fit

with these expectations in order to keep bank positioning in the local and global financial markets.

Due to the digital transformation strategy, future bank employee' duties and responsibilities will exceed that of the traditional one into a financial services controller. Moreover, the role of CSOs will be as financial advisors to direct digital customers for the suitable financial products or services to achieve maximum customer satisfaction and widen target market segments and audience.

Future bank entities will depend more on fintech digital processes with less bank's employee touch, crossing local borders into global financial markets. Thus, training and developing employees' digital skills and competencies as well as open doors to share their digital development ideas is considered the most valuable asset for building competitive digital banks.

As a result, conversion from the traditional bank into digital bank is a necessity for banks. At the same time, it gives the bank mutual benefits for bank workflow effectiveness and advantages internally as well as satisfy digital customers with obtaining instant suitable financial products and services.

4.5 Limitations of study:

- This qualitative research study concentrates over just specific local Turkish bank digital transformation strategy, including implemented digital projects, in the local Turkish financial market.
- This thesis represents the author's viewpoint after examining references and resources of information and data of how the digital transformation strategy of the bank was effective and has advantages over the bank's workflow. Thus may not represent the bank viewpoint necessarily.
- Some questionnaire questions were discarded in order to avoid touching the bank privacy policies as well as confidential information.
- There were some face-to-face interviewing obstacles to fill questionnaire with bank seniors due to critical circumstances of Covid-19 pandemic terms. Therefore, one senior accepted to answer a questionnaire online using the (Zoom) application.

- Limitation of bank English language resources, especially in bank social media posts and publications, thus Turkish-English translations conducted to enrich and expand these thesis references and sources.

REFERENCES

- Albert Rof, Andrea Bikfalvi & Pilar Marquès. (2020, 18 June). Digital Transformation for Business Model Innovation in Higher Education: Overcoming the Tensions. Published by (MDPI).
- Alberto Dominguez. (2017, 25 December). Has your company achieved digital maturity? <https://ehorus.com/digital-maturity>
- Alavaia. (2021, 1 May). The Top 5 Benefits of an IVR (Interactive Voice Response). Legacy Post. www.alvaria.com/blog/the-top-5-benefits-of-an-interactive-voice-response
- Amit, R.; Zott, C. (2001, June). Value creation in E-business. *Strategy Management*. 22, 493–520.
- Arner, D. W. Barberis, J. N. Buckley, R. P. (2015). The Evolution of Fintech: A New Post-Crisis Paradigm? SSRN 2676553.
- Arner, D.W., Barberis, J., Buckley, R.P. (2017). Fin-Tech, Reg-Tech, and the Reconceptualization of Financial Regulation. *Northwestern Journal of International Law & Business*. 37(3), 371-413.
- Wyman, Oliver. (2016). Modular financial services, the new shape of the industry. Oliver Wyman. https://www.oliverwyman.com/content/dam/oliverwyman/global/en/2016/jan/OliverWyman_ModularFS_final. Pdf page: 15
- Brenn S. J., & Kreiss, D. Jensen, R. T. Craig, J. D. Pooley, & E. W. Rothenbuhler (Eds.). (2016). Digitalization. In K. B. The International Encyclopedia of Communication Theory and Philosophy (pp. 1–11). John Wiley & Sons.
- Capgemini. (2017, July). Building the digital bank. Article, [capgemini.com. https://www.capgemini.com/wp-content/uploads/2017/07/digital-transformation-in-banking](https://www.capgemini.com/wp-content/uploads/2017/07/digital-transformation-in-banking). Pdf. Page 04.
- Capgemini. (2015, November). Building the digital bank. (People matter, results count.). Article, [Capgemini.com. https://www.capgemini.com/gb-en/resources/building-the-digital-bank/](https://www.capgemini.com/gb-en/resources/building-the-digital-bank/) .pdf. Page: 04.
- Capgemini. (2016). Tomorrow's banking today with Capgemini's connected banking. Article, [Capgemini.com. https://www.capgemini.com/gb-en/resources/tomorrows-banking-today-with-capgemini-connected-banking/](https://www.capgemini.com/gb-en/resources/tomorrows-banking-today-with-capgemini-connected-banking/) . Pdf. page: 03.

