



## The Evolving Role of Business Analysts in the Adoption and Implementation of Emerging Technologies in Organizations

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### ABSTRACT

Change though a constant process is difficult to attain and most organizations face a herculean task in promoting change. However, change adaptation be it process, or technology is crucial for organizations to succeed. With an ever-changing technological landscape, organizations will fall behind in innovation and competitiveness if they fail to adopt modern technologies. While each role in the organization has a role to play in adopting change, the business analysts have an extremely critical role. The Business analyst helps create different approaches to bring changes in the information system that can facilitate business operations, support design of new systems or enhance the existing system without adversely impacting the downstream systems. With a thorough understanding of the system, the technology of the system and any dependent applications, they will help identify the issues in the current business process and identify the business needs with a focus on the value that the system would create and help in designing new business processes.

**Key words:** Business analysts, Leadership, Transparency, mobile applications, Cloud technology, IOT, Adoption

### INTRODUCTION

The changing stakeholders' needs and the need for improved user experiences in terms of customizations, faster response time and speed to market, organizations are looking to innovate and gain efficiency in the information systems. Technology has evolved and transformed many sectors such as retail, banking, and healthcare since the dotcom bubble in the year 2000. These technologies are helping in, provide access to real-time information, reduce human interventions using automation, provide insights on data for data driven decision making.

History is proof of how fast the technological landscape has evolved in the last 50 years and how the current emerging technology will quickly become a norm. With the timelines of technology adoption and implementation shrinking rapidly the pattern of technologies becoming a new norm will continue. Emerging technologies shown in Fig 1 below like mobile applications, big data, IoT, blockchain are picking the pace in adoption in comparison to older technologies. Therefore, it is essential for organizations to plan in implementing these newer technologies to stay ahead of their competitors.

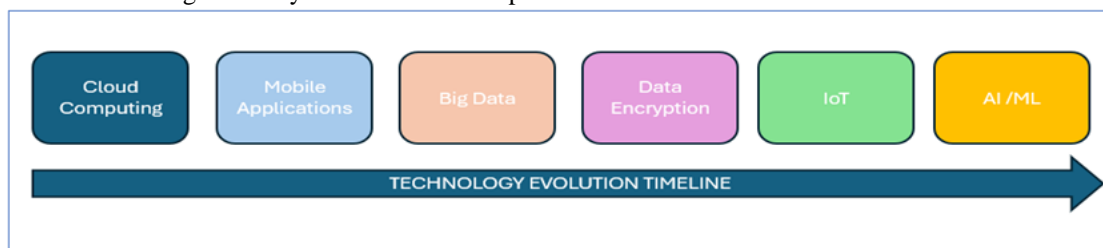


Figure 1: Emerging Technologies timeline

### **BARRIERS IN IMPLEMENTING EMERGING TECHNOLOGIES IN AN ORGANIZATION**

The aim of this article is to explain some of the common obstacles in adoption and implementation of emerging technologies in organizations and the role of business analysts to mitigate those obstacles. Organizational culture is the biggest challenge in any modern technology adoption. As stated, inertia is a powerful force; the resistance to adapt change becomes the biggest bottleneck as technological shift requires change on many levels. The organizations would need to adopt a culture of data-driven transparency and improve the processes for data completeness and accuracy which would require collaboration from all the groups involved. Technology adoption is not to overwhelm people with new barriers to data access but rather to gain efficiency in the processes and the systems across the organization. To overcome this challenge, it is important to move away from the traditional application-oriented approach where all the systems and teams work in silos. The business analysts will be the champions of this change by being the liaison between the teams and empowering them to take control of the processes they know best and its usage with the help of documentation such as usage guides and SOPs and overcome this obstacle.

Absence of enterprise systems view is another obstacle in adopting modern technologies. Healthcare data is complex with much unstructured data like clinical notes and images. Also, lack of interoperability among the operational systems makes data integration impossible. Not addressing these systems would result in inefficient processes and data redundancy which in turn could result in a data management nightmare. Data integrity issues in the poorly managed system would limit the organization's effectiveness. Therefore, it is important to implement technological solutions that address the shared vision and needs of an organization, taking into consideration the requirements for each functional unit. The analyst plays a critical role as they have a complete end-to-end process understanding and therefore would be able to make informed decisions on the technologies that are most useful when it comes to data related systems.

