

2020 PERFORMANCE IN STRATEGIC PRIORITIES AND OUTLOOK

DATA AND TECHNOLOGY

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Related Material Topics	Value Drivers	Indicators	2019	2020
3) BUSINESS ETHICS, CULTURE AND CUSTOMER PROTECTION	INCREASE THE AGILITY AND STRENGTH OF OUR TECHNOLOGICAL INFRASTRUCTURE AND PLATFORMS	Programs for raising awareness of customer privacy and information security	5	12
		Cybersecurity training hours per FTE	1.19	1.73
		Employees participating in cybersecurity training	72%	99%
4) EASY, FAST & DIY	SPEED UP OUR SOLUTION PROCESSES THROUGH ARTIFICIAL INTELLIGENCE, MACHINE LEARNING AND BIG DATA INTERPRETATION, WHICH IS IMPORTANT IN THE DAY-TO-DAY OPERATIONS OF THE BANK	Training or information provided on external fraud (Number)	96	104
5) CYBERSECURITY (CYBER-ATTACKS, DATA THEFT, FRAUD...)		Number of UGI Interactions	13 million	12,8 million
6) RESPONSIBLE USE OF DATA (DATA PRIVACY, RESPONSIBLE AI)	MAKE EFFECTIVE USE OF DATA ANALYTICS IN VARIOUS ASPECTS INCLUDING OFFERING THE RIGHT PRODUCT TO OUR CUSTOMERS, PRICING, RISK MANAGEMENT, ETC.	Bilge (The Wise) (Answered Queries)	194 thousand	321 thousand
11) FINANCIAL HEALTH AND ADVICE		Value-added projects using Big Data and Machine Learning*	38	41
		Scenarios Activated Under Complex Event Processing Platform (Number)	39	56
		Number of RPA in Production Medium (Robotic Process Automation)	7	44

Note: "Data breaches regarding customer privacy" included in previous reporting periods are being followed up with the utmost care in terms of measurement and content under numerous criteria as per the regulatory framework, but are excluded as data. Information about the implementation is presented below.

Contributed
Sustainable
Development Goals



Agility means agile transformation of the entire organization at Garanti BBVA. So far, 100% of technology and 70% of business lines of the entire organization have been reorganized with agile disciplines. While the agile journey contributed substantial improvement to Garanti BBVA on the technology front, service levels and quality, it also secured a considerable increase in employee satisfaction. End-to-end coherence is secured between the technology organization and business lines. Teams charging ahead together toward a shared goal are able to progress and deliver results rapidly. As planning, decision-making and prioritization take place in the internal processes of teams, the organization's motivation increases, and conversion into competent, autonomous and responsible teams takes place. Nearly 235 teams work with the agile methodology within the technology organization. Improvement activities underlying the agile philosophy molded according to feedbacks from the projects that arise with the transformation will make the most important agenda for Garanti BBVA in the period ahead.

With its continuous and uninterrupted investments in technology, Garanti BBVA has erected its digital transformation strategy on offering a full-scale and integrated banking platform encompassing simple, accessible and personalized banking transactions and services. In this context, it is always a priority for the Bank to listen to customers' needs and respond to them in a prompt manner. While continuing to constantly invest in Information Technology systems guaranteeing information security, Garanti BBVA also takes precautions against all risks that could prevent secure and uninterrupted service, and measures the results within the context of customer satisfaction on digital platforms.

For Garanti BBVA, digitalization is a key material topic given focus by both internal and external stakeholders. Therefore, technology is an integral part in the decision-making mechanism, which supports process efficiencies and continuously drives the Bank forward. With a single source of data and common understanding, technology is used within Garanti BBVA as an enabler for top-down fast decision-making

and strong communication. It is reflected in the way the Bank does business, from CRM applications and segmentation, to innovative products and services, and to a paperless banking environment.