- Casadesus Masanell, R.; Zhu, F. (2013). Business model innovation and competitive imitation: The case of sponsor based business models. *Strategy. Management.* 34, 464–482.
- CFI (Corporate finance institute). (2022. 7 March). What is Fintech (Financial Technology)? Published by CFI. <https://corporatefinanceinstitute.com/resources/knowledge/finance/fintech-financial-technology/>
- Chanias, S. and Hess, T. (2016). How digital are we? Maturity models for assessment of a company's status in digital transformation. *LMU Munich Management Report 2/2016.* Munich, Munich School of Management. https://www.dmm.bwl.uni-muenchen.de/download/epub/mreport_2016_2.pdf
- Chandler A.D. (1963). *Strategy and Structure. Chapters in the History of ilmerican Enterprise .*MIT Press, p 13.
- Cheah, S.; Ho, Y.-P. (2019). Coworking and Sustainable Business Model Innovation in Young Firms. *Sustainability* 2019, 11, 2959.
- Chris Angevine, Jacklyne Keomany, Jannick Thomsen, and Rodney Zimmel. (2021, 27 may). Implementing a digital transformation at industrial companies. Article. Mckinsey.com. <https://www.mckinsey.com/industries/advanced-electronics/our-insights/implementing-a-digital-transformation-at-industrial-companies>
- Schallmo. D. R. A., Williams. C. A. (2018). *Digital Transformation Now!.* Springer Briefs in Business. https://doi.org/10.1007/978-3-319-72844-5_1. Page: 35.36.37.
- David Varga. (2017. November). Article, Fintech, the new era of financial services, Researchgate.net. DOI:10.14267/VEZTUD.2017.11.03. https://www.researchgate.net/publication/321208233_Fintech_the_new_era_of_financial_services
- Deloitte. (2018. Februray). Digital Maturity Model, Achieving digital maturity to drive growth. Article publisher; deloitte.com. <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Technology-Media-Telecommunications/deloitte-digital-maturity-model.Pdf>. Page: 11.
- Dobrica Savić. (2019. February). From Digitization, Through Digitalization, to Digital Transformation. Publisher; Online Searcher. Volume 43, Number 1. <https://www.infotoday.com/OnlineSearcher/Articles/Features/From-Digitization-Through-Digitalization-to-Digital-Transformation-129664.shtml?PageNum=1>
- Dorner K, Edelman D (2015, July). What does digital really mean? Publisher; mckinsey.com. [https://www.mckinsey.com/industries/high-tech/our-insights/what-digital-really-means.](https://www.mckinsey.com/industries/high-tech/our-insights/what-digital-really-means)
- Elsevier. (2018. July). Moving from Multi-Channel to Omni-Channel. *Journal of Retailing and Consumer Services.* ISSN: 0969.

<https://www.journals.elsevier.com/journal-of-retailing-and-consumer-services/call-for-papers/moving-from-multi-channel-to-omni-channel-retailing>

