

## Research Article

# CONTRIBUTIONS OF INFORMATION SYSTEMS AND TECHNOLOGIES TO THE SAUDI TELECOM COMPANY

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### ABSTRACT

Saudi Telecom Company, commonly referred to by the initials STC, is one of the first mobile operators in Saudi Arabia. It has its headquarters in Riyadh and was initially a monopoly of mobile services. Founded in April 1998, it is the country's leading telecommunications service provider and covers the entire Middle East.

**Keywords:** STC, Communications, Customer service, STC services, Saudi Telecom Company

### INTRODUCTION

#### History of STC

The Saudi STC Group's principal branch and the country's initial telecommunications service provider is STC Saudi Arabia, commonly known as Saudi Telecom Company. Cabinet Resolution No. 171 of September 9, 2002, and Royal Decree No. M/35 of April 21, 1998, as well as Cabinet Resolution No. 213 of April 20, 1998, which approved the Company's Articles of Association, were used to create the Company as a Saudi joint stock company. In 2003, the company listed 30% of its shares on the Saudi Stock Exchange, in the largest IPO known to the Arab markets at that time. 20% of the subscribed shares were allotted to Saudi citizens in their personal capacity, 5% was allocated to the General Organization for Social Security and another 5% was allocated to the retirement pension. In 2004 the company lost its monopoly on mobile phone services after assigning a second license to Etihad Etisalat. In April 2007, its monopoly on fixed-line services ended after a consortium led by the Bahraini company Batelco won the second license offered by the government[1]. In late 2019, the company launched a new identity and digital channels, as well as the MY STC application. In 2020, the company launched for the first time in the Kingdom 5G technology (the fifth generation) and the electronic chip (eSIM), and the names of its branches in Bahrain and Kuwait were changed to stc. In 2020, it launched its STC Pay wallet[2].

### THE EXISTING IS/IT ENVIRONMENT

#### Internal IS /IT Environment in Saudi Telecom Company (STC)

The three main application portfolio of an Information system in the organization encapsulates; The Enhancement of an a shared services model for the company, the automation of internal techniques in order to reduce administrative costs and enhance efficiency, and finally, the enhancement of a distributed services concept[3]. The telecommunication industry is highly competitive and

there is need to adopt effective Information system strategies to fulfill the company's needs. Information Technology encompasses techniques and tools that are used in to upgrade, store, manipulate or delete information. An Information System is the more of the software solutions. The Saudi Telecom Company first adopted the use of SEIBEL CRM system to replace the initial ISMS CRM system. This is because the new system was more adaptable and could be integrated with other modern technological systems[1]. Moreover, the company adopted the use of an ERP system. An ERP system alludes to a set of modules which links to the various business sections like finance, accounting, and recruitment into a central integrated solitary system. Initially, it was a concern to STC in adopting a suitable ERP system given the huge amount of data it handles and the scale of the business. STC then also adopted the Granite Network Inventory system which delivered unmatched professional services for the firms Data Migration and management. With newly built Data network elements and an efficient data warehouse, the company flourished. The company then adopted the use of Low-cost Business Support Solution (WBSS) which enhanced a more personalized structure for the company's Support solutions[4]. To streamline service delivery further, STC also adopted an Interconnected Billing System Operation which enabled it to efficiently connect with domestic providers, retailers and agents and effectively make settlements. In 2004, Saudi Telecom Company (STC) sought the help of a leading IT company in the country to overhaul its management system and adopted the Work Force Management System (WFMS) which was a venture system. The oracle-based enterprise system was to be used in harmonizing field service in the organization. IT was an incidence log system and events were defined in the system as DSL assemblies, repairs, landline repair or new set-ups. It enabled the tracking of every service and even granted customer satisfaction reviews.

#### External IS /IT Environment in Saudi Telecom Company (STC)

The major components in an organization are data and information. For each of these to be managed to enhance the efficiency of business processes, there is need to adopt the use of an Information System. Saudi Telecom Company is a service provider that deals everyday with many customers as well as affiliate Technology companies. For this reason, huge volumes of data must be processed

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everyday concerning each user and client. Customer complaints and requests are common. Additionally, there is need to have an Information system that will enable analysis of data in the company in order to inform key decisions [5]. Data on customer data usage, number of complaints, and duration of calls, networks issues, and many are essential in enabling the company tailor its products and services to meet the needs of the customers.