The pandemic has acted as a significant accelerator for digital transformation. The leading company in digitalization in the financial services sector, Garanti BBVA teams already had sufficient teleworking capabilities. Particularly employees assigned to central operations and central functions were provided with equipment possessing mobile capabilities. Under the new service model, branch employees were also given tablet PCs, which allowed teleworking. The primary goal here was to create a working environment for bringing the service to wherever the customer is, concurrently with customer visit to the branch. In this way, all branch employees became able to work from home. During the pandemic when customer visits were halted and isolation was imposed, they kept performing transactions, making phone calls, keeping in touch with the customers and offering seamless service from home. While making headway in digitalizing all services end-to-end, the transformation also brought the need for integration in many areas such as regulations, age challenges, etc., and has turned out to be a period when business continuity tests were transferred to the real-life environment and challenged. Garanti BBVA succeeded in teleworking with its entire organization and the full set of its processes. The Bank will keep reflecting all its learnings and experiences in its business models with a development focus, and keep working to bring the age of opportunity to everyone.

BANKING SOLUTIONS THAT CREATE VALUE WITH ARTIFICIAL INTELLIGENCE AND DATA ANALYTICS

Banks had long ago started customer analyses and customer profiling using the data at hand and employing them for setting their marketing and risk strategies. Today, digital transformation and advancing technology rendered data acquirable, storable, and most importantly, processable at every touchpoint with customers.

Artificial Intelligence and machine learning that can be integrated into any business process at present allows delivery of smarter, distinctive and personalized experiences for customers. Garanti BBVA gets to know its customers better, and is able to offer the services and products they need through the right channel and at the right time thanks to over 600 models developed with machine learning.

Garanti BBVA carries on with its investments to manage the risks in the cyber environment of obscure borders. The Bank actively runs its process designed to quickly detect and respond to potential threats; take steps for constantly evaluating, managing and mitigating risk, and to introduce the best practices in this field.

The Bank also continues to work in relation to ensuring business continuity, regulatory compliance, and fulfillment of the requirements of certifications and standards, in addition to technology, process, and human resources. To support its cybersecurity efforts, the Bank takes part in, and extends support to, several initiatives of the Sectoral Cyber Incident Response Team managed by the Banking Regulation and Supervision Agency (BRSA), Banks Association of Turkey (TBB), Information Technologies and Communication Authority (BTK) and Turkey Informatics Industry Association (TUBISAD).

Garanti BBVA believes that acquiring/co-innovating with fintech startups is essential for Banking-as-a-Service (BaaS). Today, banks are no longer just financial players; they offer various services by establishing collaborations with third parties. Building a culture of innovation within the Bank is vital for an open innovation point of view. Thus, co-innovating with fintech startups is very important in terms of imposing startup culture into own and others' way of doing business. Therefore, Garanti BBVA acts in accordance with the notion of supporting new entrepreneurships, products and projects in all areas. The Bank believes that the market can be transformed and external disruptions can be turned into opportunities, by collaborating with various third parties.

The change brought on by technology is picking up speed across all economic sectors, and banking is no exception. Open innovation is one of the key elements of the Bank's transformation to adapt financial services to customers' new needs. The concept stemmed from the necessity to keep up with the rapid pace of change that companies are undergoing. The connection with the innovation ecosystem and entrepreneurs is essential. At this point, Open Talent has evolved from a unified competition for technological companies to one divided into categories that supports all kinds of entrepreneurs in innovation from many countries. In the process, Garanti BBVA continues to collaborate with BBVA.

The Bank's approach to internal innovation can be described as one that is inclusive and facilitative. The primary objective is to ensure conveyance of all employees' creative ideas and suggestions to the right recipients by offering various channels. In this context, the employees can either communicate just a concept for it to be implemented by related teams, or they can take the ideas they share to advanced stages and present their solution suggestions to the Senior Management personally.

Methodologies developed specifically for each channel paves the way for the conversion of bright ideas into real products in the most sensible and profitable manner. The different channels used and tailored methodologies employed enable Garanti BBVA to also address the entire innovation range. This allows simple but valuable improvements on one side, and to carry out initiatives targeted at the bank of the future, on the other.

The work on enhancing customers' experience with the Bank through Artificial Intelligence is ongoing. Within the frame of these activities, Garanti BBVA intends to make projections using the big data volume available to it and thus understand customer needs at an as early stage as possible. The Bank foresees that use of Artificial Intelligence, where business rules or models are restrained, will take the Bank one step ahead in terms of knowing and understanding customers, and thereby, enable it to deliver a customer experience with much higher added-value.

