

IMPACT OF

FINANCIAL TECHNOLOGIES

ON THE TURKISH ECONOMY

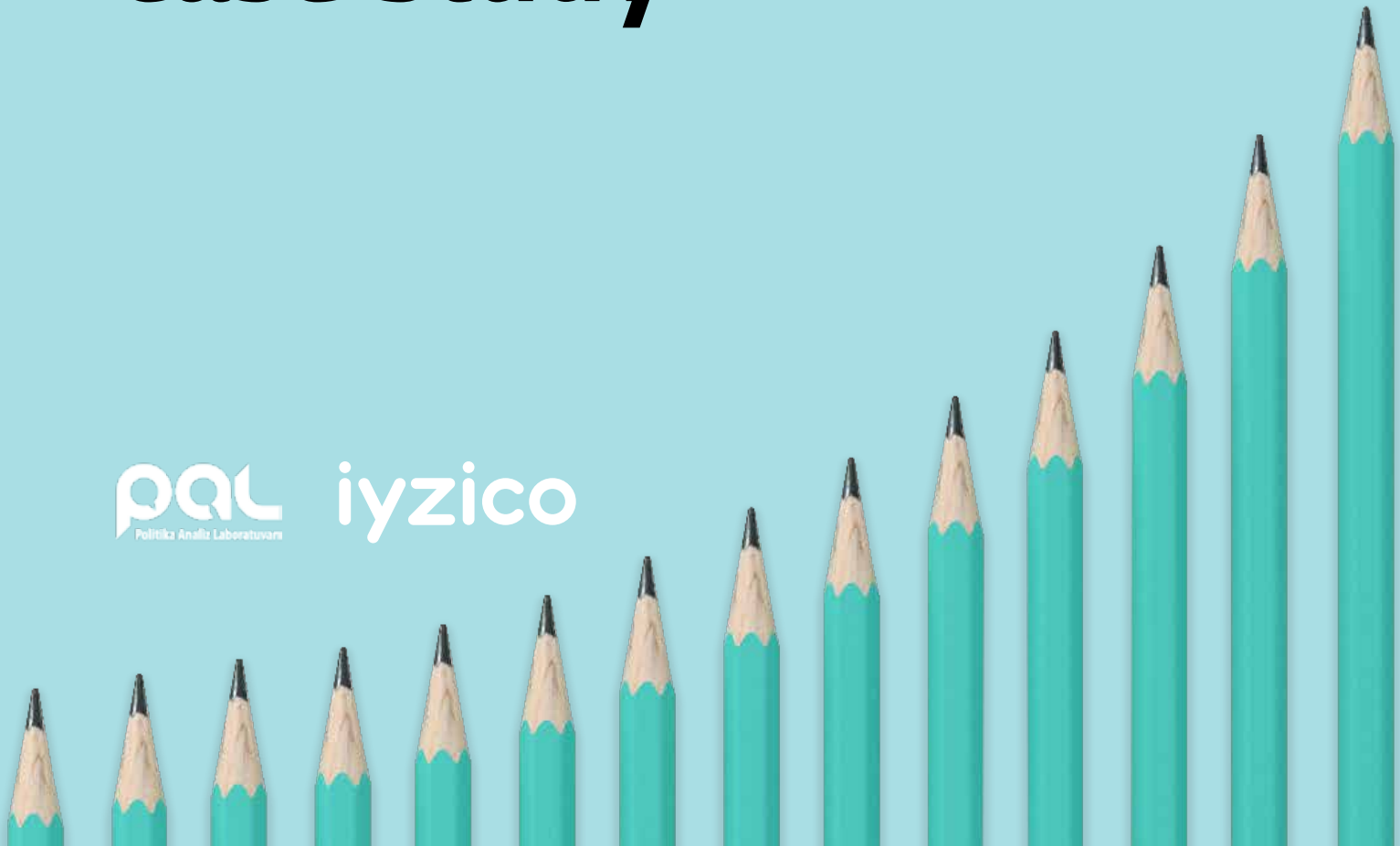
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Policy Analytics Lab (PAL) www.palglobal.org

iyzico Case Study

pql
Politika Analiz Laboratuvarı

iyzico



PAL is a consultancy and think-tank which aims to inspire new thinking and innovation in policy.

Our aim is to inform policy by developing high quality evidence. We believe that every policy is valid in its own context and curiously examine which applications deliver public benefit at the highest level. We aim to contribute to development of innovative policies by using original methods. In order to develop evidence-based policy recommendations, we utilize data analytics in all our studies. Furthermore, we place emphasis on interaction with policy stakeholders and help them to develop efficient solutions in line with their expertise and expectations.

We are eager to advise decision makers and practitioners on what can work most effectively and help them deliver new policy solutions. We bring experts from different disciplines and institutions together. We look to provide a creative and data-focused space in which professionals can exchange their experiences in a cooperative environment and acquire new information and skills.

PAL founder team consists of Emin Dedeoğlu, Sefa Pamuksuz, Emre Koyuncu, Ömür Enes, and Esen Çağlar.

At Policy Analytics Lab, we utilize six type of different complementary tools:

- 1) Data Analysis (big data, surveys, focused experiments, and exhausting conventional data)
- 2) Policy Research (impact evaluations, comparisons, case studies, cyclical research processes)
- 3) Stakeholder Participation (participatory processes, town hall meetings, polling conferences, search and decision conferences)
- 4) Capacity Building and Training (programmes and workshops in accordance with the needs of organizations)
- 5) Strategic Advisory (strategic planning and roadmap development, organizational design, monitoring and evaluation, performance measurement and management)
- 6) Publications and Blog (reflecting on our research and what we have learnt to contribute to policy knowledge and discussions)

At Policy Analytics Lab, we focus our works on topics organized under three main areas:

- 1) Economic and Social Growth: New Technologies and Industry 4.0, Efficiency, Innovativeness and Competitiveness, Trade and Industrial Policy, Sustainable and Inclusive Growth
- 2) Public Governance and Public Sector Growth: Good Governance, Strategic Management, Public Finance Reform, Public Administration
- 3) Urban, Regional and Rural Development: Regional Development Strategy, Special Economic Zones, Urbanization and Urban Management

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Executive Summary

This study was conducted between June and October 2018 by Policy Analytics Lab (PAL) with the support of iyzico. Analysis of iyzico's own transaction data is carried out within the scope of the study and iyzico's contribution to e-commerce ecosystem is evaluated together with analyses of financial technologies (fintech) sectoral data. Additionally, in-depth interviews with 17 iyzico customers and face-to-face meetings with iyzico managers and employees were conducted between August and October 2018.

The aim of this report, which comprises a case study, is to contribute to the enrichment of the knowledge of decision makers of economic policy including BRSA (Banking Regulation and Supervision Agency) around fintech sector. Thereby, the subject matter of this report is the analysis of the economic and social impact of one of the pioneers of the Turkish fintech ecosystem, iyzico. This transformative impact is evaluated under three main headings of (i) impact on growth, (ii) impact on the development of secure and formal market and (iii) impact on inclusion.

Founded as a national financial technology business in October 2012, iyzico was licensed by BRSA on 30 June 2016 and grew rapidly in a short span of time. Now, iyzico is a business with a team of 130 that provides payments systems to over 15,000 merchants which sell on e-commerce sites and to over 300 thousand sub-sellers.¹

iyzico enables not only corporate companies but also individual sellers who do not own a business entity and allows all to sell and receive payments with debit and credit cards of all banks. Primary reasons for iyzico's positive impact are, easy integration, quick support, secure and protected shopping, along with its start-up business model which assists start-ups to grow quicker by reducing their work and financial load.

Impact Detected through the Scope of the Study

- While e-commerce in Turkey grows rapidly in recent years, iyzico's growth is four times faster than that of e-commerce. iyzico's monthly transaction volume had an 11.2% growth performance on a monthly average for the March 2016- September 2018 period. Monthly transaction volume reached to 500 million Turkish Liras level at the end of 2018 from 14 million Turkish Liras in March 2016.
- The number of merchants that sell via iyzico has been steadily growing with a 7% average increase on a monthly basis.

¹ Sub-member businesses participating in marketplace platforms (proprietorships, sole traders or limited/joint stock companies)

- As iyzico grows it also helps its customers to grow: the average revenue of an ordinary business in 2018 is 78% more than the 2016 average. A standard iyzico merchant made 306 thousand TL as average annual revenue in 2016, while in 2018 this average increased to 546 thousand TL.
- The number of small businesses which are iyzico merchants had increased 7.3 times in the last two years and iyzico contributed to SMEs in facilitating them to participate in the e-commerce market. More than 95% of the businesses which sell by iyzico is composed of small to medium-sized business (whose monthly transaction volume is below 45 thousand TL). For such businesses, revenue per business has almost doubled from 2016 to 2018. This shows us that e-commerce has expanded to the base.
- If the increasing trend in export enabled by iyzico is sustained for another three years, 1 billion US Dollars of e-commerce volume will be generated via iyzico.
- iyzico's e-export range by is approximately 58% larger than Turkey's e-export range. Between 2015 and 2017, the e-export range of iyzico was at 5,292 km, whereas the e-export range of Turkey was 3,355 km, the range of exports made through traditional methods was at the level of 2,951 km. This difference occurred due to easier access of local entrepreneurs to farther markets enabled by iyzico.
- Until recently, iyzico has facilitated registration of 1.2 billion TL worth transaction volume, vital for reduction of informal economy. The amount registered in 2016 was 187 million TL which increased to 542 million TL within the first seven months of 2018.
- During the period of September 2017-2018, the number of individual entrepreneurs who are iyzico merchants has multiplied by five times and the amount of volume generated by these has grown by 12 times. Every one out of five individual iyzico merchants can sell abroad thanks to iyzico's solutions.
- The number of women iyzico merchants had increased more than 10 times within the last two years and constitutes 20% of iyzico business. While the monthly average growth rate of iyzico merchants in the 2016-2018 period was 8.6% for businesses with male owners, for businesses with female owners it was 9.8%. In July 2018, average revenue generated by businesses with female owners was approximately double that of businesses with male owners.

Findings obtained within the scope of this study show that iyzico could become the first 'unicorn' enterprise based in Turkey with a value of one billion USD. Further development and international growth of payment companies such as iyzico that enable numerous companies to develop in e-commerce, facilitates e-exports and fortify entrepreneurship can only be possible by the making of solid regulations. There is a benefit in supporting entrepreneurs in Turkey by fair and efficient regulations to make Turkey a global fintech center.

Introduction

In the recent years, global progress in the areas of e-commerce and financial technologies incited a new era for economic development. Digitalization of economy and to that end, enhancement of technology-based entrepreneurship was introduced to the Turkish political agenda in the early years of 2010 and was included under a separate policy in the Tenth Development Plan covering the period of 2014-2018. Many public sector strategies, programs, and projects were initiated pursuant to this inclusion, leading to the acceleration of investments and initiatives in the private sector and the added value created in this area had grown in double digits in each year.

Fintech, which can be described as digital innovation in financial technologies, is one of the fastest growing entrepreneurship areas in Turkey and the world. Across the globe, fintech investments had increased by six times, reaching \$36 billion in value within the last six years. 30 initiatives which are estimated to grow over \$1 billion (unicorn) had passed \$100 billion in value². **Fintech flagships the entrepreneurship ecosystem in Turkey too.** In 2017, where the historical threshold was passed in terms of investments in entrepreneurial capital, fintech investments came up as first with an 18% share.

It is anticipated that both the fintech sector and the technology-based economy will grow rapidly and be supported by the state in the forthcoming period. Measures with regards to the increase in production and export of high technology, development of products and services with added value, and support of internet-based entrepreneurship were included in the New Economy Program declared in October 2018. In line with these steps, the state, while supporting technology-based sectors, needs to revise its regulations towards traditional sectors through the perspective of productivity, innovation, and digitalization.

Therefore, it is vital that decision-makers closely scrutinize economic sectors and initiatives that develop rapidly and have the potential to transform other sectors. The aim of this report is to contribute to the advancement and elaboration of knowledge around fintech sector required by decision makers in economic policy namely BRSA (Banking Regulation and Supervision Agency). Thereby, the subject matter of this case study is the analysis of the economic and social impact of one of the pioneers of the Turkish fintech ecosystem, iyzico.

iyzico is a service provider offering an easy and secure online payment system to businesses of various sizes, licensed by BDDK on June 30, 2016.³ Founded as a local financial technology company in October 2012, iyzico has grown into a business with a team of 130 that provides payment infrastructure service to more 15,000 merchants and over 300,000 sub-sellers that sell online.⁴ In 2017, iyzico was chosen as one of the rising star companies in the "Fintech Innovators 100" prepared by KPMG and H2 Ventures and was the only Turkish company to be listed.⁵

² <https://www.cbinsights.com/>

³ Publication date of the relevant BDDK decision in the Official Gazette

⁴ Sub-member businesses participating in marketplace platforms (proprietorships, sole traders or limited/joint stock companies)

⁵ In addition, iyzico was included in the list "The Fintech 250" prepared by CB Insights in the years 2017 and 2018 and was mentioned as one of the 100 global actors in "100 Leading Fintech Companies Promoting Financial Inclusion in the Digital Age" report drafted by IFC, Credit Ease and Stanford Graduate School.

