" A future vision for digital transformation in pharmacy and drug system "

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Abstract:

Why is Digital Transformation Important?

- Digital transformation is changing the way an organization operates. Systems, processes, workflow, and culture are all evaluated. This transformation affects each level of an organization and brings together data across areas to work together more effectively.

- It is worth noting that we point with much pride to the recent trends of the Egyptian state to enhance and support the development in the provision of smart and mechanized government services... in order to raise the productive efficiency of the employee in various work sites and achieve a technological breakthrough in all sectors... as well as facilitation for citizens in Get the desired service

- We recall in this context the achievements of Egypt in this field

A budget of one billion pounds was allocated in the 2019-2020 budget

To update the information infrastructure and digital content... In this context, and within the efforts of the Egyptian Ministry of Planning represented in the Information and Decision Support Center, the electronic enterprise management system (institutional memory) was launched:

It is one of the leading and specialized programs in the Middle East in the field of managing electronic institutions through the methods it provides for following up and developing the administrative performance.. The use of this program has led to control and governance and enhance the transparency of the financial performance of the state.. as well as tightening control over government expenditures and raising the efficiency of spending.

Key words:

Digital transformation - drug – supply department – management - medicine

Introduction:

• It is the process of transforming the business model of government institutions into a model that depends on digital technology in providing services, manufacturing products and managing human resources

• In other words: the shift from the system of traditional paper-based services to the system of modern technological services (1,2,4,6,7)

• Digital transformation depends on formulating a digital strategy based on diagnosing the current situation and identifying the gap between the currently available capabilities and the desired goals to be achieved in this regard which leads to reducing costs, saving time and effort, achieving greater flexibility and more efficiency in the production process, which in turn leads to The expansion of development and change and the occurrence of unprecedented transformations in the government sector (2,3,5,6,8)

- Digital transformation presents a huge challenge and a huge opportunity. Therefore, when considering digital transformation, organizations must analyze the cultural changes that they will face because it is difficult for organization workers and organizational leaders to adapt and deal with unfamiliar technologies. However, digital transformation has created unique challenges and opportunities for the market. Therefore, it was necessary for organizations to struggle to enter this field and to be a strong competitor to take advantage of all the advantages offered by this development and technology. (1,2,5,6,7,10,11)

It will save both time and money once you go live through the integration of more efficient processes and quicker problem identification.