On another side, the company employs thousands of employees. There is need to coordinate activities in the different departments and the different employees to achieve productivity and avoid lapses in organizational processes. This further accentuates the need for an Information system and a robust technological framework to support the activities. Saudi Telecom Company has therefore adopted the use of a computer-based management Information System. The Information system helps in expediting work transactions. There are other functions like customer verifications and transactions that have to be automated [6]. The management is also able to track employees and company activities on a real time basis by use of the management information system. The Information systems augments decision making in the company due to its three major components; a centralized system for tracking progress, a central/distributed system that enables analytical reporting on different business segments, and a critical integrated intelligence system that helps in forecasting and critical decision making.

#### Current Portfolio Applications in Saudi Telecom Company (STC)

STC have many applications useful for many users such as Businessmen, Customers, Kids, employees and organizations which provide many functions to them as follow [2] :

##### STC pay

- Business owners can manage financial payments anytime, anywhere.
- Complete purchases from an increasing number of partners, from shops, restaurants, petrol stations, and more with ease and safety.
- Pay STC bills and recharge.
- Transfer money to a local bank account.

##### My STC

- Check and pay the bill.
- Receive cards
- Recharge and transfer of credit
- Special offers for prepaid customers.
- Full access and control of all numbers recorded under your ID.
- The ability to view the communication statistics and data consumption in detail.

##### STC business

- Provides many services that help businessmen to do business
- Such as viewing, paying, and subscribing to bills, unsubscribing to packages and services, monitoring data use, and more

##### STC eSales

- Check the fingerprint of the distributor.
- Add the Sawa bill
- After registering the postpaid slide, show a message when an amount is required to deposit to activate the segment.

##### WtsAppy

- The ability to start conversations directly of call records without having to open the WhatsApp app.
- Save the message forms in the form of notes and can be shared at any time.

##### Tuby

- Provide educational and fun videos.

##### Electronic sales

- Slide delivery service for customers where they are.

##### Quick Plus

- Issuing and activating the slides through the approved sales points that include prepaid and postpaid slides and data slides.
- It provides the service of transferring numbers from other operators to STC and the chip management service, and this includes upgrading it, updating the fingerprint and transferring its ownership from one customer to another.

##### iGATE App

- Employees can access the internal portal services via mobile and tablet, which contains:
- User interface update to enhance a distinct user experience.
- Add the following services:
  - Leave service for Saudis and non-Saudis.
  - Internal and external business trip.
  - Hayyak addition, which allows those who wish to find a job

##### Saudi Telecom

- It contains social networking features such as Twitter, like and comment, and the direct messaging feature is also available among members of the application.
- It also provides voting features for an idea or proposal

##### Electronic seller

- Enabling point of sale to activate the new chips for all STC customers through mobile devices.

##### STC ir

- Stay informed of the latest stock price data, stock market and press releases, investor relations calendar events and much more.

##### STC Joy

- Design, modify and share the package easily and at any time, without visiting the branch or communicating with customer service.
- Send notifications regarding the consumption of the package.

##### Rateel

- Provides information about audio Quran clips
- The name of the reader
- The name of the surah.

**Altakyah**

- Enables topic and discuss it whether related to the context of the company STC or others.

**My store**

- It provides a wonderful online shopping experience, allowing users to search for a wide range of products on a large scale.

**STC my fleet**

- Assists organizations in monitoring freight operations, monitoring vehicle progress and location, tracking speed, notification, and assigning a driver to complete a specific task.

**Child support line**

- Provide advice and referral to the security authorities.
- To continue providing children with care services through the authorities responsible for providing these services.

**Organization of IS units**

STC's IT department provides services in three categories: **Personal, Business and Help**

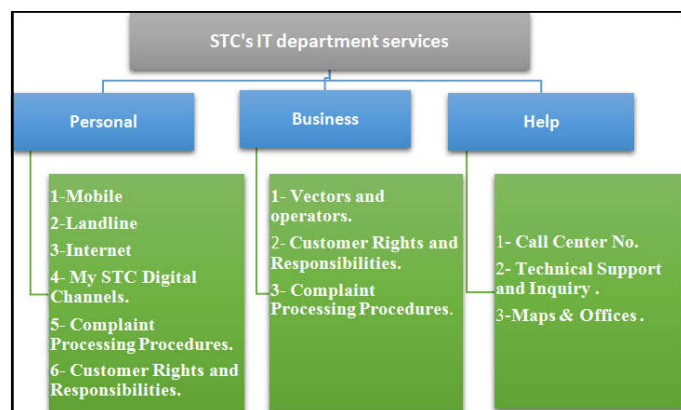


Figure 1 STC's IT department services

Where the **PERSONAL** service includes providing a number of services from them :

**Mobile**

It provides internet and calling services for prepaid, postpaid, international roaming services

**Landline**

Home phone plus Offers local and internal calls 24 hours

**Internet**

Quick net 4G It is a service provided by STC at prices that compete with other companies, as it provides an easy connection to the Internet

**My STC Digital Channels.**

- **My STCapp** where Through this service, you can request a new or replacement SIM for your current number, and you can also know and pay bills.
- **My STC shop** It allows you to do operations that require your attendance to section through the self-service device
- **My STC 900** Here all clients' inquiries are answered.