⁶ Publication date of the relevant BDDK decision in the Official Gazette

The business has received \$28 million investment in total from the date of its foundation, grown in terms of operational base and become the closest nominee to become the first enterprise to be valued over \$1 billion (unicorn) in Turkey. The success of iyzico makes a positive case not only for fintech but also for Turkish entrepreneurship ecosystem.


This study was made between June and October 2018 by Policy Analytics Lab (PAL) with the support of iyzico. The study is conducted by in-depth interviews with 17 iyzico customers and face-to-face meetings with iyzico managers and employees between August 1, 2018, to October 11, 2018, in addition to the data concerning fintech sector and analyses of iyzico's own transaction data.

In this report, firstly, iyzico's transformative impact on e-commerce and online payment systems in Turkey as a payment system service provider is analyzed. Following this, the positive impact of iyzico to Turkish economy are evaluated under three headings. With the first heading titled "impact on growth," the impact of iyzico on the growth of e-commerce volume, expansion of export range and development of numerous critical sectors are evaluated. Secondly, the focus is on "expansion of secure and formal market" and within this framework, the impact of decreasing informal trade and preventing fraud in e-commerce is examined. The heading "inclusion," constituting the third impact channel, contributions to SME, individual, youth and women entrepreneurship and regional impact are discussed. Finally, in the conclusion section, implications on a few international best practices with regards to regulations specifically concerning fintech and technology-based firms are outlined.

The general conclusion reached through iyzico case analysis is to necessity to adapt regulations and clear the way for new economic and technological trends in order to ensure continuity of economic benefits of the digitalization process. The old economy required the printing of cash for payment systems, establishing franchise organizations for sales channels, developing regulations and offices on quality control and return/exchange of products to protect the consumers. For a functioning new economy, providing internet-based money transfer and peer to peer payment systems as well as between enterprises, establishing and monitoring shipment, logistics, customs and quality control infrastructures which can deliver and return goods consumers are needed. It is observed that in such an ecosystem, payment systems occupy a central role.

Globally payment systems enable other initiatives in the digital economy by solving infrastructural problems that they will not be able to solve through their own efforts. In time, PayPal and Stripe in the United States, Klarna in Europe moved beyond receiving payments from credit cards to providing services that would enable digital economy to function including the protection of consumers to marketplace integration and customs and logistics tracking. These start-ups, which were established thanks to the development of the digital economy, work in a customer-focused, dynamic and agile way and therefore, can meet the new needs brought about by the digital economy. Therefore, they acquired a better position in comparison to the traditional actors, such as banks, which provide similar services in the old economy.

⁶ A considerable portion of data used was available up until July 2018 and those available for updates were revised with data of December 2018.

A photograph of a modern building with a glass facade and a green roof. Two people are lying on the green roof, looking up. The building has a glass facade and a green roof. The people are lying on the green roof, looking up. The building has a glass facade and a green roof. The people are lying on the green roof, looking up.

iyzico is a payment institution in Turkey that has similar functions to above-listed services. As shown throughout this report, the services provided by iyzico comprise a multitude of areas of the digital economy ecosystem. Hence, iyzico enables other businesses in the digital economy to exist. Analyses put forward in this report highlight the importance of payment infrastructure for the development of the internet-based economy in Turkey. Within such a framework, proposals introduced at the end of the report with the examination of iyzico case are of facilitatory nature for the entire payment systems sector.

「 Transformative Impact of iyzico 」



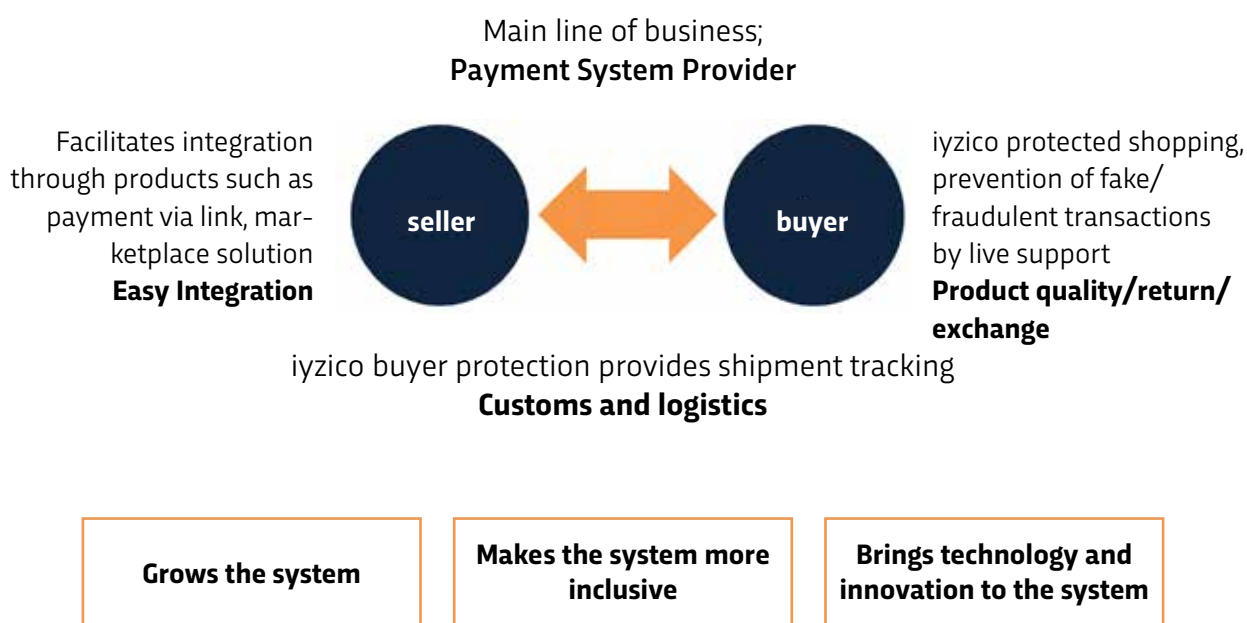
RECEIVING ONLINE PAYMENT

iyzico is a PSP service provider to all companies selling online and enables buyers to shop in installments with all credit cards. In addition to its capability to receive payments with different currencies and foreign credit cards, it facilitates its users to engage in e-export activities by providing in integration to alternative payment methods widely used abroad such as ideal, Qiwi, Sofort, Giropay, etc.

SELLING VIA LINK

Besides corporate entities, iyzico enables all individual sellers to sell and receive payments with debit and credit cards of all banks. Buyers are able to make secure payments without sharing their card information on their electronic devices via a link sent by an iyzico merchant through any channel (social media, e-mail, SMS, etc.). For seller using iyzico marketplace solution, it provides an easy solution both for domestic and foreign marketplace users and owners with its single click process. Along with the fundamentals of easy integration, primary reasons for iyzico's positive impact are, quick support, secure and protected shopping, its start-up business models which assist start-ups to grow quicker by reducing their work and financial load.

Figure 1: Place of iyzico in the e-commerce ecosystem



iyzico Buyer Protection

iyzico provides a secure shopping experience by eliminating worries with regards to purchases not being delivered, products not fitting the description or being in damaged condition and money refunds. All shopping processes made from e-commerce sites that are included in iyzico Buyer Protection are managed by BRSA licensed iyzico. Within the last 10 months, more than 15,000 consumers purchased goods or services from approximately 1000 merchants by using iyzico Buyer Protection. iyzico Buyer Protection offers advantages for its merchants including increase in brand awareness, increase in sales conversion rates, new customer acquisition, and enhancement of service diversification with 24/7 live chat assistance. Furthermore, there are privileges for consumer who use iyzico Buyer Protection such as private purchase detail page with shipment tracking, 24/7 live chat support for problems concerning purchase or post-purchase.

Easy Integration

iyzico saves merchants from long and tedious bank procedures, licensing processes and bureaucratic proceedings and allows the companies to start receiving payments within 48 hours following an easy online application and integration process.

"We wanted to try it because its integration to our site was easy and we were then happy with its pace how the company worked. I can tell that it was the team's attention and positive attitude that put our minds at ease both during the beginning of pubstory and the transition period to iyzico."

PUB STORY

pupa

"Although we have been working together for a short period of time, we were able to observe the fast impact and its impact is increasing. For us, its biggest impact is the easiness to take payments and integration. Integration facility has saved us time."

"The former company I worked with asked for a 30-page document to be filled in when we asked for an update. I called iyzico because I didn't want to do that and iyzico prepared everything in about 5 hours and we were ready to receive payments."


Peenv.

Quick Support

iyzico looks for uninterrupted solutions to problems faced by firms and also cares about and provides assistance to the buyers when they encounter problems with its 24/7 live support service. Thus, iyzico increases the level of trust in e-commerce for every individual, first and foremost for sellers and buyers.

"It was really easy to set up, we liked that a lot."

denizbutik

ekşisözlük paylaşımı

"Their support team gets back to you very quickly too. I used it as a marketplace solution for a company and integrated it, I guess it was a payment infrastructure integration I had the most fun integrating."

"We carried out a very detailed 3-month research into receiving payments prior to starting up. We wanted to set everything right from the very beginning and didn't think that 'we would get just a bank or payment firm now, we will figure it later.' We finally decided that iyzico is the right choice and this has given us a head start."



Your Digital Partner In English Language Teaching

"We really needed at least ten different physical POS devices for ten stalls we opened. We started using iyzico as a pilot, for trial purposes and we are very happy with it, it greatly facilitated our work. Within a couple of days, we are going to integrate our system to iyzico's virtual POS."

"In case of any problems, iyzico is able to develop solutions and reply to us faster. Whenever I need a new service, I tell it to iyzico, our teams work with them in an integrated manner and solve the problem. They constantly develop their products according to customer demands. We have a contact in iyzico, it is impossible to do these things and find any contacts in banks."



"We chose iyzico because they get back to us immediately. They were really helpful in the contract period. We received quick replies and were able to get help in any matter we needed assistance. In the other payment company, such process was longer. That's why we chose iyzico."



"We never had any problems with getting support. We always have been able to reach to whoever we wanted and received the attention we needed."

"This is a payment infrastructure which I believe cares about feedback."

ekşisözlük paylaşımı



"They provided us with technical support when we needed technical support and with financial support when we need financial support. They proposed to us creative solutions when we told them about our problems."

「
Impact on Growth
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iyzico claimed a vital role in the growth of e-commerce in Turkey via the opportunities it provides to companies or individual sellers currently engaged and looking to engage in e-commerce. Especially by providing solutions- buyer protection, easy integration, quick support, etc.- to elements that limit the growth of e-commerce in Turkey, it paves the way for alteration of traditional shopping habits and thereby, contributes to proliferation and growth of shopping on the internet.

The share of e-commerce in total retail trade in Turkey has increased from 1.7% in 2012 to 3.5% in 2016 and to 4.1% in 2017. This level is below the global average of 4.2% in 2012 and 8.5% in 2016 (TÜSİAD [Turkish Industry and Business Association] and TÜBİSAD [Informatics Industry Association] data). Despite increasing at a lower rate than the global average, in case that the growth pace of e-commerce in Turkey is sustained at this rate, it would further accelerate growth of iyzico and iyzico merchants.

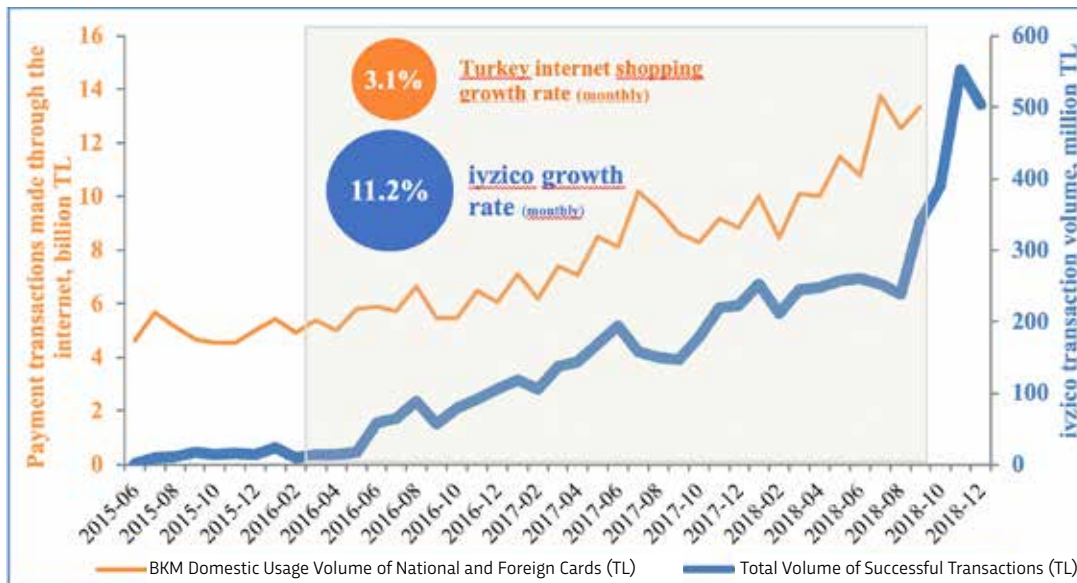
While e-commerce in Turkey grows rapidly, iyzico grows 4 times faster.