Digital Transformation Introduction Presentation Slide
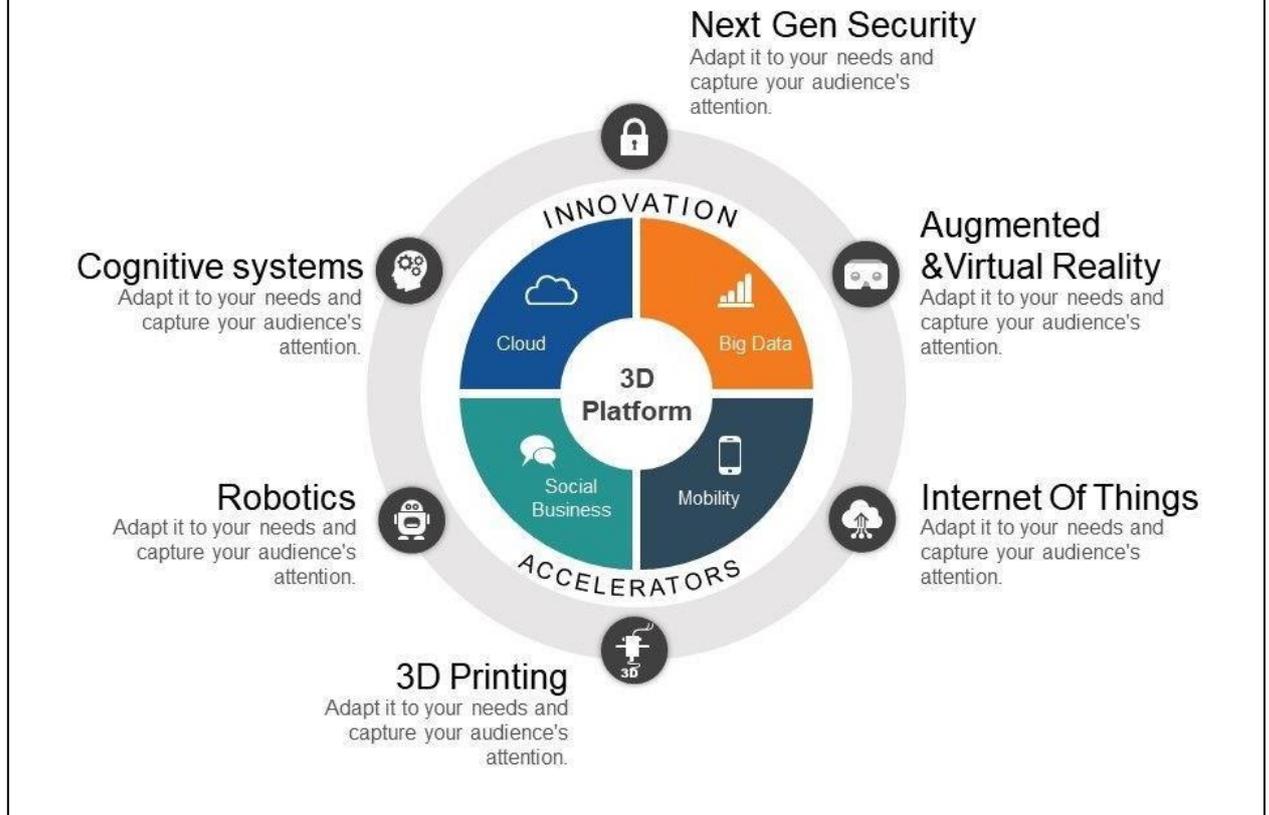
Egypt has made important strides in the path of transition to the digital system, including:

• Establishment of the National Payments Council

• Establishment of the Supreme Council for Cyber Security

• Establishment of the Supreme Council for Digital Transformation

• Launching the national strategy for e-commerce in cooperation with the United Nations Trade and Development Organization

• Inauguration of the Egyptian Information Infrastructure Project to link more than 70 government databases

• Transforming Port Said Governorate into the first digital city in Egypt during the second half of 2019

- Building the new administrative capital that is based on the latest methods of digital transformation and information technology

The methodology you may use is to:

Discover a suite of tools to lead your way through a digital transformation

Develop effective strategies for a digital age

Understand the competitive insights to avoid the critical pitfalls and drive long-term successful innovating

Help business leaders integrate design thinking with their business thinking for success

The ability to dive deeper into day to day data in real-time enables a steadier pulse on all aspects of the business that keep the wheels turning.

Aim of work:

1. Significantly reduce cost, effort and time
2. Improving operational efficiency, productivity and organization
3. Better Supply Chain Management
4. Better Operating Model
5. Increased Transparency
6. Ease of moving the stock of medicines to reduce waste
7. Achieving more flexibility at work
8. Improving Competitive Advantage
9. Creating opportunities to provide innovative and creative services
10. Facilitating work methods and obtaining clear outputs
11. Better Employee Engagement and Culture
12. Providing a large capacity for data processing and utilization
13. Improving the quality of health services
14. Facilitate communication and the ability to obtain the required information
15. Ease of control and follow-up of the stock of medicines (1,2,3,6,7,8)

Methodology:

In order to implement and build an effective digital transformation strategy in the field of pharmacy

1- First, define the vision and goals

2- Preparing to change the culture

3- Start with organized and specific steps

4- Work and distribute tasks to your team

5- Choosing the right techniques and tools

6- Searching for opportunities for partnerships and establishing fruitful cooperation protocols