WHAT WE DID IN 2020

Garanti BBVA has long been employing Artificial Intelligence and machine learning applications in its business processes; the Bank takes them further each year with the addition of new capabilities. While enhancing customer satisfaction by offering smarter, customizable solutions for customers through the use of Artificial Intelligence, the Bank also makes a differentiation in decision support steps for business processes and achieves operational excellence.

Bilge, one of the trends pioneered by Garanti BBVA in the industry and in the world, has been helping more than 1,000 users working in the Customer Experience Support team and Customer Contact Center by answering more than 30,000 queries per month for 3 years.

Diversifying the service delivery channels and enhancing service quality constantly through the most advanced products that employ Artificial Intelligence, Garanti BBVA kept expanding one of the trends it has been leading in the sector and in the world across its own organization in 2020. In view of the added value it creates, the chatbot named Bilge (The Wise), which has been responding to over 30,000 queries per month of more than 1,000 users in the Customer Experience Support and Customer Contact Center teams for three years, was customized for new teams. Put into use by Garanti BBVA branch employees servicing the customers in the SME segment, the new chatbot was named KoBilge. Since October, approximately 1,800 employees are able to reach the answers to nearly 1,000 questions instantly. In addition to responding to queries, the chatbot tracks all queries by the employees and

employee feedback, which allows employees to understand the information they need when serving our customers and give the answers from a single location.

Another key development in relation to our Artificial Intelligence applications in 2020 is the implementation of our central smart assistant platform, which includes cognitive artificial intelligence products. This platform, which aims to implement new bots quickly and provide a consistent customer experience among bots, supports both voice and written communication and also includes voice processing (TTS and ASR), natural language processing (NLP), automatic dialogue management and automatic processing of new transaction sets. Interface and infrastructure of UGI, Turkey's first voice assistant that was launched in 2016, was upgraded in 2020 using this platform. Also possessing texting capability, the smart assistant UGI 2.0 can adapt to the changing agenda much more rapidly than before; UGI 2.0 began implementing the changes within several days thanks to its revamped infrastructure. Another advantage derived from the new infrastructure is the common assistant intelligence it has created for the bank's smart assistants. Garanti BBVA's WhatsApp chatbot is another example of smart assistants upgraded with the same infrastructure in 2020.

Thanks to the Ruler (CEP-Complex Event Processing) initiative commenced in August 2018 with the aim of maintaining deeper and value-adding relations with customers, expanding the customer base, increasing product/service sales volume and accelerating customer digitalization, critical behaviors of Garanti BBVA customers on digital channels or in branches can be instantly detected and the best-fitting action can be taken in real time. Through 56 scenarios launched so far on the Ruler platform, 57 million customer behaviors of approximately 4.8 million customers can be processed on a daily basis, and more than 800,000 customers can be contacted directly.

RPA (Robotic Process Automation) initiatives launched across the Bank in July 2019 allows allocating employees to customer-centric processes rather than routine and manual transactions, and delivering a better customer experience with minimum

errors and high speed. Based on the work carried out within the scope of RPA, nearly 200 processes were identified to date, 44 of which were automated in 2020, bringing the number of processes running on RPA to 51 in total.

The work on ARK Platform commenced in 2019, and the first application was taken into production on the platform by mid-2020. 32 applications are currently in development. The platform will gain broader usage with the transformation that will start in 2021. ARK Platform allows developers to develop banking and affiliate applications using agile methodology, accelerates value creation by employing modern technologies, and reduces costs owing to the cost advantage of open system technologies.

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System, Software, Architecture, Security, Design and Network teams working on the ARK Project were bolstered with 5,442 hours of training in total with the ARK Platform Design & Development program within the frame of infrastructure configuration, maintenance and platform application developments. In addition, software developers from project teams that will begin to develop applications on the ARK Platform took part in the ARK Developer Onboarding program, and received a total of 4,825 hours of training under the program that covered four subcategories, namely, Front End, Back End, Batch and Big Data.