- Emmanouil Davradakis (EIB) Ricardo Santos (EIB). (2019. January). Blockchain, Fintech and their relevance for international financial institutions. European investment bank (EIB), EIB Working Paper. -e-d-
<https://op.europa.eu/en/publication-detail/-/publication/ae472145-237a-11e9-8d04-01aa75ed71a1/language-en> Page; 08
- Engel, J.S. (2015). Global Clusters of Innovation: Lessons from Silicon Valley. *California Management Review*. 57(2): 36-65. DOI: 10.1525/cmr.2015.57.2.36.
- Financial stability board (FSB). (2019. 14 February). FSB report assesses Fintech developments and potential financial stability implications. (FSB) Press release .Ref no: 3/2019. <https://www.fsb.org/wp-content/uploads/R140219.pdf>
- George Westerman, Didier Bonnet, and Andrew McAfee. (2014. 07 January). “The Nine Elements of Digital Transformation”. MIT Sloan Management. <https://sloanreview.mit.edu/article/the-nine-elements-of-digital-transformation/>
- Giorgio Barba Navaretti, Giacomo Calzolari and Alberto Franco Pozzolo. (2017). Fintech and banking. Friends or foes?. European economy banks, regulation, and the real sector, year 3. Published by Europeye srl. Via Gregorio VII, 368 - 00165 Roma t. 06 3700556. ISSUE 2. 2017. Page 12.
- Goerzig, D.; Bauernhansl, T. (2018). Enterprise Architectures for the Digital Transformation in Small and Medium-sized Enterprises. Published by Procedia CIRP. Volume: 67. Pages 540-545.
- Harish Natarajan, Solvej Krause, and Helen Gradstein. (2017). the World Bank. Fintech Note No. 1. Published by;World Bank group. International Bank for Reconstruction and Development. <https://openknowledge.worldbank.org/bitstream/handle/10986/29053/WP-PUBLIC-Distributed-Ledger-Technology-and-Blockchain-Fintech-Notes.pdf?sequence=5> page; 06
- H. Mintzberg. (2007). Tracking strategy toward a general theory, Oxford University Press. p 3.
- Hinings, B.; Gegenhuber, T.; Greenwood, R. (2018). Digital innovation and transformation: An institutional perspective. *Inf. Organ.*, 28, 52–61.
- kaspersky. (2022). what is an SSL certificate – Definition and explanation. Article published by; Kaspersky.com. <https://www.kaspersky.com/resource-center/definitions/what-is-a-ssl-certificate>
- Teichert, Roman. (2019. December). Digital Transformation Maturity: A systematic review of literature. Research gate. DOI:10.11118/actaun201967061673. https://www.researchgate.net/publication/338110138_Digital_Transformation_Maturity_A_Systematic_Review_of_Literature . Pages: 02, 03.
- Ines Mergel, Noella Edelmannb & Nathalie Hauga. (2019, 2 June). Defining digital

transformation: Results from expert interviews. Published by Elsevier Inc. Accepted 6 June 2019. <https://doi.org/10.1016/j.giq.2019.06.002>. Page.07.

Informatica.com. (2019, 25 November). 12 Steps to Digital Transformation. <https://www.informatica.com/blogs/12-steps-to-digital-transformation.html>.

Bowersox, D. J., Closs, D. J., & Drayer, R. W. (2005). The digital transformation: technology and beyond. *Supply chain management review*, 9(1), 22-29.

Jason Bloomberg. (2018, 29 April). Digitization, Digitalization, And Digital Transformation: Confuse them at your peril. Forbes.com. <https://www.forbes.com/sites/jasonbloomberg/2018/04/29/digitization-digitalization-and-digital-transformation-confuse-them-at-your-peril/?sh=1dfbb7e62f2c>.

Jim Bowen. (2022, 05 January). "How ATMs Work". HowStuffWorks.com. <https://money.howstuffworks.com/personal-finance/banking/atm.htm/printable>

Julia Kagan, (2021, 15 September). Automated Teller Machine (ATM). investopedia.com. <https://www.investopedia.com/terms/a/atm.asp>

Julian Skan. (2013, 31 August). The boom in global fintech investment, a new growth opportunity for London. Accenture report. Accenture-Global-Boom-in-Fintech-Investment.pdf

Kaplan, R. S., Kaplan, R. E., Norton, D. P., Norton, D. P., & Davenport, T. H. (2004). *Strategy maps: Converting intangible assets into tangible outcomes*. Harvard Business Press.

Kim, Y. Park, Y. J. Choi, J. (2016). The Adoption of Mobile Payment Services for “Fintech”. *International journal of applied engineering research*. 11(2). p. 1058-1061.

Kluver, R. (2010). Globalization, informatization, and intercultural communication. *Academia.edu. Am. Commun. J.* 3(3).

Koray Kırdinli. (2015. 15 June). Yazılım ve İş Yaşamı Hakkında Paylaşımlar. Nedir Bu XTM?. <https://koraykirdinli.wordpress.com/2015/06/15/nedir-bu-xtm/>. XTM machine figure.

Kurti, E.; Haftor, D. (2015. 21-22 September). Barriers and enablers of digital business model transformation. In *Proceedings of the 9th European Conference on IS Management and Evaluation (ECIME)*, Bristol, UK. Page. 262–268.

Macklin, M., Poston, D.L. (Eds.). (1998). *Continuities in Sociological Human Ecology*. Springer. New York.

Martin, A. (2008). Digital literacy and the “digital society”. *Digit. Literacies concepts policies practices* 30, 151–176.