7- Continuous performance analysis and development

8 - Find ways to continuously develop and develop ideas

9- Follow your achievement and return from your transformation
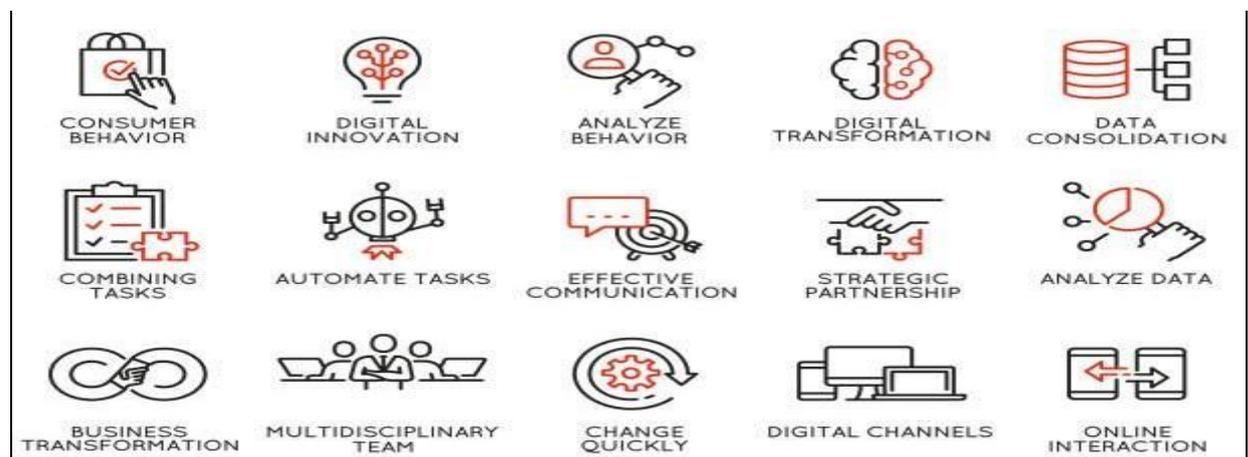
Discussion:

- Despite the importance of this process and the allocation of a lot of investments and resources to achieve the goals related to digital and technological transformation, it is during the application on the ground, There are many

challenges and obstacles that we must overcome in order to achieve the desired development

1- Culture of resistance and fear of change

The pharmacy administration, like other government institutions, is stuck in a culture that rejects change and even fears it. A culture based on individuality, autism and hierarchies in business management

Therefore, organizations must take a completely different approach of blending people, processes, and technology to create modern business models

Information technology managers responsible for developing the new digital culture must start spreading the culture of digital transformation and present a clear vision of the required work plan and the desired goals, and that it is not about excluding and laying off existing employees, but rather about restructuring, training and integrating them into the new work system and re-employing them and exploiting their potential In an optimal way that serves the modern system. (2,3,6,10)

2- Lack of cadres and talents

The current work environment in which services are provided and business is done routinely is very slow, stressful and expensive, making it impossible to support the digital transformation strategy

Therefore, the institution must select talented elements and distinguished cadres, provide them with the necessary support, and attach them to developed training programs to develop their skills, as well as use some new elements with experience in the field of data analysis, programming and information systems.

And then enhance cooperation between these cadres and the basic work teams to ensure effective participation and spread the spirit of challenge and the desire for development and promotion.(2,3,4,5,6)