By way of its projects in data and advanced analytics, Garanti BBVA secures delivery of the right products and services at the

right time to customers, enhanced customer experience, earlier and higher quality detection of attempted internal fraud, and better management of operational processes and decisions. In this context, 291 new machine and deep learning models were integrated into Garanti BBVA systems in 2020. For instance, Artificial Intelligence capability was utilized in processing customer suggestions and demands using text mining and referring them to the right solution centers in order to better respond to customer needs that rapidly changed during the pandemic. This provided the opportunity to address customer demands within the same day.

Garanti BBVA makes use of the Artificial Intelligence capability also to build on operational excellence in Customer Contact Center channels. Developing new analytical models that are triggered instantly upon a call placed at the Customer Contact Center analyze past data for the caller, predicts the reason of the customer's call, and can offer this insight to the customer agent before the conversation begins. Thus, understanding customer's need quicker, lessening %7 on average on call duration and strengthening communication with the customer that consequently enhances satisfaction and operational efficiency are the expected outcomes.

Big Data and Artificial Intelligence algorithms are involved also in projects designed to protect and improve the financial health of customers that Garanti BBVA places emphasis on. Customers' past transactions, financial movements and finances are processed by machine learning algorithms, making their existing financial health measurable, and the insights obtained turn into advice for upgrading customers' financial health to better levels.

In 2020, Garanti BBVA expanded the optimization algorithms developed for ATMs and included the new branches that will be opened. Customer base, financial transaction densities, transactions belonging to workplaces, location data and other data resources are used to draw multi-dimensional density maps; this information is combined with strategic priorities, processed in optimization algorithms, and decisions are made taking the most accurate location suggestions into consideration.

Using open source software languages in Artificial Intelligence applications, Garanti BBVA is able to quickly integrate emerging technologies in its processes while keeping a close eye on global trends. Benefiting from the power of the latest algorithms, the Bank can increase its success rates in projections and decisions further, and achieve higher efficiency in cost management.

Through the innovation center Next Zone, Garanti BBVA incorporates experts' innovative ideas, and creates appropriate conditions to turn these ideas that will make a difference in the long run into projects and products. While the Automated Variable Production product that automatizes raw data processing into valuable data, lets the Bank fulfill new business demands in much shorter times, Framework and Automation infrastructure created on analytical modeling processes minimizes human errors and increase operational efficiency.. As it produces Artificial Intelligence solutions, the Bank also takes initiatives to expand analytical capability to everyone through the modeling tools it has developed, and to make them applicable even in routine decisions.

When developing solutions on Big Data and Artificial Intelligence, Garanti BBVA espouses responsible AI principles. It pledges to be committed to Human Rights and not to discriminate, as stipulated also in the Garanti BBVA Code of Conduct. None of the analytical solutions employed in customer acquisition, pricing, recruitment and remuneration uses data pertaining to gender, color, ethnic origin, disability, religion, sexual orientation or political affiliation.

As COVID-19 entered our lives, the top priority of Garanti BBVA has become to protect its employees' health and to offer uninterrupted service to its customers. To this end, necessary equipment were provided to the teams for working-from-home. Support was extended for all transactions that did not need physical proximity to branches, which were temporarily closed during the pandemic. Conforming to the Targeted Capacity Utilization and SLA rates, uninterrupted and high quality service delivery to customers continued. Centralization efforts, business model modification and productivity efforts were carried on with a special focus on freeing up the branches.

To support the protection of community health and reduce social activity, Garanti BBVA did not charge any fees for money withdrawal from the ATMs of other banks for a certain period of time. Similarly, the Bank did not charge fees for money transfers made through digital channels for a certain period of time in order to promote the use of digital channels and to increase the customer benefits offered.

Launching the Payment with QR solution that is used both for collections and payments, the Bank enabled customers to realize their cash flows through digital channels during the course of the pandemic.

Within the material topic "Easy, fast & DIY", Garanti BBVA allows easy and agile performance of transactions on any channel and at any time by its customers. Cash management solutions the Bank offers to its customers making use of data and technology are as follows:

→ Garanti BBVA has been the first bank from Turkey to join Global Payment Innovation (GPI) launched in 2017 by SWIFT, and made available Outbound Tracking on Garanti BBVA Internet Banking for SWIFT transfers to domestic and overseas banks. In 2020, it has become the first bank across the world to complete the integration of the SWIFT GPI Pre-Validation, the new service developed by SWIFT for international money transfers.