Despite being a very young enterprise, iyzico's monthly transaction volume had grown over 500 million Turkish Liras (TL) from 14 million Turkish Liras in March 2016, at the end of two years. This increasing trend means an 11.2% growth performance on monthly average between the period of March 2016- September 2018. In the same period, the monthly growth rate of internet shopping made by credit cards in Turkey was 3.1% and transaction volume rose from 5.3 billion TL to 13.3 billion TL accor-

ding to BKM (The Interbank Card Center) data. In case such growth rate continues in the forthcoming period, it is forecasted that iyzico will attain monthly transaction volume of 10 billion TL in 2021. As seen in Figure 2, there was also significant growth in the total volume, especially within the last 2 years.

Figure 2: Monthly transaction volumes: Online Shopping in Turkey and iyzico, 2015–2018



Source: iyzico, BKM and PAL calculations

* Monthly growth rates were calculated for the period March 2016– September 2018.

Companies' Participation in E-Commerce and their Growth

The number of merchants that sell through iyzico has been steadily growing with a 7% average increase on a monthly basis. As can be observed in Figure 3, the number of firms which sell through iyzico has shown a continuous increasing trend within the period covering March 2016–December 2018 (34 months). Expansion of iyzico's network of firms and its constant growth is understood as a sign that iyzico is preferred over its competitors. Approximately 8,000 firms out of 15,000 members had used iyzico actively throughout December 2018. This number indicates a 2.5-fold compared to the number of firms which engage in transactions in December 2016.

Figure 3: Monthly number of companies using iyzico, thousand firms, 2016 – 2018



Source: iyzico and PAL calculations

iyzico helps its customers to grow while it is itself growing: the average revenue of a standard business in 2018 is 78% more than the 2016 average.

iyzico enables faster growth of businesses which sell on the internet through facilitating the payment step, one of the most critical problems faced in e-commerce. The rapid growth of total transaction volume made through iyzico is not the sole result of the increase in the number of businesses, but it is also an increase in the revenues of the iyzico merchants. Annual average revenues of iyzico merchants have steadily increased. As illustrated in Table 1, a standard merchant made 306,000 TL as average annual revenue in 2016, whereas for the year of 2018, this average increased to 546,000 TL.

iyzico creates opportunities for small-scale businesses in the e-commerce ecosystem and the number of small size sellers keep increasing.

While iyzico is rapidly expanding its merchant network, the biggest share of this network belongs to small and medium-sized sellers. Just over 95% of the businesses which sell by using iyzico is categorized as small to medium scale businesses (whose monthly transaction volume is below 45 thousand TL). This shows us that e-commerce in Turkey has extended to the base. As shown in Table 1, there is also a consistent growth in revenues of the mentioned businesses, the figure had grown to 35,000 TL in 2016 to 62,000 TL in 2018. Such indication puts forward the fact that not only businesses which possess big volumes grow but also smaller businesses too.

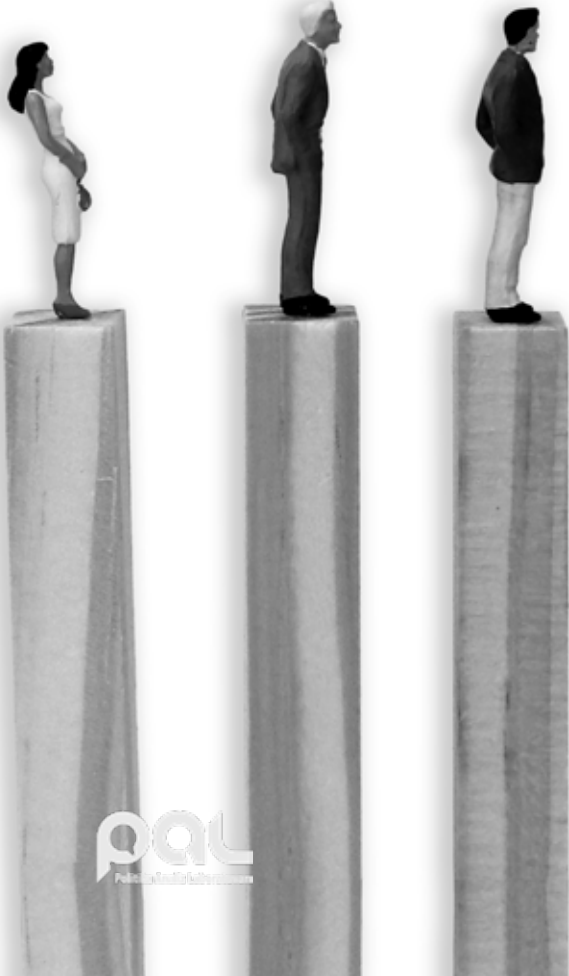


Table 1: Annual revenues of iyzico users made through iyzico system, 2016 – 2018

	The total volume of annual transactions made through iyzico * (billion TL)	Average annual revenue of a firm (thousand TL)	Average annual revenue of a small firm** (thousand TL)
2016	0.7	306	35
2017	1.9	460	48
2018	2.9	546	62

Source: iyzico and PAL calculations

* Calculated according to in-year averages

** Small-scale businesses are categorized as businesses with an average annual revenue of less than 1.8 million TL.

Note: 2018 data is calculated until August 2018 for small-scale businesses, until December 2018 for businesses of all scales.

"As a company which is just starting out in e-commerce, it is much easier and efficient to work with iyzico. They don't have procedures that tire us."

UP&FIT



"I" have found the service I was looking for in iyzico. I can minimize my overhead and invest all revenue to development."

"We can very clearly differentiate the impact of iyzico. There is an obvious pace experienced in sales. It assisted us in moving forward quickly."



sahibinden.com

"We use iyzico in C2C sales. We used our own system before, but we started to work with iyzico instead of investing in and managing an area outside our principal work and focused on our principal work. We are pleased with iyzico ever since we started working with them."

"We have definitely observed the positive effect on sales since we switched to iyzico. Both our returning customers and the number of people we were able to engage with increased. People buy more when they get accustomed to us."

Sophie Accessories

PUB STORY

"We received a better commission fee offer from iyzico. We wouldn't have been able to cancel our contract with our previous partner without receiving a better offer anyway."

"iyzico has paced the processes such as in-store customer visits through its iyzilink service. It is a critical gain for both us and customers to shorten the processes for waiting for customer verification. Our target is customer satisfaction as a company is 90%. Therefore, service time proves to be critical. It was really important for us not to keep a customer, who is already unhappy because the device purchased wasn't working properly, waiting for payment too. We have achieved this through iyzico."

pupa

 **Apsiyon**

"We currently have a team of 80 people, if it wasn't for iyzico, I believe we would have to be 90-95 people. In such a case, we are faced with compulsory operational tasks such as contacting banks, managing processes, tracking of processes separately, integration of different POS and continuous auditing thereof and ensuring fraud control."

Such tasks are costly and necessitate workforce. iyzico reduces our costs and makes us productive. Through iyzico, we are able to concentrate our energy to areas that constitute our main business activities. I am sure that we can boost our relationship with iyzico both in scope and in volume. We have a very friendly business relationship."

Figure 4: Transaction volume per iyzico merchant, TL, 2016 - 2018



Source: iyzico and PAL calculations

iyzico has taken on a supporting role in the success stories of firms which rapidly grow online through various business models. iyzico merchants that increased transaction volumes the most within the last two years display a variety in business models and areas (Table 2). Transaction volumes of the top 20 iyzico member businesses that achieved the most increase within the mentioned period vary between 713,000 TL and 14,8 million TL. Average shopping cart value of these businesses are between 30 TL and 543 TL. 35% of the mentioned total volume of 20 businesses are made up of nine businesses which have been trading under five years. This highlights iyzico's accelerating power for newly-founded enterprises as well as for those on the path for growth.

Table 2: The top 20 member businesses which trade through iyzico and has the biggest increase to their e-commerce volume, last 2 years

Member Business Product Category (business model)		
1	Variety of Clothing and Accessories Shops (Limited company selling on the Internet)	11 Men's and Boys' Clothing and Accessories Shops (Limited company selling on the Internet)
2	Computer Software Shops (Software as Service)	12 Second-Hand Shops (Marketplace model for second-hand women clothing sales)
3	Florists (iyzicoConnect Model)	13 Computer Software Shops (Short term rental of mobile broadbands, smartphones, and tablets)
4	Women's, Men's Clothing Shops (C2C marketplace model)	14 Information Access Services (Online Payment Systems)
5	Variety of Special Home Furniture Shops (E-commerce)	15 Women Accessories Shops (Limited company selling on the Internet)
6	Variety of Clothing and Accessories Shops (Retail)	16 Professional Services (Service offers)
7	Variety of General Services (E-Commerce Model)	17 Variety of General Services (Marketplace e-commerce model)
8	Vehicle Rental (Marketplace e-commerce model)	18 Women's and Men's Clothing Shops (Limited company selling on the Internet)
9	Sports and Horse-Riding Clothing Shops (Wholesale of sports materials)	19 Advertising Services (Membership Service)
10	Women's and Men's Clothing Shops (Limited company selling on the Internet)	20 Furniture, Home Accessories, and Equipment Shops (Limited company selling on the Internet)

Source: iyzico

The average value of iyzico shopping cart in 2017 is 10% higher than the average value of an e-commerce shopping cart in Turkey. Through the expansion of the merchant network, the number of the end-users has also been rapidly growing and e-commerce base is proliferating. According to BKM data, in 2015, the average value of shopping carts for transactions made by credit cards through electronic media in Turkey was 244 TL. This number has increased to 259 TL in 2016 and in 2017, to 300 TL. BKM data shows an average shopping cart volume of 302 TL for the first half of 2018. In contrast, the average transaction volume (average shopping cart value) of buyers of iyzico was 312 TL in 2016. This number has increased to 330 TL in 2017 and continued its upward growth trend to 340 TL within the first 7 months of 2018. Throughout the mentioned period, the number of buyers who engaged in transactions through iyzico has increased 10.6% on a monthly basis from 2016 and has reached 800,000 in July 2018. According to this data, iyzico contributes to the increase in the average sales of its merchants while enabling e-commerce to spread out.

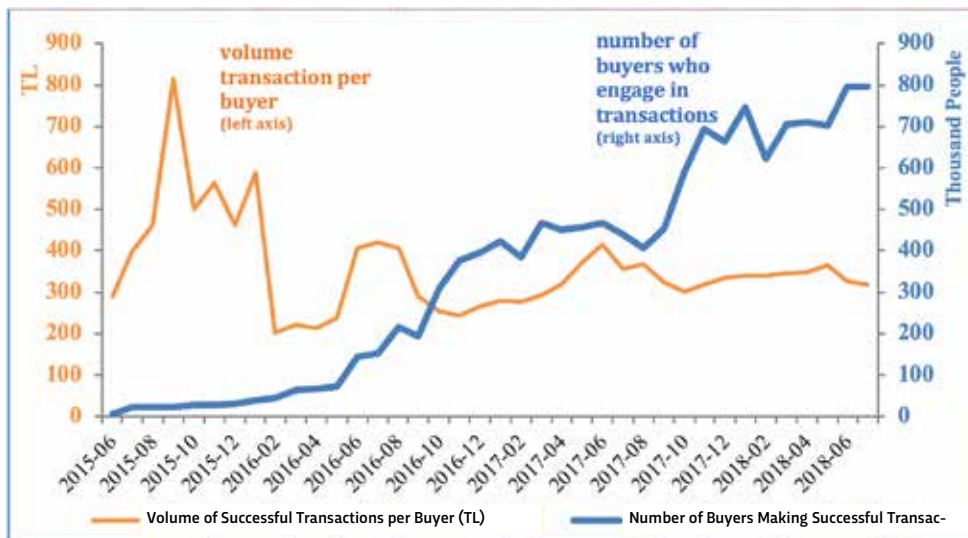
"We think that the card information storage feature that iyzico provides has a definitive effect on returning customers."



PUB STORY

"The system we used to work with was forwarding to a different site for payments."