**Complaint Processing Procedures.**

The customer can inquire or complain through the available platforms to communicate in the company.

**Customer Rights and Responsibilities.**

This service provides a brochure that includes all the information on the rights and responsibilities of the customers.

Where the **BUSINESSES** service includes providing several services from them:

**Vectors and operators:**

The service allows the transfer of local calls to an authorized third party, either inside or outside the borders of the Kingdom.

**Customer Rights and Responsibilities:**

This service provides a brochure that includes all the information on the rights and responsibilities of the customers.

**Complaint Processing Procedures**

The customer can inquire or complain through the available platforms to communicate in the company.

Where the **HELP** service includes providing a number of services from the :

**Call Center No:**

The Information Technology Department provides all numbers for complaints and inquiries and provides service to Businesses men and customers.

**Technical Support and Inquiry:**

The customer here can submit a complaint and the customer will be replied to in no more than five days through the My STC Application or call the customer service center.

**Maps & Offices:**

This section provides a geographical map showing the locations of the Saudi Telecom Company in the Kingdom of Saudi Arabia[7].

**Evaluation (Contributions of IS to the Company)**

There are several contributions of an Information System to STC, like:

- 1 Establishing, managing, and operating fixed and mobile communication networks, systems, and infrastructure.
- 2 Connecting various telecommunications and information technology services, providing them to customers, and maintaining and managing them.
- 3 IS contributed to the development, implementation, and provision of telecommunications and information technology services in all technical aspects.
- 4 Providing comprehensive information and communications technology solutions including (communications, managed services, and cloud services).
- 5 Providing decision support solutions, business intelligence and data investment
- 6 Providing information, technologies and systems based on customer information, including preparing telephone directories, commercial guides, brochures, information and data, and providing the necessary means of communication to transfer services (the Internet)[8].

## Challenges Faced

On the other hand, the adoption of an information system has presented challenges to STC, Like:

1. The weak technical infrastructure in some governorates impedes some of the company's business and limits its services.
2. A shortage of telecom and IT professionals leads to delays in STC projects.
3. The company faces an obstacle to the availability of qualified cadres in communications and information technology.
4. One of the obstacles and challenges is the adoption of an ineffective digital strategy for growth and diversification Digital services are a priority for STC, yet many of the neighboring market initiatives remain small in terms of contributing to the company's revenue. With the beginning of the era of the Internet of Things and the fifth generation networks, the telecom companies should take more feasible steps to reform their business models and make the most of the growth tools if they aim to contribute to improving their services in the market.
5. Security issues are an extremely important issue for consumers and businesses alike, the company faces a lot of problems like this hacking as STC was hacked in 2018 and the hacker leaked the company information.
6. Failure to define workforce planning and design priorities Operators realize that current digital skills are insufficient in their organization, but institutional agendas to find the necessary talent still lack the seriousness to put them on the top strategic priority list. Today's skills reshaping is critical as technology cycles accelerate, while a holistic workforce design approach is essential to boost productivity and prevent new institutional isolation phenomena from forming. Ultimately, providing better levels of employee participation will help telecom companies provide a better customer experience.
7. Establishments in the Kingdom of Saudi Arabia were quick to apply various technologies and solutions for communications and information technology to enable them to make their operations more effective, and many of them invest in third platform technologies, which include cloud computing, mobile communications technologies, analyzes and social networks, along with other information technology solutions. Although many enterprises have successfully managed to implement advanced solutions in communications and information technology, not all of them have been able to achieve the desired results due to Lack of advanced communication and information technology personnel required to manage these technologies[9].

## CONCLUSION

STC is one of the most important digital companies in the Kingdom of Saudi Arabia, where it focuses on improving the services of the telecommunications company and expanding the delivery of its services to all remote governorates as it sought to increase the towers to achieve the best services for customers. Finally, there is no doubt that STC is one of the leading companies in the field of technology, as it always seeks to Promote competition in providing mobile services and freeing fixed-line services. And the high efficiency of Internet services, especially after providing broadband Internet service, which will enhance the spread of various electronic services. As we have noticed through analyzing the strategies applied by STC that it seeks to continuous development and the application of everything that is provided seeks to serve the company and customers.

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