3- The institutions are not ready yet
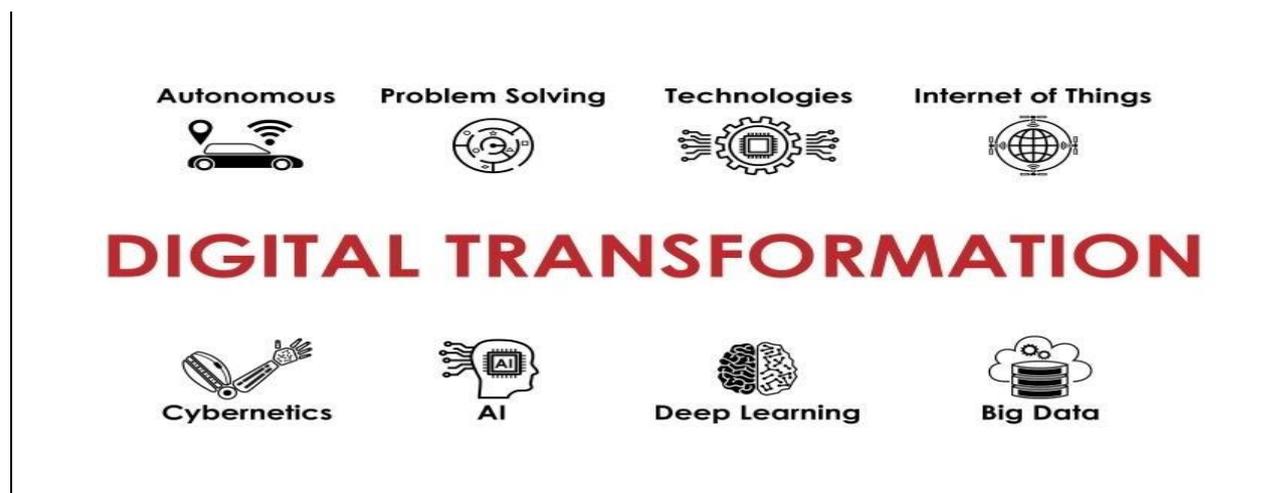
Implementing digital business transformation is often costly and technically challenging and requires a lot of time, effort, resources and money

Digital tools are one of the main keys to achieving a true digital transformation

Where there must be an integrated system of hardware, operating systems, storage media, software and information centers that allow the use of all assets with uninterrupted operational efficiency

It is worth mentioning in this regard that we refer to the fruitful and constructive cooperation between the various state agencies through the establishment of cooperation protocols between the Ministries of Health and Communications and what the Ministry of Communications can provide in the field of enhancing work techniques and cooperation in working on:

1- Developing an electronic platform for pharmacy management

Provided that this platform is open and supports the principles of design and continuous change processes, thus promoting the thought of innovation and permanent development of this platform, allowing the provision of more and more services through this platform.

2- Assisting in the formation of a modern digital structure with high quality that includes the preparation of networks

The best solution may be to use the idea of (electronic cloud) to control server devices and store data, because it is compliant, scalable, and easy to access from any place that provides more services, solutions and security.

3- Virtual Private Networks

4- Activating the development of digital communication technologies through applications and digital panels

5- Building and developing mobile applications that work on rapid access to information and interaction between the institution and the beneficiary

6- Building a GIS layout that works on quick and accurate access through geographic maps.

7- Enriching the information, service and knowledge content of the computer

8- Upgrading the level of electronic display using the latest modern designs and ease of browsing the site to ensure quality and excellence (1,2,3,4,5,6,8,10)

4- Lack of information and data and poor communication and coordination between different departments

Therefore, the pharmacy department must make unremitting efforts to manage and analyze data in an organized and effective manner in order to ensure the availability of a strong database, the availability of the necessary information and qualitative, reliable and complete procedures, while providing and developing appropriate tools for statistical analysis and updating databases in line with the services provided by the administration and the responsibilities entrusted to it. (2,3,5,6,8)

5- Lack of tried, tested and ready-to-implement business models

The definition of digital transformation is only a starting point. In a practical way, digital transformation represents a unique journey for each organization

Therefore, the institution must develop its own experience in upgrading to the digital system on its own and find business practices that fit the services provided by the administration and that are compatible with the culture of the workforce and its flexibility to adapt and experiment and in line with achieving its desired goals to ensure that the drug and pharmacy system is properly, effectively and systematically controlled.

6- Funding for the upgrade to the modern digital system, the development of the infrastructure, and the provision of all necessary devices, tools and services to launch the modern digital system

1 Cooperation protocols were held between the Egyptian Ministry of Health and the Ministry of Planning, Follow-up and Administrative Reform, and coordination was established between the two ministries in order to provide the necessary financial support for the development of the institution's infrastructure and to provide all the necessary devices, tools, services, network construction, system development, modernization and continuous maintenance in the institution

2 - Providing the necessary financial resources to improve the service to ensure the continuity of services with the highest possible quality, adding more services and facilities, performing the required maintenance operations for Internet networks, carrying out expansions, increasing loads and developing the services provided by the administration. Special to improve the service for pharmacists wishing to benefit and enjoy the services provided by the administration (3,4,6,8,11)