Matt, C., Hess, T., & Benlian, A. (2015, 14 May). Digital Transformation Strategies. *Business & Information Systems Engineering*, S. 339-

343.<http://niehage.de/dba/tag/digitization/>

McDonald, M., Rowsell-Jones, A. (2012). The Digital Edge: Exploiting information & technology for Business advantage. Gartner Inc.

ME, Porter. (1996, November). What is strategy? Harvard Business Review, P: 60.

Michael Crosby, Google Nachiappan, Yahoo Pradhan Pattanayak, Yahoo Sanjeev Verma, Samsung Research America Vignesh Kalyanaraman, Fairchild Semiconductor. (2015, 16 October). Block chain technology beyond Bitcoin. Sutardja center for entrepreneurship & technology technical report. <http://book.itcp.ru/depository/blockchain/BlockchainPaper.pdf> .page 03.

Michael Menrad (2020). Systematic review of Omni-channel banking and preview of upcoming developments in Germany. Innovative Marketing, LLC “Consulting. “Business Perspectives” .[http://dx.doi.org/10.21511/im.16\(2\).2020.09](http://dx.doi.org/10.21511/im.16(2).2020.09) page: 04, 05.

Pablo Anton-Diaz, Amin Khairy. (2019, 23 may). Charting the Customer Journey in the Digital Age Mainstreaming Financial Inclusion, Best Practices. Center for financial inclusion, accion. Center for financial inclusion.org. The Customer Journey in the Digital Age.pdf.

Patrick Turchi. & Roland Berger. (2018, 01 February). The Digital Transformation Pyramid, A business-driven approach for corporate initiatives. <https://www.thedigitaltransformationpeople.com/channels/the-case-for-digital-transformation/digital-transformation-pyramid-business-driven-approach-corporate-initiatives/>

PC Magazine. (2022). Digital pen. <https://www.pcmag.com/encyclopedia/term/digital-pen>.

Peter C. Verhoef a, P.K. Kannan b, J. Jeffrey Inman. (2015, June). From multi-channel retailing to Omni-channel retailing, Introduction to the special issue on multi-channel retailing. (Journal of retailing) Sciencedirect.com. Volume: 91. Pages: 174-181. <https://doi.org/10.1016/j.jretai.2015.02.005>. <https://www.sciencedirect.com/science/article/abs/pii/S0022435915000214>

Porter, M.; Heppelmann, A. (2020, 10 January). How smart, connected products are transforming competition. Harv. Bus. Rev. 92, 1–23. [/https://hbr.org/2014/11/how-smart-connected-products-are-transforming-competition](https://hbr.org/2014/11/how-smart-connected-products-are-transforming-competition)

Sorensen, Emily. (2021. 04 January). QR code payments, what is it and how does it work?. mobiletransaction.org. <https://www.mobiletransaction.org/qr-code-payment-works/>

R Parkavi, AS Abdullah, S Sujitha. (2018). Handbook of research. IGI Global publisher. Page: 17. <https://www.igi-global.com/chapter/mobile-devices-in-the-classroom/186180> .

Ross, J. (2017). Don't confuse digital with digitization. MIT Sloan management

review. <https://sloanreview.mit.edu/article/dont-confuse-digital-with-digitization/>

Sathananthan, S.; Hoetker, P.; Gamrad, D.; Katterbach, D.; Myrzik, J. (2017, 23-24 November). Realizing digital transformation through a digital business model design process. *Internet of things business models, Users, and networks*. Copenhagen, Denmark. IEEE: Piscataway, NJ, USA, 2017; pp. 1–8.

Schallmo, D. and Williams, C. (2017). Digital transformation of business models – best practice, enablers and roadmap. *International journal of innovation management*, 21(8): 1740014.

Solis, B., Lieb, R., Szymanski, J. (2014). Altimeter Group. The state of digital transformation. Page: 96.

Sunil Chopra. (2018). The evolution of Omni-channel retailing and its impact on supply chains. ScienceDirect. *Transportation research procedia*. 4–13. EURO Mini conference on “Advances in freight transportation and logistics”. www.sciencedirect.com . Page: 05.