→ In addition to Outbound Tracking and SWIFT GPI Pre-Validation, Garanti BBVA has taken place among the first banks in the World to offer Inbound Tracking Service in December, whereby initially SWIFT-member institutions will be able to track the SWIFT payments from domestic and overseas banks from the moment the funds leave the originating bank. Garanti BBVA customers will soon be able to access this service through Internet Banking or API (Application Programming Interface), which will be a significant contributor to cash flow management.

→ Through the agreements made with integrator companies, which are electronic certification suppliers, banking transactions of customers requiring approval and signature could be electronically signed using e-signature without going to the branches.

→ Payment with QR Solution activation was made in a manner allowing integration by reaching the APIs via developers. garantibbva.com.tr. This solution will let the payments by money transfer to customers, who integrate with the system, to be made by the other party using QR code via Garanti BBVA Internet or Mobile.

→ Under the collaboration with the Turkish Union of Public Notaries, Secure Sales and Purchase System was introduced, which is used in the sales and purchasing of second-hand motor land vehicles. Hence, Garanti BBVA helps its customers finalize their transactions securely, quickly and easily through the Internet and mobile channels, without taking the risk of carrying cash before and after the transfer.

→ Garanti BBVA joined FAST (Instant and Continuous Transfer of Funds), a system operating on the Central Bank of the Republic of Turkey (CBRT) infrastructure allowing money transfers as an instant transaction at any hour of the day on weekdays and weekends, which is an additional option to the Bank's existing money transfer systems.

→ Along with the FAST System, the Bank also launched the Easy Address system which enables replacement of the IBAN used in money transfers with a mobile phone number, email, TR ID/Tax ID number or passport number. Customers can match their personal data with their IBAN via Garanti BBVA Mobile, and can send and receive money by sharing that information only.

→ Electronic Account Movements service was turned was developed API and offered for use by customers as an open banking product on developers.garantibbva.com.tr. This service gives customers access to a richer set of information and also lets them finalize the entire definition and application process using Corporate Internet Banking without a branch visit.

→ "Garanti BBVA Connect" payment solution offered to companies centrally managing their treasury operations doubled the numbers of customers and services, and contributed to the treasury centralization processes of customers.

In 2021, the Bank will carry on with its projects and initiatives related to digital solutions and remain adhered to its target of supporting a greater extent of digital transformation for its customers in relation to cash management products.

DIGITALIZATION FOR SECURE AND UNINTERRUPTED SERVICE

Increased digital use leads to greater exposure to cybersecurity risks, and the improved threat profile results in elevated effect of the diversified risks of the digital environment. Constantly investing in technology, uninterrupted processing capacity, infrastructure security, cost efficiency and energy saving in light of corporate governance and international standards; Garanti BBVA, through its subsidiary Garanti BBVA Technology (GT), sharpens its monitoring effectiveness since 1981. The company allows Garanti BBVA to put measures in place more rapidly and to become aware of global threats at an earlier time via networks that GT belongs to. Accordingly, Garanti BBVA's internet access architecture has been restructured with a risk-based perspective.

With its strategy, "Better IT, Better Business", Garanti BBVA continuously invests in cloud technology and microservices in order to ensure cost saving and introduction of solutions at a faster pace, and positions its application architecture and security layers so as to support these technologies. Through these initiatives, Garanti BBVA targets to better adjust to the new business models presented by the constantly digitizing world, and to deliver its clients a better customer experience by transforming Big Data infrastructure investments into business intelligence solutions and open application platforms.

DDOS (Distributed Denial of Service) attacks that dominated the country's agenda in 2019 made the safeguarding of infrastructure a priority need for all organizations. To counter the risk of attacks originated abroad to interrupt the country's communication infrastructure and organizations' services, Garanti BBVA based and configured its intrusion prevention

systems starting from abroad. The Bank observed the benefit of this technological transformation despite increased attacks. In addition, Garanti BBVA led the sector with this approach that served to increase the Bank's security and contributed also to safeguarding the country's communication infrastructure.

The opportunities offered by digitalization also transform issues regarding data protection and security into one of the most significant risks. Taking precautions against all risks, which could prevent secure and uninterrupted service, particularly cyber threats, ensuring information security and informing customers on related issues are among the material topics, both for Garanti BBVA and its stakeholders.