7- Fear of information security risks as a possible result of misuse of modern technology

1- Therefore, governments must impose new laws and deterrent penalties for cybercrime

2- Restricting the exchange of data between government agencies authorized to view the data and the departments entrusted with the use of this data to the exclusion of other agencies and departments

3- Providing and developing policies to protect privacy and data confidentiality

-4Securing the site and protecting it against information intrusion

8- The lack of standardized measures to measure the success and effectiveness of the digital experience

Launching an initiative similar to (Qiyas Initiative), which measures the maturity of the digital experience with the aim of raising the level of services provided until

It transforms from traditional services to digitization by one hundred percent, through continuous and accurate follow-up according to clear methodological standards and global measurement indicators.

If we review the nature of the work of the Pharmacy Department in particular, we find that it is represented in:

Monitoring, management, supervision and follow-up of drug stocks

Sub-control systems are created and designed in hospitals and units through which everything related to the movement of medicines within government pharmacies is recorded

1- Registration of incoming orders

2- Recording the available balances of different medicines

3- Record the expiration date

4- Register its operating number

5- Recording the daily expenditure of medicines

6- Recording the monthly expenditure for medicines

7- Recording balances at the end of the month

8- Record the average monthly and annual consumption

- Connecting all these sub-systems to the main system in the pharmacy department
- The drug supply department in the administration, through this main system, monitors the stock of medicines, as it collects the needs of the sub-systems on a monthly basis and submits them to the system of the Unified Procurement Authority, which in turn issues supply orders to companies through the system until the pharmaceutical companies supply the quantities of medicines required
- The drug supply department, through the main system, follows up the types of drugs that are stagnant or have surplus between the different sub-units and that need the same type, which reduces the waste of drugs
- The specialized pharmacists in the Pharmaceutical Covenant Control Department review the drug balances in all sub-sections to ensure that there is no shortage or excess, by matching the sub-branches' balances with the balances registered on the main system, as well as completing the annual inventory procedures for medicines and their value at the end of each financial year
- The balances of narcotic drugs registered in the pharmacies of government hospitals are monitored and the exchange mechanisms are safe under full medical supervision and this data is included in an electronic form that is reviewed and controlled and linked directly to the main system
- Medication dispensing rates are reviewed according to frequency rates and determined centrally
- Hospitals with a large number of care beds, the clinical pharmacy protocols are centrally followed

- Weekly communication with hospital and unit managers is done by holding video conferences
- Mobilizing the workforce according to work needs and the availability of competency and experience, not geographical distribution

Conclusion:

- Digital transformation in the pharmacy sector has become an urgent necessity to keep pace with the current era and the strong competition in the labor market, as we are now living in the era of the Fourth Industrial Revolution
- It also provides huge opportunities for government institutions and health organization on various aspects to achieve their goals and reach them to implement their vision and strategies and reduce waste of resources.
- Activating the mechanism of data analysis and drawing conclusions contributes to improving the quality of planning, follow-up, decision-making, policy formulation, and course correction
- The digital transformation will open wide, promising and prosperous horizons that will positively reflect on the quality of health services provided to patients.
- Deciding which emerging technologies are worth investing in and getting your team involved in change is often the hardest part.
- Adapting to the digital age requires a shift toward a flexible and risk-taking mindset.

Recommendations:

- **Encourage the digital culture in your organization**
- **Provide an easy way for collaboration, help to move the entire organization ahead digitally.**
- **Having the right tech tools that work together can streamline workflow and improve productivity**

- It's important to select the right software for your organization ,To ensure that you're making your business more flexible through a transformation
- Make sure to consider how this development will affect your needs through your digital transformation process.
- Continuous Improvement strategies will allow for faster innovation and adaptation while providing a pathway to upgrading
- Setting your existing and future employees up for success by handing them an efficient, transparent, and seamless technology.
- ensure that employees are getting the proper coaching, training, and support from their leadership,
- Follow your progress and keep improving your performance
- Analyze and monitor the result of your transformation

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