

## Strategy in action

# 6 Technology and operations

Given the nature of our Organization, information technology is at the core of all our operations. Adopting cutting edge technology and best practices in tandem with an effective IT strategy is paramount. The IT strategy is aligned with our overall corporate strategy and is implemented through policies and practices, which are based on international best practices.

## A robust digital strategy

Evolving requirements and technology have made the stock market environment extremely fast paced. This in turn, makes managing the interface between technology and operations arduous. In this respect, the year under review was a very challenging one for Tadawul due to the number of business initiatives and technology changes.

In 2018, all required technology changes for Tadawul's strategic and market development initiatives were successfully delivered and deployed. The market technology capacity was developed by major infrastructure and system upgrades while enhancing performance, resilience and security controls. A high degree of efficiency was maintained in both IT and market operations and international best practices were adhered to.

From a strategic perspective the initiatives successfully executed can broadly be divided into the areas described below:

## Preparations for derivatives market

Tadawul is preparing to launch the derivatives market in 2019 for which the groundwork is in progress. This will be a further step towards being recognized as a mature market. Initially it is proposed to launch index futures which will be followed by other derivatives.

The related requirements gathering and project implementation planning have been completed. The derivative infrastructure has also been successfully implemented. Quality assurance and verifying solution readiness are ongoing.

## Capacity and performance enhancements of exchange systems

With likelihood of increased trading volumes and potentially large IPOs, major enhancements were made to trading systems' capacity and performance. Business configurations for the new services have been finalized and internal performance testing completed. Website performance has been enhanced by approximately 10 times, number of trades per minute by 15 times, trades at openings and messages over 20 times.

## Enabling digital transformation

To achieve digital transformation, multiple workshops were initially conducted to develop requirements and clarify understanding of business needs and challenges. Following this requirements analysis and assessment was carried out to identify and prioritize areas for improvement. Finally a master plan was developed with detailed activities, timelines, deliverables and responsibilities.

The following are some of the indicators that illustrate our contribution quantitatively:

- Major contributions were made to the successful completion of more than 30 business projects and initiatives
- Core system availability recorded 99.88% and non-core system availability recorded 99.98%
- Operations achieved 100% accuracy and efficiency
- Over 40 regulatory changes were implemented with zero deviation off plan

New technology channels enabled the preparation and dissemination of–

- 1,679 reports and financial statistics
- Publication of 524 press releases
- A total of 4,018 corporate announcements were posted

In addition, technology enabled the following operations:

- Processing of 12 new listings
- Management of 15 public and customized indices
- 100% successful changes and releases



# A major step in revamping technology

In December 2017, Tadawul and NASDAQ officially signed an agreement to transform Tadawul's post-trade technology infrastructure that includes registry, depository and risk management technologies.

The new post-trade technology will replace Tadawul's current Registry, Depository and Settlement Solution which was implemented in 2001 with a state-of-the-art, flexible and efficient technology. In addition, to introducing a new Central Counterparty Clearing Solution, this transformation will enable both Tadawul and market participants to introduce new asset classes to the market and new services to investors. Further the new technology will increase effectiveness and efficiency and will facilitate further growth of the market. It will also reduce risks in the post-trade area in compliance with international standards and best practices.

The necessary hardware and software procurement for the project has been completed; quality and testing plans have also been developed.



## Governance and efficiency

During the year, a number of revisions and enhancements were made to our operations and IT processes which enhanced controls, quality, and alignment with international standards.

In 2018, our ISO 9001:2008 QMS Certification was upgraded to the 2015 standard and a successful surveillance audit conducted. A similar audit was completed for ISO 20000-1:2011 Service Management System. These achievements confirm our commitment to maintain international standards. ISO standards are followed in all operations and development of systems and procedures. An audit management tool was also developed in 2018, to register and track corrective action on quality audit findings and ensure compliance with ISO policy. A group of staff members were trained and awarded professional certifications in ISO 9001 and international ITIL framework. In addition, a number of sessions in information security, risk management and quality assurance were conducted to improve the awareness level. Full automation approval process was implemented for all systems.

All our IT and technology operations and development take place within a structure of IT governance. Policies and procedures for operations and systems development are clearly laid down and periodically revised as necessary. Seamless interfacing with other organizational units was achieved which ensured good governance, compliance, and effectiveness.