Figure 5: iyzico; the number of buyers engaging in transactions and volume of transactions per buyer, monthly, 2015-2018

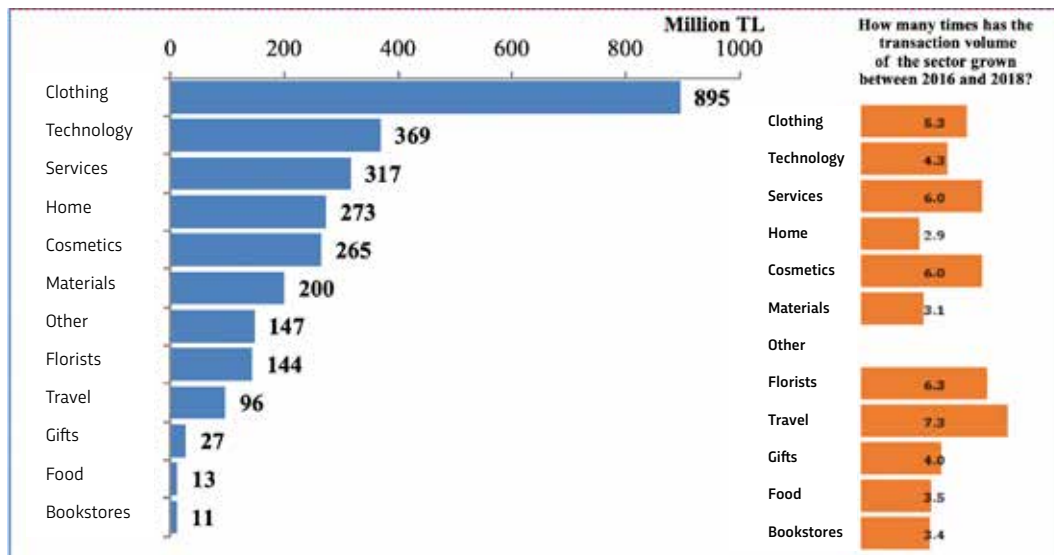


Source: iyzico and PAL calculations

Growth Impact on E-Commerce Sectors

All sectors grow through iyzico but the performance of particularly clothing, travel, and cosmetics sectors deserve special attention. While clothing, technology, services, home equipment, and cosmetics sectors carry great significance in total transaction volume, the transaction volume generated by these five sectors makes 77% of the total volume of iyzico. When sector performance is analyzed for the period between September 2016 and June 2018 (September 2016=100) cosmetics, services and florist sectors had grown more than six times. Clothing sector's growth by 5.3 times is especially significant given that it has the biggest volume compared to all other sectors. Travel sector's growth by 7.3 times had outpaced the growth of all other sectors. In terms of total number of transactions, the clothing sector preceded other sectors, to be followed by service and technology sectors.

Figure 6: Transaction volume of iyzico member businesses by sector, million TL, 2017 - 2018



Source: iyzico and PAL calculations

Impact on Export

Turkey's e-export potential is characteristically different from traditional export. It is also observed that the products subject to e-export such as electronic and automotive parts, are products that have more added value compared to primary products in traditional export. It is predicted that e-export will decrease the imbalance between small firms or firms that are new to export and large firms which have been engaged in export for a longer period and to facilitate export for SMEs and entrepreneurs (TEPAV E-Export Report, 2014).

Export range enabled by iyzico is approximately 58% larger than Turkey's e-commerce range.

Between the years 2015 and 2017, the range of exports made through traditional methods was at the level of 2,951 km. During the same period, the e-export range is 3,355 km, also as a positive result of digitalization. The export range of iyzico is realized at 5,292 km, a figure that is much comprehensive. By providing easy payment service, iyzico expands Turkey's e-export range and facilitates entrepreneurs' reach to farther markets.

Figure 7: iyzico export range, 2015–2018; Turkey e-commerce and traditional export range 2011, 2015 –2017- estimated



Table 3: iyzico export range 2015–2018; Turkey e-commerce and traditional export range- 2011 and 2015 - 2017

	2011	2015-2017 (e)
Traditional Export	2,846 km	2,951 km
E-export	3,235 km	3,355 km
iyzico Export*		5,292 km

TÜİK, TEPAV E-Export in Turkey: Opportunities and Problems 2014, Google Maps, iyzico data and PAL calculations

*iyzico 2015-2017 export range is calculated according to 2015-2018 data
(e) estimated

If the increasing trend in export made by using iyzico is sustained for another three years, the e-commerce volume of 1 billion US Dollars will be generated through iyzico. This increasing trend in export has continuously been manifested since iyzico began providing services that enable businesses to receive payments from countries outside of Turkey. iyzico increased its number of merchants engaged in export activities by facilitating their entrance to global markets. As seen in both Figure 8 and Table 4, the number of businesses that engaged in export was only 350 as of December 2016. This number had increased by four times within two years, to 1,337. Additionally, the number of foreign customers who shop from abroad through iyzico grew by seven times within the same period and rose from 29,000 to 200,000. Due to the strengthening of engagement between foreign buyers and domestic businesses, the iyzico export volume which stood at 1.1 million US Dollars in December 2016 increased by three times to 3.3 million US Dollars in December 2018.

"We were always facing obstacles with 3D payments in foreign sales, we were able to get past this problem thanks to iyzico. Approximately 10% of our revenues are generated from overseas sales."

Seyraesarp

pupa

"iyzico's infrastructure is in English and this simplified our integration when working with foreign partners."

"Our total wholesales and 95% of our retail sales are exported abroad. iyzico is a business partner who provides us with great ease in sales abroad. iyzico perceives us not as a client but as a business partner."

Sophie Accessories

While Turkey's e-export grew by 2% on a monthly average within the last two years (March 2016-September 2018), the growth pace of exports made through iyzico was 18%. Such difference between these figures is a result of both iyzico's growth and its facilitation of export for businesses of all types and sizes. Despite the fact that the last 12 months export volume of iyzico merchants currently stands at 28 million US Dollars, an increase the rate of 18% in the export volume is worth the notice. Concomitantly, volume engaged in export per business had also risen. Volume per exporting business was 2,161 US Dollars in 2016 and in 2018 and the figure had increased by 60% in Turkish Liras whilst remaining at 2,128 US Dollars notwithstanding the sharp volatility in the currency exchange rate. iyzico not only facilitated an increase in the number of businesses engaged in export, but it also supported the growth of these businesses in terms of exports. (Turkey's e-export growth: BKM data)

Figure 8: iyzico monthly number of merchants that export to foreign countries, 2016 – 2018



Source: iyzico and PAL calculations

Table 4: Trend of iyzico export data, 2016 – 2018

	2016/6	2016/12	2017/6	2017/12	2018/6	2018/12
Number of Exporting Businesses	125	350	439	640	880	1,337
Export Volume (million US Dollars)	0.37	1.11	1.06	1.02	2.01	3.34
Number of foreign buyers (thousand)	11.2	28.9	17.9	24.7	42.9	203.8

* End of the month foreign currency exchange rates are obtained from http://www.tcmb.gov.tr/kurlar/kurlar_tr.html, and average foreign currency exchange rates are obtained from <http://www.bumko.gov.tr/TR,150/doviz-kurlari.html>.
Source: iyzico and PAL calculations

Despite of the fact that most of the top 20 businesses which increased their volume of e-export are based in Istanbul, from Kocaeli, Izmir and Bursa, one merchant from each of these cities has also made it to the list. Table 5 shows of the variety of business sectors and models of the top 20 businesses that increased their e-export volume. iyzico provides e-export opportunities to its merchants operating in different sectors and based in different cities with its export simplification solutions. The top business increased its export volume by 1.2 million TL within the last two years whereas the 20th business in the ranking managed to increase it by 9,500 TL. Average shopping cart values of these businesses have a wide range between 105 TL and 3,300 TL. 51% of the increase in the total volume comprised of these 20 businesses is generated by 13 different businesses which have been trading under 5 years. All the data points out to iyzico's facilitation of export for businesses of various sizes, operating in numerous different business sectors.

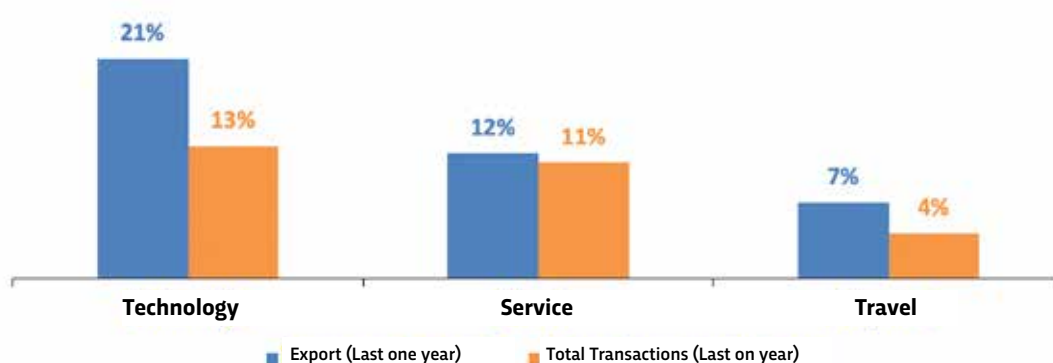
Table 5: The top 20 merchants trading through iyzico and have the most increase in the volume of e-export, last 2 years

Product Category of Member Businesses (business model)	
1 Variety of General Services (Sales of stock market data licenses)	11 Bookshops (Book and E-Book Sales)
2 Education Services (Internet Shopping)	12 Travel Agencies, Tour Operators (Hotel reservations and other tourism services)
3 Furniture, Home Accessories, and Equipment Shops (Home Decoration)	13 Sports Materials Shops (Sale of sports materials)
4 Consultancy, Public Relations (Mobile Application)	14 Health Services (Health Tourism)
5 Computer Software Shops (Short term rental of mobile broadbands, smartphones, and tablets)	15 Various General Services (Marketplace E-Commerce Model)
6 Computer Software Shops (Software as Service)	16 Women's Ready to Wear Clothing Shops (Marketplace E-Commerce Model)
7 Variety of Special Home Furniture Shops (E-commerce)	17 Computer Software Shops (Marketplace E-Commerce Model)
8 Variety of Clothing and Accessories Shops (Sales of famous worldwide brands limited and collection items)	18 Vehicle Rental (Marketplace E-Commerce Model)
9 Sports and Horse-Riding Clothing Shops (Sale of sports materials)	19 Variety of Clothing and Accessories Shops (Retail)
10 Variety of General Services (Member/donation/subscription fee management system for associations, foundations, and civil society organizations)	20 Computer Software Shops (Font design and sales)

Source: iyzico

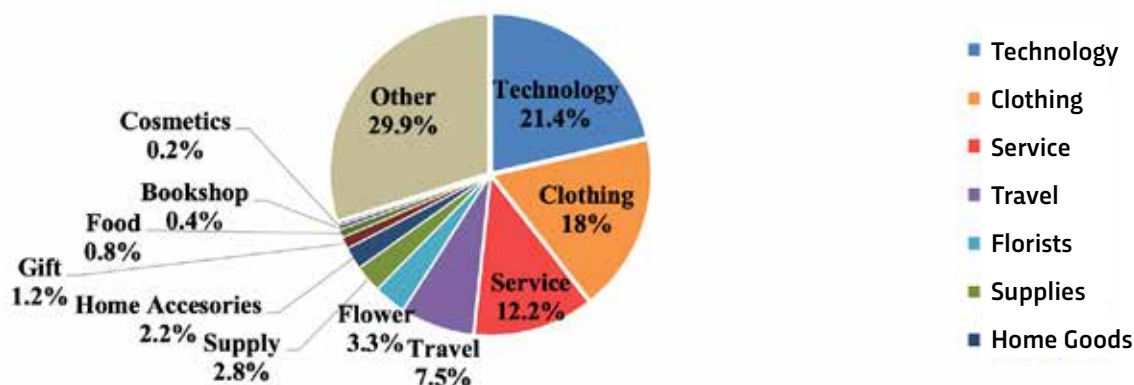
Ease in receiving payment for international transactions has a significant contribution to export for the services sector. As can be observed in Figure 9, the shares of service, technology and travel sectors within iyzico's total number export transactions are greater than their shares in all domestic and foreign transactions. The technology sector is the noteworthy sector as it makes up 21% of total exports and generates 13% of the total transaction volume. Such difference for the service sector is 12% and 11%, and for the travel sector, is 7% and 4% respectively. iyzico's facilitating effect is visible in the export of the mentioned sectors. Besides these three sectors, the clothing sector is also able to grow the export volume by generating 18% of exports.

Figure 9: Sectors whose shares in iyzico export transaction volume are greater than of their shares in total transaction volume, last one year (2017 - 2018)



Source: iyzico and PAL calculations

Figure 10: iyzico distribution of foreign transactions as per sectors, 08/2017 - 07/2018



Source: iyzico and PAL calculations

While 45% of the exports made via iyzico were made to the United States, exports made to the USA, Saudi Arabia and the United Kingdom make up 83% of the total number exports.

As shown in Figure 11, while Turkish manufacturers are able to enter European and Middle Eastern markets via traditional export, in exports made by iyzico merchants, farther markets such as USA and Australia are also highlighted. Businesses who were provided with opportunities to receive payments from those countries by iyzico contribute to the expansion of Turkey's e-export range. When exports made via iyzico are analyzed, several important highlights can be made:

While 89% of the exports made to the **USA** is generated by Istanbul, Samsun with its 6% share, is also noteworthy. Sector-wise, there is a homogenous distribution of exports.

In sales made to the **United Kingdom**, Istanbul also leads with its share of 87%. In transactions carried out, the notable sectors are services with 34%, clothing with 8% and florists and technology each with 5% of sales.

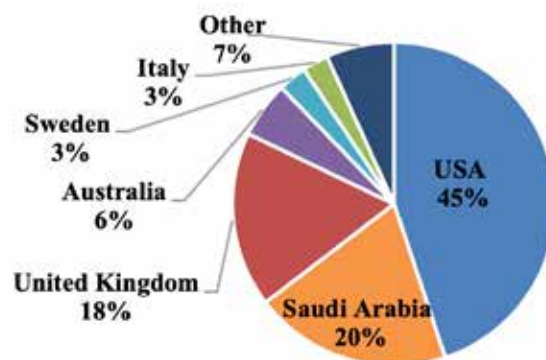
97% of the sales made to **Saudi Arabia** is made through Istanbul. It is remarkable that 83% of these sales belong to the technology sector.