Garanti BBVA carries out activities ensuring continued awareness of compliance with laws and corporate standards, and development of processes that guarantee management of IT/information security and IT related risks, in order to effectively manage reputational risk across the Bank. In terms of governance, the Information Security Committee headed by the CEO coordinates all efforts within the Bank to guarantee information security and monitors policies, procedures, and regulations.

Adopting an "enterprise external fraud prevention" approach within the framework of customer protection principles, Garanti BBVA implements a customer-driven management of incidents of fraud involving card transactions, account transactions, POS transactions and loan product applications carried out through any branch or non-branch channel.

Garanti BBVA adopts a proactive approach giving the foreground to customer experience when developing its strategies to monitor, detect, control and prevent evolving acts of external fraud. Customer Security and Transaction Risk Management Department works with a proactive approach to minimize the potential losses of the Bank and the customers, employing data-driven and AI-supported decision making processes against incidents of fraud.

The Department formulates views and suggestions on the Bank's new product and process developments upon assessing the same with respect to external fraud risks. Monitoring dynamically evolving fraud methods and fraud trends both on a national and international level, the Department continues to take actions dynamically based on data governance and data analytics. Garanti BBVA continues to collaborate with its stakeholders to increase anti-fraud awareness and initiatives across the banking sector and other associated sectors, against fraud events.

Customer Security and Transaction Risk Management Department closely follows up technological developments, makes assessments together with various national/international service providers, and leads technological developments in order to carry out fraud risk management in the most efficient and effective manner, and to deliver the best experience to Garanti BBVA customers. In addition, the effects of the developments made with a focus on strengthening analytical structure and data-driven decision making processes upon fraud prevention and customer experience are constantly monitored. Also instant tactical updates focused on customer experience and security are performed while observing stakeholders' strategic priorities and the ecosystem.

WHAT WE DID IN 2020

Garanti BBVA secures all IT assets including people, processes and technology, so that the organization can focus on business targets without suffering an interruption due to security related issues by concentrating on Confidentiality, Integrity and Availability. The latest and the most advanced security systems are followed up in an effort to offer the most effective security solutions to protect customer data. Regular penetration tests and vulnerability assessments are performed to identify and eliminate security risks. Garanti BBVA follows the COBIT (Control Objectives for Information and Related Technology) framework, internal security policies, procedures, and ISO 27001 and PCI-DSS norms with specific scope.

Garanti BBVA provides various security-building practices for its customers in line with its approach determined by security and privacy policies. Besides password verification, the Bank uses tokenization, Şifrematik device for generating one-time passwords, SMS OTP, Mobile Notification, and Voice Biometric Verification for the authentication of customers. Moreover, in case of a forgotten password, the Bank offers the option to set a new password by performing ID and face biometric verifications. In order to increase the security of digital channel usage, the Bank implements additional security measures on mobile applications. Transactions are automatically analyzed and if necessary, additional verification is implemented to prevent fraud events. Garanti BBVA also supports safe execution of external projects that introduce novelties to the sector, in addition to its internal practices.

Through its website and Alo Garanti BBVA telephone banking, Garanti BBVA offers its customers security information regarding digital banking. Warning its customers against possible situations, Garanti BBVA also explains additional security precautions that customers can take, particularly the "6 Golden Rules" for security, such as creating and protecting passwords, situations when private information is requested, viruses spread via e-mails, fake prize notifications or requesting personal banking information via SMS or by telephone, phishing attacks, suspicious money transfers and requests for information. Also, Garanti BBVA provides customers with information on the protection of mobile devices and computers on which they use Garanti BBVA's internet banking. Garanti BBVA furthermore advises to use utility programs such as anti-virus, spyware scanner and firewall. The Bank sends SMS and e-mail messages at certain intervals in order to inform its customers about current and widespread attacks.