Tatjana Vasiljeva. Kristina Lukanova. (2016). Commercial banks and Fintech companies in the digital transformation: Challenges for the future. *Journal of business management*, No.11. ISSN 1691-5348.

Teichert Roman. (2019). Digital transformation maturity: A systematic review of literature. Researchgate.net. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 67(6): 1673–1687. https://www.researchgate.net/publication/338110138_Digital_Transformation_Maturity_A_Systematic_Review_of_Literature

Vrana, J.(2020). NDE perception and emerging reality: NDE 40 value extraction. *Mater. Eval.* 78(7), 835–851. <https://doi.org/10.32548/2020.me-04131>

Warner, K.S.R.; Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long range plan.* 52, 326–349.

Yazici . S., (2019). The analysis of fintech ecosystem in Turkey. *Journal of business, economics and finance (JBEF)*, V.8(4), p.188-197. Published by press Academia. <http://doi.org/10.17261/Pressacademia.2019.1162> page. 03

Zott, C.; Amit, R.; Massa, L. (2011). The business model: Recent developments and future research. *J. Management.* 37, 1019–1042.

CURRICULUM VITAE

APPENDICES

Appendix A. Questionnaire:

Questionnaire face letter

Dear Sir (bank seniors) ...

We are delighted to meet you.

Please indicate your response to the open-ended question kind of questionnaire linked below. The information gathered in this questionnaire will be utilized in a thesis paper study to investigate.

(Implementing Digital Transformation Strategy, the Case of Local Turkish Bank).

* Please, review the questions and provide your responses in the appropriate fields. .

* Your reply will be the base and main sources to write this scientific MBA thesis paper.

* If you feel any question touches your own privacy policy, or any confidential information please try to give a general idea if possible OR eliminate that question.

Your kindness will be greatly appreciated.

NOTE: All information will be kept private and used solely for scientific thesis study purposes.

Thank you in advance for your consideration, and best wishes

AMJAD MUSTAFAOGLU

Appendix (A) Questionnaire:

First section

(DIGITAL TRANSFORMATION STRATEGIC LEVEL):

- What are the main motives to adopt a digital transformation strategy at the bank?
- What are the main strategic strengths of the bank's digital transformation strategy?
- How did the bank build a digital transformation strategy culture?
- How did the digital transformation strategy (DTS) at the bank build distinctive strategic business units (SBUs) among Turkey's appealing finance market?

Second section

(DIGITAL TRANSFORMATION STRATEGY EFFECTIVENESS ON MANAGERIAL PROCESS):

- According to the bank digital transformation strategy (DTS), is there any departmental combining in response to fit with digital transformation strategy (DTS)?
- Did digital transformation strategy (DTS) shorten or combine several managerial processes into one or more less numbers?
- How did the bank digital transformation strategy (DTS) transfer workload to customers?
- What are the major workload neck bottles solved by applying the bank's digital transformation strategy (DTS) projects?
- How did the bank digital transformation strategy (DTS) save paperwork?
- How did DTS save various service time consuming?

Third section:

(THE EFFECTIVENESS OF BANK DTS ON HUMAN RESOURCES):

- How staff communication style affected and responded to the digital transformation strategy (DTS)?
- How DTS, did give employees (especially frontline employees) clearness of duties to perform his/her job efficiently.
- How does the bank's digital transformation strategy (DTS) develop KPIs (Key performance indexes)?
- How did the bank's digital transformation strategy (DTS), affect the in-between employees' communications?

- What is the impact of bank digital transformation strategy (DTS) application projects on employees' motivation for work?
- How did bank digital transformation strategy (DTS) save -performance time consumption- of employees?
- How did bank digital transformation strategy (DTS), affect and improve employees' competencies, performance and skills?
- How did the bank's digital transformation strategy (DTS) affect training programs?

Fourth section:

(THE EFFECTIVENESS OF BANK DTS ON CUSTOMER SERVICES):

- How did customers evaluate projects of the bank's digital transformation strategy (DTS) at satisfaction scale rate?
- What is the percentage of bank digital transformation strategy (DTS), transfer service workload to customers?
- How did the bank's digital transformation strategy (DTS) affect the rising number of digital customers?
- According to the bank digital transformation strategy (DTS), how many bank mobile applications downloads increased?