Although 87% of the sales made to **Australia** are through Istanbul, Denizli with 4% and Samsun with 3% of sales also deserves attention. Services sector constitute 15% of the shares in these sales, whereas clothing sector constitutes 13%.

"We are planning to enter Azerbaijan, Qatar, Greece, and Saudi Arabia markets."

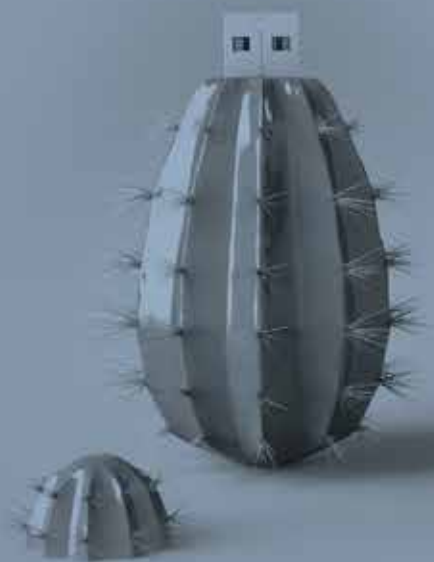


Figure 11: Distribution of iyzico sales abroad as per country, 06/2015 - 06/2018



Source: iyzico and PAL calculations

「 Development of a Secure and Formal Market 」



Reduction of Informality

Informality rate in Turkey varies greatly across the sectors. For instance, while the informality rate for agriculture sector is above 80%, it is 12% for IT and 4% for education. These rates are taken from rates of SGK (Social Security Institution) informal employment by sectors calculated through TÜİK (Turkey Statistics Institution) household workforce surveys. Although these rates are not indicators of direct trade, they are significant in terms of illustrating the distribution of informality across sectors. Volumes registered are calculated based on sectors and reflect an approximate estimate to real values. When data for Turkey is analyzed for the period of 2016-2018, average informality rate for all sectors is 24%. This means that 24% of trade transactions are conducted informally. Such informality slows down the Turkish economy and causes misperceptions in collection and analysis of economic data.

iyzico has facilitated registration of 1.2 billion TL worth transaction volume up until recently.

It is a valid conclusion that as the number of businesses working with iyzico and total transaction volume made via iyzico increase, transaction volume converted from informal to registered also increases. The amount registered in 2016 was 187 million TL and it increased to 542 million TL only within the first seven months of 2018. In other words, five months before the end of 2018, iyzico has achieved three times of the amount it registered in 2016. Between 2016 and 2018, total transaction volume made via iyzico was 4.8 billion TL and registered total volume exceeded 1.2 billion TL. If this transformative effect is to continue, iyzico will have a vital contribution to the registration of the informal economy of Turkey.

Table 6: Informality rates by sectors and volume registered through iyzico, 2016-2018

	2016-2018 average informality rate	2016 (TL)	2017 (TL)	2018 (first 7 months) (TL)	Total value registered (TL)
Other service activities	44%	29,055,224	84,670,651	113,898,100	227,623,975
Culture, arts, entertainment, leisure and sports	36%	16,429	52,212	415,948	484,588
Construction and public works	36%	528	47,741	56,324	104,593
Accommodation and food service activities	31%	9,985	34,822	563,188	607,995
Health and social services activities	30%	222,397	1,867,369	2,042,015	4,131,780
Wholesale and retail	28%	108,367,556	329,785,962	368,988,756	807,142,275
Transport and storage	25%	43,602,257	73,143,145	14,221,452	130,966,854
Real estate activities	24%	7,308	748,960	1,062,450	1,818,717
Manufacturing industry	20%	76,837	24,374	47,271	148,483
Administrative and support services activities	14%	-	75	7	82
Information and communication services	12%	4,681,019	24,806,961	32,040,338	61,528,318
Professional, scientific and technical activities	10%	949,010	4,494,728	6,521,911	11,965,649
Education Services	4%	489,943	1,940,876	2,263,287	4,694,106
Total amount registered (TL)		187,478,491	521,617,875	542,121,047	1,251,217,414

Source: SGK Informal Employment Rates by Sectors calculated through TÜİK Household Workforce Survey, iyzico data, and PAL calculations

Increasing Trust in E-Commerce

Merchants that benefit from iyzico Buyer Protection are experiencing an increase in sales conversation, a decrease in product returns and chargeback⁷ rates. According to Buyer Protection Trust Survey carried out by iyzico, there is a 6% to 8% percent increase in the conversion rates of iyzico merchants which began to use Buyer Protection service. Moreover, iyzico Buyer Protection enables practicality in e-commerce by decreasing return claims and saving businesses from a substantial workload. When seller's pre- and post-transfer to Buyer Protections periods of iyzico merchants are compared, it is observed that product return rate decreases from 3.3% to 2.7% and similarly cashback rates also decrease by three times.

According to Buyer Protection Trust Survey carried out by iyzico, there is a 6% to 8% percent increase in the conversion rates of iyzico merchants which began to use Buyer Protection service.

⁷ It is a process that occurs as a result of a credit or debit card owner informing the bank an expenses made was without his/her consent. At that stage, the bank demands detailed information with regards to mentioned transaction from the business. In case the card owner was deemed to be right, related bank terminates the process by claiming the amount subject to disputed transaction from the business and refunding it to the card owner's account.

Box 1: Approach to Internet Shopping in Turkey

Online shopping in Turkey has proliferated, progressed significantly and taken important steps towards reaching to the level of global competitors in recent years. According to the TÜİK Household Information Technologies Usage Survey, in 2017, one in every four individuals had shopped online. The ratio of individuals purchasing products or services for personal use online had increased from 20.9% in 2016 to 24.9% in 2017.

On the other hand, both insufficient encouragement of seller's enthusiasm to enter the e-commerce ecosystem and buyers' hesitations concerning online shopping and shopping habits decrease the potential of such developments. According to TÜİK Household IT Technologies Usage Statics 2014 data, individuals who do not prefer to shop online stated the following as their reasons for their preference:

- 81.2% stated the need to make purchase decisions after visually seeing and loyalty to shops which they make purchases from'
- 44.9% pointed out their concerns regarding privacy or security in payment,
- 27% raised their insecurities on receipt of the products, returns or troubleshooting for complaints
- 21% put forward lack of information and skills with regards to online shopping,
- 20.3% highlighted the problem of delivery of goods purchased online,
- 16.2% stated that not owning credit cards which enable online payments as the cause of not preferring online shopping.

While the trust rate of people shopping on the Internet is 62%, this rate increases to 69% with iyzico Buyer Protection⁸. With Buyer Protection, iyzico contributes to overcoming the aforementioned impediments. Furthermore, as Buyer Protections Trust Survey study shows, the referral rate of Buyer Protection by people who use this system to others is 88%. With its own artificial intelligence-based technology and PCI-DSS certified security system, iyzico is able to provide a high level of security for card information and personal data. Thereby, protection against card information copying and other fraud methods can be achieved.

⁸ Buyer Protection Trust Survey conducted by iyzico

”

Our fraud system is the opposite of securing a doorway with a guard and not letting anyone in. It is like letting everyone who wants to be inside to go and later, if there is a burglary attempt then intervene. You can prevent fraud for good if you forbid everyone you feel suspicious about but at the same time, you also prevent a lot of purchase. Our aim is to prevent fraud without unjustly hindering anyone. We use artificial intelligence technology developed by us which constantly continues to learn. At critical points, organic intelligence is employed, and we solve the problem.

iyzico Fraud Team

“I believe that iyzico has contributed to security. There were other firms providing fraud protection systems but we perceive iyzico to be more secure and we like the fact that it contacts us directly. They are good at informing us. Fraud attempts were prevented a couple of times. We observed that our customers trust them too and that online mistrust was overcom.”

pupa

DEqPO

“Trust is the issue of this century, of today. We cannot ignore iyzico’s contribution to its solution.”

"When you see iyzico's name on your card statement, instead of getting scared and canceling your card, you can be sure that your money is safe and relax. Because you can find customer representatives immediately if you run into any problems. It is one of the rare trustworthy businesses in our country, everything it does is above the standards."

ekşisözlük entry



"One of the biggest advantages of working with iyzico is the fact that it provides us with a facility to store the credit card in a secure way. Because we are able to work with the same people multiple times. Our aim is to provide our customers with an easy and quick experience, we are able to achieve this through iyzico's facility."

"We haven't had any negative experience with respect to security."

Seyraesarp

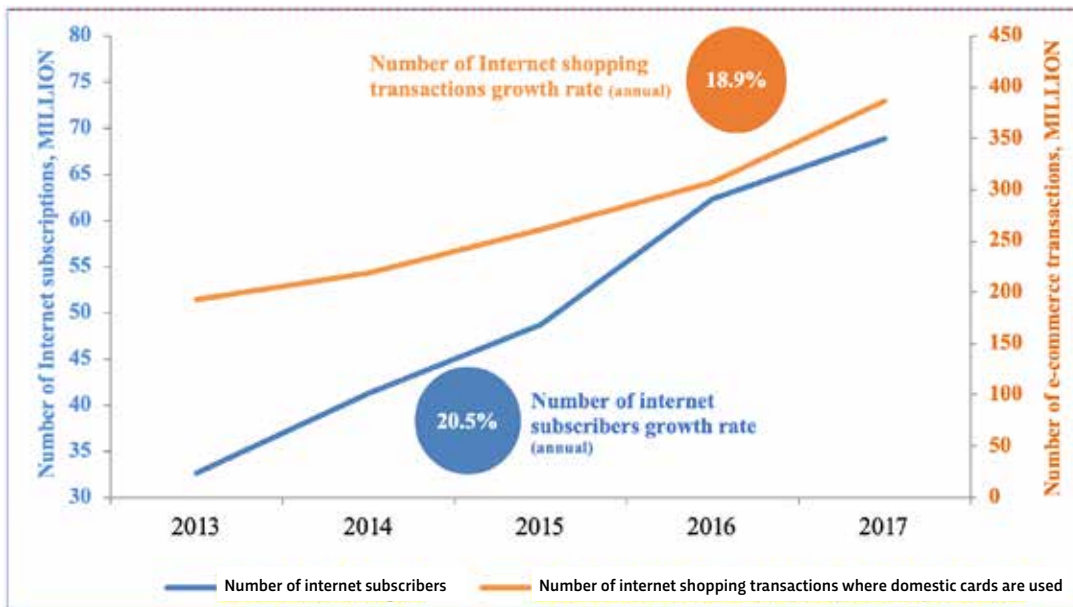
「
Impact on Inclusivity
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Although Turkey lags in terms of online shopping dynamics when compared to developed countries, the spread of Internet usage increases e-commerce opportunities. While the ratio of people who use internet for shopping in Turkey is 10%, in countries like Germany, France, and Sweden this ratio has surpassed 50% (TÜSİAD Report). According to TÜİK's IT Usage in Entrepreneurial Enterprises Survey (GBTKA) data of 2017, only 10% of the entrepreneurial enterprises in Turkey had made sales through the internet or via mobile applications. This rate is below most countries in Europe. 25% of businesses in Ireland, where this rate is the highest, make sales online.

Between 2013 and 2017 the annual average growth rate of internet subscribers was 20% whilst the increase in rate of the number of transactions in e-commerce was also similar with 19%. Concurrent growth of shopping made through the internet and the number of internet subscriptions show that e-commerce progress as the internet thrives in Turkey. As can be seen in Figure 12, when the number of internet subscribers was approximately 33 million in 2013, this number showed an increase approximately to 69 million by 2017. The number of subscribers, 23 million in 2002, showed a slow increase until t2010s and then increased momentum reaching a higher number (TÜİK, Ministry of Transport, Maritime and Communication, Information Technologies and Communication Institution). In a similar trend, while the number of transactions on the internet made by credit card was 193 million in 2013, it increased to 386 million in 2017 (BKM data).

Figure 12: The Number of Internet subscribers and online shopping transactions in Turkey, million, 2013 - 2017



Source: TÜİK, BKM

Contribution to SME and Individual Entrepreneurship

iyzico has facilitated SMEs to participate in the e-commerce market and the number of small businesses which are iyzico members had increased 7.3 times within the last two years. iyzico's business model focuses on providing a wider range of businesses to benefit from e-commerce opportunities and those who benefit therefrom are especially enterprises of smaller scale and individual entrepreneurs. The number of (small) businesses that generate annual revenue of less than 180,000 TL through iyzico has grown by 7.3 times, to 5,746 within the last two years. These types of businesses represent 92% of iyzico merchants and realize 5% of the total transaction volume and 10% of the total exports. The fact that large businesses which make up 88% of the total volume, genera 68% of the total export, is an indicator of iyzico's part in facilitating smaller businesses' entry to foreign markets.