Work is carried out within the frame of DevSecOps (the notion of incorporating security applications within software processes) in order to enhance secure software development process. Security assessment approaches are being developed, which are aligned with current software trends such as agile. Initiatives are being carried out targeted at best practices in

activities aimed at raising increased awareness of employees and customers, data classification and data leakage prevention methods, in addition to efforts spent for regulatory compliance. Its robust infrastructure allows Garanti BBVA to keep fulfilling the services requiring remote access that it offers to its employees and customers without compromising security. For outsourced service, the Bank takes steps guaranteeing that the suppliers match the same level of security with the Bank. The Bank increases the efficiency of security operations by using RPA (Robotic Process Automation). Garanti BBVA keeps improving its information security processes by also utilizing the know-how and global experience made available by the BBVA Group. The Bank also extends support to global projects carried out by the BBVA Group in this context.

In 2020, Garanti BBVA introduced stricter measures for related processes and platforms to ensure security of mobile market and social network accounts. Training programs were organized to raise increased awareness of teams managing these accounts.

To cater to the working model that has changed due to the COVID-19 process, the capacities of the media enabling secure teleworking were increased rapidly, and solutions were created for emerging needs in a manner observing security and business continuity. In this period, investments/projects targeted at improving security infrastructure continued without letup. The projects undertaken resulted in increased intrusion detection and monitoring capabilities of the Bank against the recently increased cyber threats. Besides, the capabilities of the existing preventive security solutions were further upgraded.

Due to the implications of the pandemic, 2020 has been the scene to increased digitalization. In line with its strategy, Garanti BBVA kept concentrating on monitoring and preventing fraudulent attempts dynamically. Basing its efforts in this vein on frictionless and customer-centric approach, the Bank aims to prevent both the Bank's and the customers' potential financial and reputational losses.

In order to provide its customers with a more secure experience, the Bank continues to upgrade its technical and analytical infrastructure. For this purpose, the Bank prioritizes integration of new technologies, increasing analytical methods and process automation. The Bank targets to manage risk in a frictionless environment by making customers a part of anti-fraud management. In keeping with this, Garanti BBVA continued to keep its customers informed and to raise awareness about fraud trends and important considerations through various channels.

As part of education and awareness initiatives in 2020, Garanti BBVA undertook 104 education and/or informative activities in total in relation to external fraud, employing a variety of methods including announcements/alerts, virtual education and information meetings/emails and live streaming.

OUTLOOK

Expanded usage areas of deep learning algorithms in banking and production of solutions for scenarios where conventional algorithms fail will be on the agenda of the near future. Processing visual data, extracting the embedded texts, and making sense of them with natural language processing are but just several examples. As deep learning algorithms are used, the explicability of how analytical projections work lessens. For this reason, Garanti BBVA predicts that algorithms showing the operation within the so-called "black box" software in order to understand how decisions are made will gain importance, particularly in strictly regulated sectors, such as the banking industry.

In the period ahead, solutions with user-friendly interfaces and not requiring an in-depth expertise will enable individuals at any level in the organization to produce analytical solutions. Useful information will be extracted with Artificial Intelligence and machine learning on Big Data, and different perspectives will be presented for new service and business model conceptions. With the new working models resulting from advancing technology and regulations, access to new data sources from different sectors and different companies through Open

Market, storage, processing of these data, and generation of new assets will be enabled with the formulation of appropriate infrastructures.

In our day, too much data is produced; however, Garanti BBVA believes that the important bit is to be able to create value from these data hoards, and foresees that an organization will be successful in this respect to the extent of its data storage, understanding and processing capabilities.

In 2021, protecting its employees' health and delivering uninterrupted service to its customers will remain as Garanti BBVA's top priority. Accordingly, the Bank will carry on as always with its efficiency-based project, business model modification and modernization initiatives. The Bank will be intensively using RPA, chatbot, big data and Artificial Intelligence elements in the coming periods, with the aim of maximizing its business model, efficiency and productivity level.

While bot usage for employees across businesses around the world is just an emerging trend, Garanti BBVA targets to increase coverage also at positions offering service to the Bank's customers in other segments in the coming year.

In 2021, Garanti BBVA will continue to provide secure transacting for its customers, and will also carry on working towards assuring its customers to transact in a convenient and frictionless environment and adopting a focus that will get customers on board while fighting fraud. Along this line, constantly enhancing customer experience through strengthening fraud risk monitoring systems with contemporary technology, data governance and analytics methods will remain among the key targets.