Table 7: The number of iyzico merchants according to size, 2016 - 2018

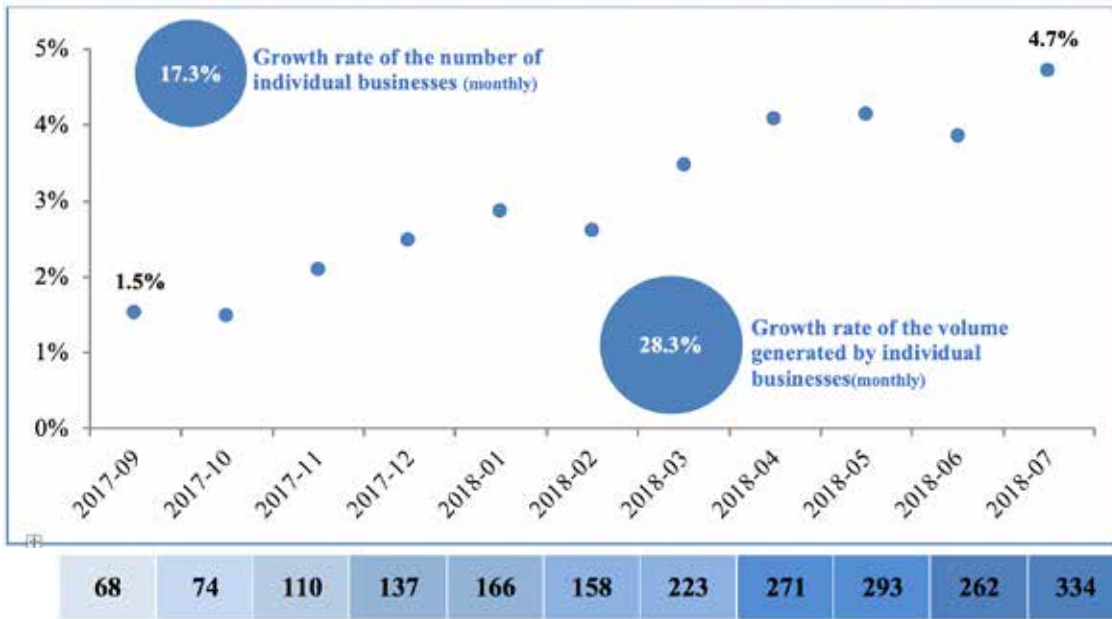
<i>Periods of annual revenue made through iyzico</i>	Small <180 thousand TL	Small-Medium Between 180 thousand and 540 thousand TL	Medium Between 540 thousand and 1 million TL	Medium-Large Between 1 million and 1.8 million TL	Large 1.8 million TL <
2016	777	28	10	2	17
2017	3,540	155	43	22	70
2018	5,746	286	83	29	89

Source: iyzico and PAL calculations

Note: Business numbers are calculated based on the average of monthly transactions

The number of individual entrepreneurs has multiplied by five times within the last eleven months and the volume they created has also grown by 12 times. Individual vendors, whose number rapidly increases thanks to the proliferation of social media and other online platforms create a great potential in the Turkish e-commerce market. These initiatives, also supported by iyzico, generate a significant income. The number of individual iyzico merchants was 68 in September 2017, a number that has increased to 334 by July 2018, hence growing fivefold (Figure 13). Throughout this period, a monthly increase in the number of individual businesses is approximately 17%, followed by the increase in volume. Whereas the total volume generated by individual sellers was 32,000 TL in September 2017, it underwent a 12-fold increase to 386,000 TL by July 2018.

Figure 13: The number and ratio of individual sellers to izyico's total number of businesses, monthly, 09/2017 - 07/2018



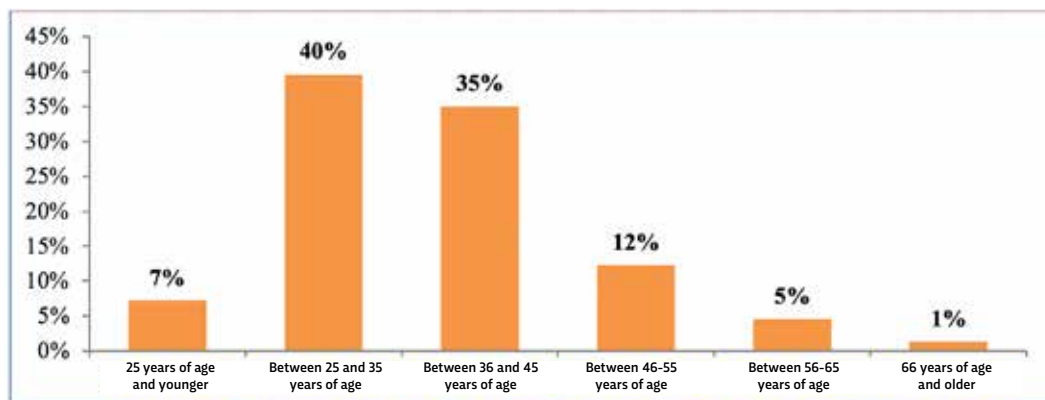
Source: izyico and PAL calculations

izyico enables one out of every five individual sellers to sell abroad via the opportunities it provides. For all business types (joint stock/limited companies/sole traders and individual sellers), exporting businesses rate, which is approximately 12%, is lesser than that of individual sellers who carry out 20% of exports. Exports made by individual businesses make up a great ratio, 22%, of the total sales for these sellers. When an inclusive analysis of all business types is carried out this rate becomes only 2%. An examination of these trends points out to izyico as a facilitator of individual sellers participating in the economy through e-commerce, the diffusion of e-commerce and entry especially of small entrepreneurs to worldwide markets.

Contribution to Youth Entrepreneurship

The ratio of izyico users who are between 25-45 years is 21 points above the ratio of the same age group in Turkey. Although izyico has merchants from every age group, izyico entrepreneurs are younger than entrepreneurs in Turkey. When the distribution of izyico members' ages are analyzed, it is observed that 82% of the members are young entrepreneurs between the ages 25 and 45. In light of TÜİK data, 61% of the entrepreneurs in Turkey (in sectors excluding agriculture) belongs to the stated age group. This discrepancy between TÜİK and izyico data is a result of the positive effect of izyico on youth entrepreneurship.

Figure 14: Distribution of iyzico me according to age ranges, 03/2018



Source: iyzico and PAL calculations

Note: While March 2018 is evaluated, the mentioned distribution follows a similar course throughout the year.

In time, transaction volume generated via iyzico originates from other young age groups under 25 years old.

Whereas in the first years of iyzico's foundation 25% of the transaction volume was generated by entrepreneurs under 25 years of age, in the subsequent years, this rate had dropped to the level of 13% and distribution among age groups had differed, with an increase in the volume generated by age groups of 36-45 and 56-65. This circumstance indicates iyzico's ability to successfully promote itself and its capacity to extend new generation payment systems to groups who are relative strangers to these areas. In the last three years, 95% of the revenue generated through iyzico is realized by entrepreneurs under the age of 45 who make 81% of the total number of businesses.

In the last three years, 95% of the revenue generated through iyzico is realized by entrepreneurs under the age of 45 who make 81% of the total number of businesses.

Table 8: Distribution of annual average transaction volumes of iyzico merchants according to their founders' age brackets, 2016 – 2018

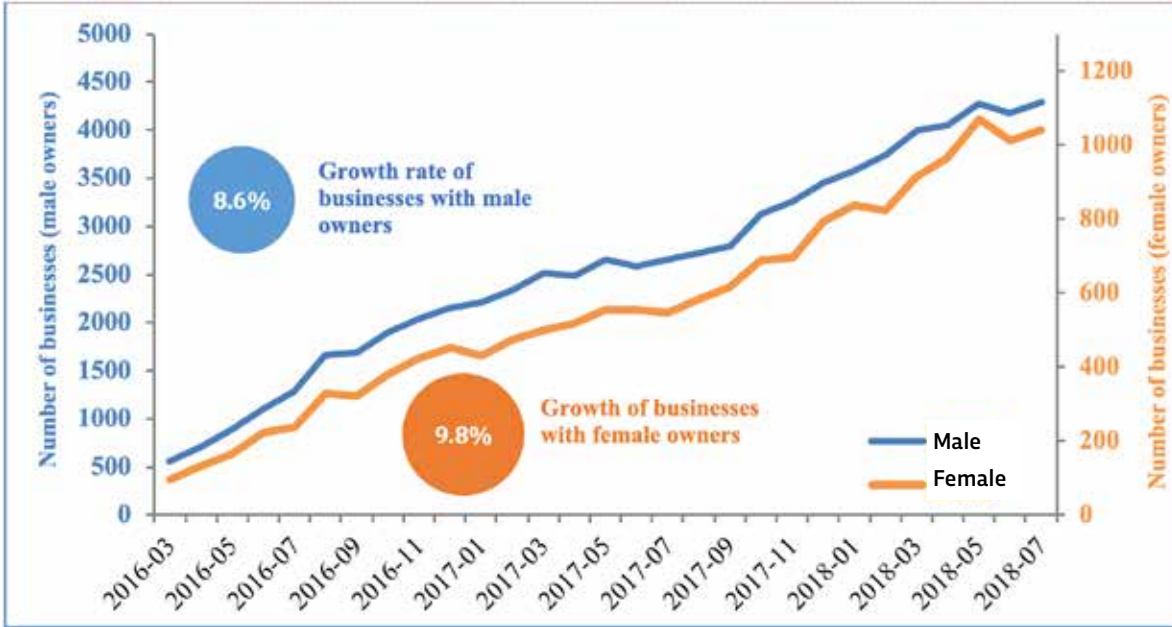
	25 years and younger	26-35	36-45	46-55	56-65	65+
2016	24.7%	22.3%	49.0%	1.7%	2.1%	0.2%
2017	11.7%	19.3%	62.4%	4.2%	2.2%	0.2%
2018	13.6%	19.8%	62.3%	1.5%	2.7%	0.1%

Source: iyzico and PAL calculations

Contribution to Female Entrepreneurship

The number of iyzico merchants with female owners had increased more than 10 times within the last two years from 96 to 1,041 and they constitute 20% of iyzico merchants. According to TÜİK data showing 18.7% of businesses with female owners in Turkey this ratio is higher. As can be seen in Figure 15, while the monthly average growth rate of iyzico merchants in the 2016-2018 period was 8.6% for businesses with male owners, for businesses with female owners it was 9.8%. Thereby, the number of female entrepreneurs engaging in e-commerce through iyzico is growing faster compared to male entrepreneurs. As these indicators show, female entrepreneurship that achieved a growth trend within the last three years as presented by TÜİK data, is growing even faster with iyzico.

Figure 15: The number of iyzico merchants according to the business owner's gender, 2016 - 2018



Source: iyzico and PAL calculations

Female entrepreneurs generated 32% of iyzico's total transaction volume in July 2018.

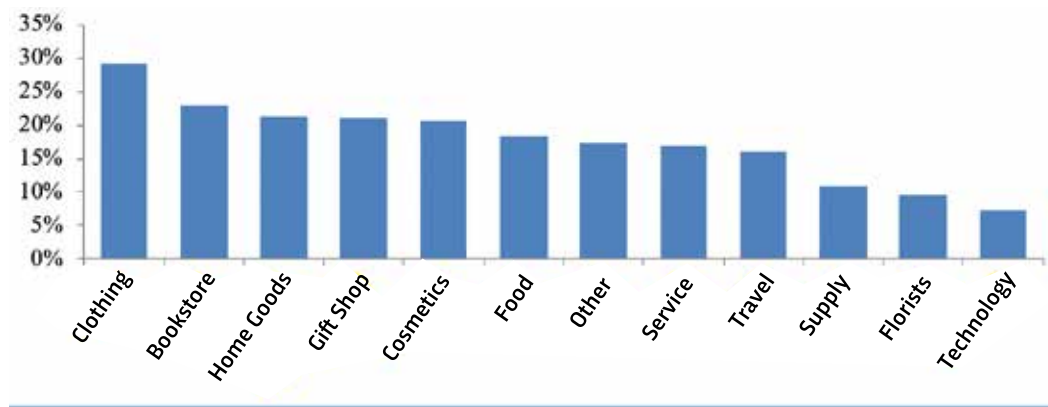
When transaction volume is considered, the impact of female entrepreneurs continues to grow at a higher rate. As the ratio of total transaction volume realized by businesses with female owners was 14% in December 2016, this figure stood at 32% in July 2018. Businesses with male owners turned over approximately 30,000 TL through iyzico in July 2018. This number was almost double for businesses with female entrepreneurs, with approximately 55,000 TL monthly revenue. Female entrepreneurs have benefitted from a serious growth opportunity in businesses they manage with the help of iyzico.

iyzico supports female entrepreneurship in many sectors and cities as well as paving the way for e-exports for these entrepreneurs.

As observed in Figure 16, while female entrepreneurs are active in every sector, sectors such as clothing, bookshops, home accessories, gift, and cosmetics sectors outstand. The ratio of businesses with female owners in the mentioned sectors to the total number of businesses is above 20%. iyzico presents opportunities for women who live in various cities in Anatolia. When the ratio of businesses with female owners to the total number of businesses is analyzed, Kırıkkale (27%), Amasya (25%), Aydın (25%), Tekirdağ (24%), Hatay (24%), Bilecik (24%), and Rize (24%) come out as the highlighted provinces after Muğla with 32%.

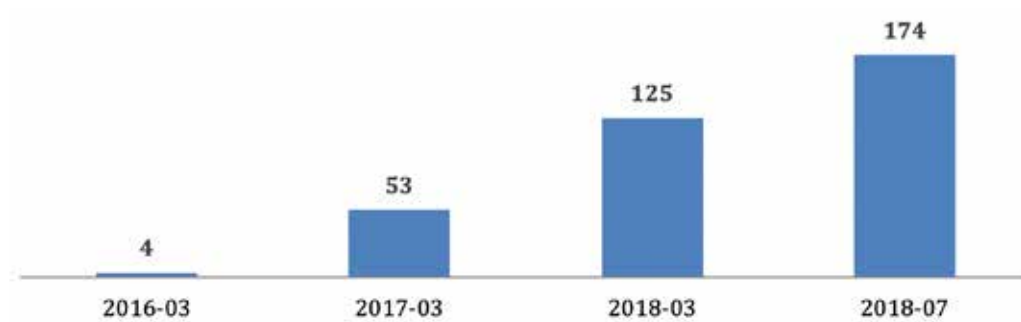
Another important signifier is the increase in the number of businesses with female owners engaged in export. As such, while in 2016 only four female entrepreneurs were engaged in e-exports, this number has increased to 174 by July 2018.

Figure 16: The ratio of female business owners according to sectors, July 2018



Source: iyzico and PAL calculations

Figure 17: The number of enterprises with female owners engaged in export, 2016-2018



Source: iyzico and PAL calculations

iyzico also supports female entrepreneurship through its business models. In addition to the opportunities it presents to female entrepreneurs, iyzico simultaneously facilitates employment of women through payment simplification methods it provides for different business models. iyzico acts as a catalyzer for the growth of these businesses with its streamlined solutions for new business models, consequently creating a positive impact on employment.

"We are working with a 95% women team. Thanks to the system, a cleaning professional makes 2,550 TL on average. We enable these people to earn well above the minimum living wage. Many women start participating in the economy by opening a new bank account in order to join us. We don't work with those who don't have a bank account but help them in opening one."



Sophie Accessories

"We often outsource our work. We work with housewives who although are not directly our employees. We prefer to work with them as much as possible because we believe that they need to participate in the economy."

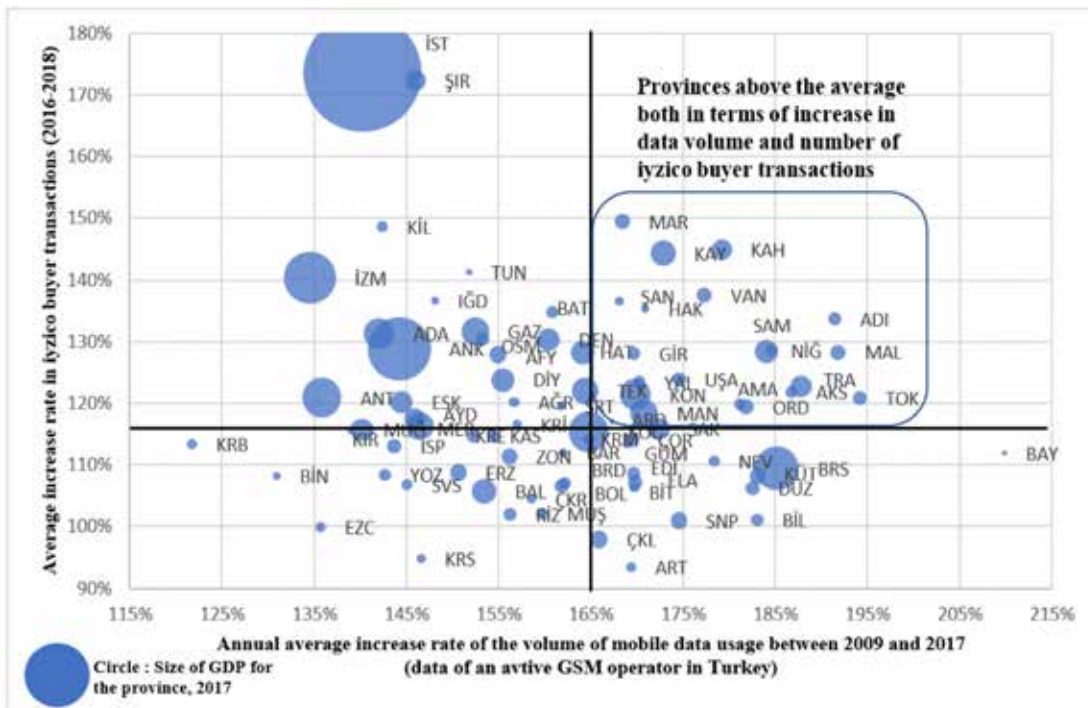
Regional Impact

Although Istanbul occupies a primary position in terms of the location of iyzico merchants, it is evident that an important e-commerce wave has begun in many Anatolian cities. Up until now, market reach and trading for many entrepreneurs in various Anatolian cities was limited to their regions nonetheless with e-commerce the market size extended to Turkey and even the world for businesses of any size and type. iyzico expands the scope of such opportunity and expedites the process through the simplification methods and technologies it offers. Therefore, entrepreneurs in various Anatolian cities continue to grow without having the necessity to leave their cities.

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Figure 18: Increases in iyzico buyer transactions and usage of the internet as per provinces



Source: iyzico, PAL (GDP estimations and annual mobile data usage)

Note: The source on the growth of data volume on annual average (gigabyte) cannot be shared according to the related firm. Mentioned data was used to represent the real growth in Internet usage. Since data belongs to one mobile operator, it is evaluated that there is impartiality in terms of data usage in provinces and users' operator preference.

Notwithstanding the fact that internet usage is rapidly increasing in Turkey in recent years, many Anatolian cities have only started to derive economic benefits from this trend. Certain provinces are highlighted both in terms of the increase in internet data volume and in the number of transactions made via iyzico. Among these, there are cities such as Kahramanmaraş, Kayseri, Mardin, Van, and Samsun located in the east of Ankara, whose share in the GDP is lower compared to other provinces. In the forthcoming period, the spread of iyzico's presence in Anatolia will enable geographically more inclusive opportunities to be realized by e-commerce. **iyzico also provides an opportunity for provinces such as Ankara, Antalya, and Bursa, regarded as secondary to Istanbul to become e-export leaders in some sectors.** Istanbul, with its share of 90%, is the e-export leader of iyzico. Nonetheless, other cities also stand out in sectors such as food, gifts and cosmetics and Istanbul relegate to second place when food and gift sectors are concerned as seen in Table 9. iyzico enables these cities to compete with Istanbul in sectors where they have economic potential. Furthermore, iyzico allows export to be a highlighted economic activity for many provinces. Provinces with the highest share of exports within the provinces' total iyzico transaction volume are Muğla, Samsun, Denizli, Kırklareli, Aydın, and Kocaeli.

iyzico also provides an opportunity for provinces such as Ankara, Antalya, and Bursa, regarded as secondary to Istanbul to become e-export leaders in some sectors.

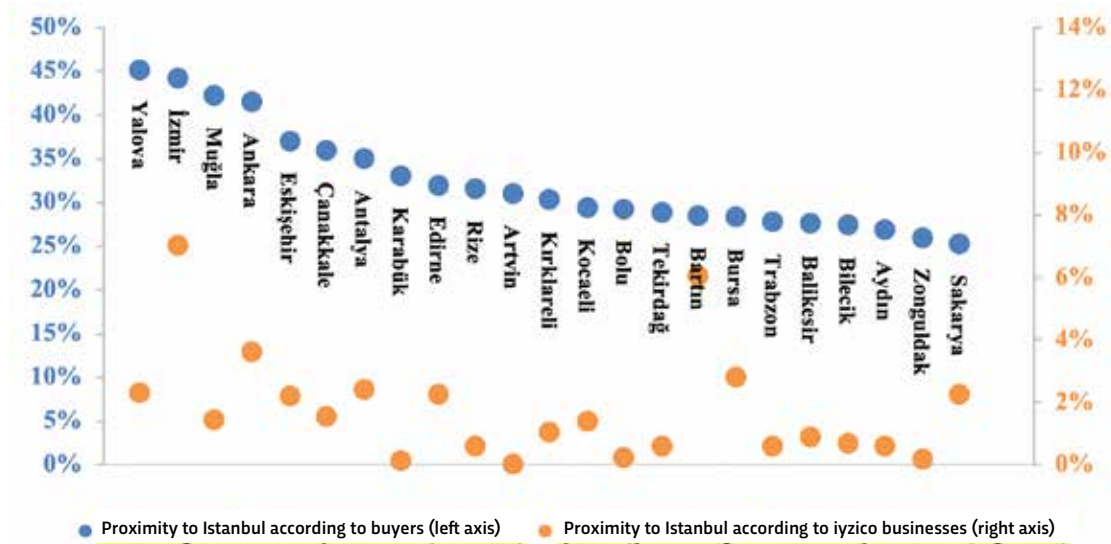
Table 9: Sectors providing export opportunities for provinces outside İstanbul and highlighted provinces

Opportunity Sector	Competitive Province	The Ratio of the Province within the Export of the Sector	The Country where the Export of the Provinces is Made to
Cosmetics	Ankara	19%	United States (84%) Italy (10%)
Food	Antalya	67%	United Kingdom (70%) Sweden (12%)
Gifts	Bursa	56%	Sweden (66%) United Kingdom (19%)

Source: iyzico and PAL calculations

95% of the transactions made through iyzico is made up of businesses located in Istanbul. The buyers involved in such transactions are spread all over Turkey. 50% of the total number of buyers are from Istanbul whereas the rest is in various cities in Turkey. As seen in Figure 19, according to proximity statics calculated with reference to headquarters of businesses and location of buyers, the proximity of buyers to Istanbul, primarily Yalova, İzmir, Muğla, and Ankara, is much higher than the rate compared to the headquarter location. Moreover, it is noteworthy that the 23 cities with the highest proximity rate in terms of buyers⁹ are primary provinces with higher GDP per person. In addition, proximity according to buyers is much higher in all 81 provinces. This shows iyzico's facilitator role for people living in various Anatolian cities to create easy access to the Turkish e-commerce market.

Figure 19: Proximity to Istanbul according to Buyers and Merchants



Source: iyzico and PAL calculations

⁹ Proximity rates for businesses to Istanbul is calculated by the ratio of the average transaction volume per business in a specific province to the average transaction volume of Istanbul-based businesses. For buyers, it is calculated by the ratio of the average transaction volume per user for the specific province to the same volume per user living in Istanbul. Proximity of this rate getting closer to 1 means that the province in question bears similarity to Istanbul.



Conclusion



Thanks to rapid developments in technology, efficiency gains due to fast digitalization of the economy, and interventions towards nurturing of entrepreneurship ecosystems, important changes take place with regards to financial services, as well as to many other areas. Initially, with the proliferation of the internet, financial services were digitalized on a great scale and subsequently they started taking shape with new business models. Thereby, quality, scope, and accessibility of traditional banking methods are constantly being tested with new business models. In this regard, there is a necessity for flexible approaches to be developed which seek to increase public benefit. On the other hand, a regulatory framework in financial services needs to provide an appropriate ground for the realization of innovation and also allow for sustainability of gains made through innovations.

While states realize the potential benefits of financial technologies, they are acting cautiously to ensure policy solutions are not premature. As financial technologies are rapidly engendering new business models, international arena and the states have been seriously endeavoring to develop regulatory frameworks. Principles prepared due to the demands of the member states by the experts from the World Bank and the IMF, published in 2018 Bali Fintech Agenda, serve as a guide and set an example to states' policy approaches within the context of technological developments and international experience. The principles advise modernization of legal frameworks to take the most advantage of financial technologies without damaging the reliability and consistency of financial systems.

In various countries Ministries of Finance, Central Banks and other regulatory bodies both seek to adapt to developments by cooperating with international organizations and other countries and aim to control the risk of financial instability. In such a context, states develop regulatory sandboxes¹⁰ or revise existing regulations.¹¹ In line with these developments, technology firms which operate in this area are supported through state incentives such as incubators and accelerators specific to financial technologies.

The law adopted in Turkey in 2013 (Law #6493 on Payment and Security Assets Reconciliation Systems, Payment Services and Electronic Money Organizations) is the first step taken in terms of developing the regulatory framework incentivizing financial technologies. The law includes provisions regarding the foundation and activities of payment organizations and electronic money organizations. The Central Bank of Turkey is authorized to regulate payment and security assets reconciliation systems, whereas BDDK is authorized to regulate the activities of payment organizations and electronic money organizations. The first license granted by BDDK to a payment organization was in July 2015, approximately two years after the law was published. iyzico is a service provider licensed by BDDK¹³ within the framework of Law #6493 that delivers its member businesses an easy and secure online payment management platform.

¹⁰ For example, to provide access to real-time overall reconciliation systems for non-bank actors following implementation of regulatory sandbox in England

¹¹ For instance, renewal of 2007 EU Payment Services Directive in 2015 to ensure adaptability to new technologies

¹² Official Gazette dated 27.06.2013

¹³ BDDK decision published in the Official Gazette dated 30.06.2016. Furthermore, it was authorized as an electronic money organization to export electronic money with the BDDK decision published in the Official Gazette on 01.08.2018.

As a domestic financial technology firm, iyzico, founded in 2013, grew rapidly in the business environment shaped within this regulatory framework. When the regulatory framework's adaptation capability to technologies progress in a way that incentivizes innovation and increases competition while protecting financial consistency is developed, it will be possible for iyzico to become the first Turkish 'unicorn' company.

Box 2: Regulatory Framework concerning Payment Systems Worldwide¹⁴ and in Turkey

All banks and non-bank stakeholders aim to provide services regarding open banking that will enable banking transactions to be made not only on banks' mobile applications but via all digital applications. Private companies/enterprises enter the markets of different countries either through new investments or joint ventures to implement the fintech infrastructure developed in a particular country to other countries. Advancements concerning amendments on banking regulations that seek to provide consumers with more competition, innovation, and security in the markets are made at a global level. When changes in regulations on payment systems and especially on common fintech arena are analyzed, it is observed that fintech ecosystems develop in line with the existing law systems across the globe.

The new regulation, namely PSD2¹⁵, a revised version of PSD1 (payment services directive) entered into force in 2016 by **the European Union**. The member states were given a two-year period in order to adapt to these regulations. PSD2's provisions on transparency entered into effect at the beginning of 2018, while its other sections were foreseen to take effect in the last quarter of 2019. With PSD2, new digital payment systems and payment transactions outside the European Union were included in the scope of the directive. In short, through PSD2, it is foreseen that (i) easier and more secure use of Internet payment systems, (ii) better protection of consumers against payment problems, misuse and fraud, (iii) support of new mobile and internet payment systems, (iv) strengthening of consumer rights, (v) limiting of fees and commissions obtained from debit and credit cards, (vi) fortifying European Banking Association (EBA)'s role in the coordination of other regulatory bodies will be achieved. There was also an important step taken towards the opening of banks' customer data and granting of system access for payment purposes to other licensed payment organizations with PSD2.

¹⁴ Fintech in Focus, Milken Institute; <https://www.milkeninstitute.org>

¹⁵ 2015/2366/EC directive

England served as a guide in fintech regulations with 'Open Banking Project' (OBP) by playing a lead role in 'Regulatory Sandbox' and 'Fintech Accelerator' used for development and testing of new ideas and applications. While OBP contains similar provisions to PSD2, it foresees more detailed practice principles. Beginning from early 2018, big English banks have granted non-bank stakeholders' access to payment systems by using API. Therefore, non-bank service providers, subject to the regulation, have been empowered to develop innovative cash management and payment systems for business and individual customers. Due to similar law systems, banks and regulatory bodies of the United States and Australia have been observing fintech applications in the English banking system, in order to understand applicability of these regulations in their territories.

In **the United States of America**, there are many regulatory bodies concerning the financial sector activities subject both to state and federal level regulations¹⁶. Although USA is the home of the 14 fintech 'unicorns' out of the existing 30, following that stage, existing banks and new fintech companies must overcome numerous regulation obstacles to develop new products and offer them to consumers. This situation presents an obstacle for companies already operating or wanting to operate in the market and sometimes adds an additional regulation cost that prohibit competition. To solve the problem for innovative financial enterprises which seek to supply the market with fintech product but unable to do so due to regulation obstacles, Office of the Comptroller of the Currency, OCC, an independent bureau within the US National Treasury proposed granting of a special national bank charter for organizations that want to lend loans and carry out money transmissions without asking for deposit accounts. However, the State of New York¹⁷ filed a lawsuit against this proposal. On the other hand, Varo Money obtained a conditional mobile banking license from OCC at the beginning of September 2018. This license is different to OCC's proposal and it turned Varo Money into the US' first 'mobile-only' bank.

In **Turkey**, the Law #6493 on Payment and Security Assets Reconciliation Systems, Payment Services and Electronic Money Organizations¹⁸ adopted in 2013, aimed at increasing competition, upgrading the quality of service, decreasing the costs borne by consumers, creating alternatives to banks with regards to provision of some services and enabling easier access to these services by those who cannot benefit from the banking services. Therewith, since this is a new area for users, service providers, and regulators too, they are made to interact with payment organizations,

¹⁶ Some of those are; Commodity Futures Trading Commission, Office of the Comptroller of the Currency, Securities and Exchange Commission, Financial Industry Regulatory Authority, Federal Deposit Insurance Corporation, State Regulators

¹⁷ <https://www.nytimes.com/reuters/2018/09/14/technology/14reuters-usa-treasury-fintech-lawsuit.html>

¹⁸ Official Gazette dated 27.06.2013.

existing actors and stakeholders to bring innovations to life. In addition to powers of the Central Bank in Turkey to regulate payment and security assets reconciliation systems and of BDDK to regulate the activities of payment organizations and electronic money organizations, Competition Board¹⁹ and Revenue Administration²⁰ also have an impact on determining the activity areas of payment organizations. Law #6493 and secondary regulations are based on Payment Services Directive” (2007/64/EC) (PSD1) promulgated on 13.11.2017, E-Money Directive (2009/110/EC) and regulation No.209 ‘Financial Services and Markets, The Payment Services Regulations 2009’ published in England on 09.02.2009. Nevertheless, there are also different adjustments made to the Turkish legislation due to the sector being new. These adjustments, in short, are (i) prohibition of any trading activities other than provision of payment systems, and solely within the limit of such provision, sale and purchase of foreign currency, and management of payment systems, (ii) usage of payment funds only to finalize payment transactions, in other words, prohibiting usage of these funds to obtain any gains, (iii) prohibition of payment organizations to accept deposits and participatory funds and to lend loans²¹.

As of date of this report, there are 33 payment organizations and 14 electronic money organizations licensed by BDDK within the scope of Law #6493.²² Many organizations which do not possess this license also provide credit-card based payment infrastructure through their mobile applications.²³ These organizations create new application areas that facilitate users' buying and selling transactions by competing for both with each other and other stakeholders of the financial sector. 18 organizations with BDDK license solely provide services such as invoice payments or money transactions, whereas 12 organizations act as brokers for electronic payment systems through business models similar to that of iyzico. Although main services these 12 organizations provide in their operations are point-of-sale solution, mobile payment, and payment through money transfer, point-of-sale has prevailed over other services both in the world and in Turkey due to its reliability and practicality. When comments and shares in social media are examined, it is observed that awareness and usage of iyzico and PayU brands are more prevalent among the mentioned 12 organizations. iyzico determined its modus operandi as increasing practicality and reliability and continues to develop its services provided.

¹⁹ With its decision published in the Official Gazette on 11.01.2018, Competition Board decided on the removal of provisions that prohibit payment organizations' access to Bonus platform from inter-bank agreements.

²⁰ With the “General Communiqué of Expense Taxes (Serial No.91)” published in the Official Gazette on 11.03.2017, PPI needs to be calculated with regards to the amount received through the services provided by electronic money and payment organizations and branches or franchises thereof.

²¹ 6493 Sayılı Kanun'da Ödeme Kuruluşlarının Tâbi Olduğu Hukukî Çerçeve, auth. Çiğdem Güven and Onur Irmak, Bankacılar Dergisi, No.105, 2018.

²² <http://www.bddk.org.tr/Kuruluslar2>

²³ 2018 Teknoloji Raporu, Softech.

How did iyzico get here?

iyzico is a pioneer of the new organizational culture developed in companies which are founded as small technology start-ups and later find themselves among the world's leading technology giants in Turkey.

iyzico successfully uses OKR (Objectives and Key Results) management system employed by Alphabet (Google) from the very first days of its foundation which according to its CEO Larry page have played a key role in the growth of the company. 'Easiness' to work with iyzico constitutes the philosophy behind the company and such 'easiness to work' bestows the company with its name. Findings derived from the interviews conducted with clients within the scope of this study underlined another principle of acting rapidly as well as the easiness in working with the company. The prime factor which motivates people to get easy and fast service from iyzico is the organizational culture that enables employees to contribute to a collective effort happily and in a driven manner despite the difficulty of objectives.

We have dreams here at iyzico. We aim to democratize payments, make them accessible for all and for every area. We dream to make it 'iyzi'. However, we are looking to facilitate not only payment methods but also make working with passion, developing as each day passes by, making most of the talent, understanding organizational culture, delivering quality work, and acting together easy

iyzico kültür rehberi

In addition to its economic impact, iyzico has assumed an important function in the development of technology-based entrepreneurship in Turkey. Since September, the company has been operating on a campus whose layout plan and architecture are specially designed, called iyzipark. The whole iyzico team including the senior management can work in an open office layout with facing each other, and even in the garden and the cafeteria. Exercise opportunities provided on the campus are not limited to office hours but open to using at all hours. Moreover, working from home is not encouraged but working together with keeping contact is valued. Through its organizational culture which is continuously being developed by investment and welcoming to employees, iyzico is able to work with highly educated, productive people. Therefore, a direct contribution is made to Turkey becoming a center for attraction in the area of software technologies where global mobility is very high.²⁴

²⁴ Delivery Hero Germany CTO Mert Öztekin who spoke at Smartcon 2018 Istanbul Conference stated that Amazon alone was looking for 7 thousand software developers whereas there was only 6-7 thousand job ads for such developers across the HR platforms in Turkey. <http://www.hurriyet.com.tr/yazarlar/emre-kizilkaya/mckinsey-den-cok-onemli-iki-mesaj-40982049>

Box 3: A reflection of the organizational culture

As a reflection of organizational culture, iyzico was transparent about a temporary shutdown of its system last year which lasted for a couple of hours and without hesitation compensated the losses of its member businesses based on their completed transactions in the past within the same time bracket. This example reminds of an incident faced by Airbnb, the largest accommodation platform in the world that hosted 400 million accommodations to date and where 2 million transactions per day are realized when the company wasn't as big. When the company encountered a big trust crisis in 2012 as a result of a theft incidence occurred in one of the rented homes, it signed an agreement with Lloyds Bank and covered every booking with a 1 million USD worth of insurance/guarantee mechanism for every homeowner signed in on the platform, despite such an agreement constituted a heavy burden for the company's financials for the time in question. This practice which seriously shook up the profitability of the company during those days had later immensely increased the trust generated in the market and become one of the most important competitive advantage points.²⁵

iyzico has a transformative effect on the habits of engagement in e-commerce in Turkey through innovation it puts forward in payment systems and the quality of services it provides.

iyzico's innovative products both trigger new business models in the entrepreneurship ecosystem and contributes to forming of a creative environment by digitizing payment systems in the financial ecosystem. By providing accessible, easy and secure online payment systems, iyzico reduces costs of individual and corporate sellers that occur in a transaction with banks and contributes to the growth economy especially through facilitating new sellers' entry to the market. **iyzico increases entry of new technology initiatives and small actors to the markets as well offering consumers with fast and secure access and contributes to the development of competition in Turkey through the services it provides.** While contributing to the prevention of informality, it also eliminates the risk of illegal transactions and provides secure shopping opportunities to consumers through technological solutions it develops. iyzico's technology detects fraud during transaction and prevents it without causing harmful consequences by allowing all actors into the market rather than building a firewall for the entry and eventually allowing only 'secure' actors with a certain transaction history therein. In this regard, iyzico plays a role that fortifies mutual trust, a critical factor in the development of trade and transforming the perception of trust in e-commerce in Turkey.

²⁵ For details of this story please see <https://growthhackers.com/growth-studies/airbnb>

For Turkey to have success stories in fintech on a global scale, public actors will play a critical role as much as the innovative enterprises such as iyzico. The steps that were taken by iyzico towards boosting trust in the Turkish e-commerce system, its enabling role for scaling up new technological enterprises, and positive impact its organizational culture on start-up ecosystem will ensure iyzico to have a global success story. Payment systems arena, within which iyzico operates, is a developing sector concomitant to the growth of the digital economy and creates new frontiers as it expands. The collaboration of banks, which act as an infrastructure provider in the sector, with innovative and agile fintech actors will contribute both to the strength of Turkey's banking sector and the rapid development of the digital economy. Regulators in the European Union prevented discrimination of payment organizations by the banks and made transparency a prerequisite concerning their prices with PSD2 directives.

Necessity for such regulations arises because of the fact that devices of the competition law can only be effective subsequent to the violations that distort the market and the limited usage of these devices by banks in circumstances which they individually cannot control. It is evident that robust regulations exist to facilitate market entry of business models with similar developing technologies, namely in telecommunication and energy sectors, and these regulations complement execution of competition law rules. Within the last 20 years, competitiveness of telecommunications and energy sectors were made possible through the execution of sound regulations.

Further development and international growth of organizations such as iyzico that enable numerous companies to develop in the digital economy, increase exports and strengthen female and youth entrepreneurship will be possible with implementation of solid regulations that prevent discrimination in the market and ensure pricing transparency. Research constituting the basis of this report express the potential of iyzico to become a Turkish 'unicorn' company aiming to grow Turkish digital economy. There is a benefit in supporting entrepreneurs in Turkey by fair and efficient regulations to have enterprises which shape the world and to make our country a global fintech center.

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