There are some other barriers in implementing emerging technologies such as understanding where to start, resource issues and lack of clear success measures. These are crucial factors to consider as not knowing where, when, and how to migrate systems to modern technologies would result in dissatisfied users and inefficiencies with no value to the organization. One way to overcome this is prioritizing the business areas with high impact and probability of success and a measurable outcome. To overcome the resource issues, it is important to get the buy in from senior management for sponsorship and support for funding for training on these modern technologies and other resources. And finally, it is important to create a comprehensive measurement process to monitor the effectiveness of the program, to keep the stakeholders accountable for results.

There is also the need for overall leadership and the need to overcome semantics related to the changing technology landscape. While implementing modern technologies across the organization is a collective responsibility, the need to have a leader to drive these results cannot be understated and business analysts rightly fit into that role as change leaders. Technology governance is ensuring that organizations establish a single model and work in cohesion and not establish their independent tools and technology that does not work in cohesion. The business analyst will be a strong advocate for governance and provide direction for a solid foundation for collaboration across the teams [1].

### **ROLE OF BUSINESS ANALYSTS IN ADOPTION OF EMERGING TECHNOLOGIES**

As the organization seeks to move away from the current software systems and implement a new system it is required to create an environment of change across the organization for wider adaptability and acceptance of modern technologies. The Business analyst in the organization would help achieve this goal by following some of the change techniques.

A Sense of Urgency is a powerful tool for to make things move faster. Creating a sense of urgency will help challenge the status quo and push the team to act fast and adapt to change so they can no longer be complacent with their current state of organization [2]. Creating a sense of urgency will give the organization an ability to accept the challenges that they currently have and create opportunities to overcome those challenges. Addressing these challenges can result in changing the status quo by pushing the whole organization in embracing a positive change culture.

Create a culture of change in the organization - This step would include the analysts in coordination with the organization's leadership team, help socialize the idea across the teams using the different communication channels like email blasts, intranet portal and town halls to get the conversation started. This is crucial as

everyone in the organization should understand the impacts of the decision to implement the new system both personally and to all the processes across. Sharing the data across the organization to support the claim for change and ensuring the decisions and actions are aligning to the change are essential steps in creating the need for urgency.

Document challenges in the current system and technologies - This is another crucial role as an analyst as it motivates the teams to appreciate the change. Not knowing the limitations of the current technologies would result in a complacent organization that resists change in culture. In the case of modern technologies implementation, this step involves identifying all the existing disjoint processes, the cost associated in maintaining disparate systems, security implementation and the administrative overhead in the current processes. These metrics are important to gather initially as form the triggers for validation of the new system. This step also helps the leaders understand the downsides of not implementing modern technology be it data sharing within or across the organizations or bad user experience with the current system. Identifying the key performance indicators when implementing a large software system with every release would help forecast ROI in the long term. These KPIs are necessary for leadership to determine if they have made a right choice at the preliminary stages of the implementation and act accordingly.

Document strategic vision and goals – The analysts can help document a strategic vision and goals document that provides guidance on what is needed in the adoption of the modern technology and forecast the future for the organization post the implementation. This documentation ensures the stakeholders understand the benefits of the change and get an alignment with the organization's vision. The strategy document will be elaborate and will describe the teams that would be first adopting modern technology, clear and achievable targets for measuring success and finally take into consideration the long-term needs of the stakeholders. The analysts will also perform a comprehensive analysis and identify all the systems and processes that need to be updated for a smoother transition to the new system. This would include all the software and procurement needs as well as getting the infrastructure and security teams on board. Identifying the key performance indicators that can be measured at every step of the system implementation will help the leadership evaluate the targets and reassess and refine the strategy document to meet the final goal.

Socializing the need to implement modern technologies – This step is to collaborate with individuals and groups, in this case the end users of the system to help them understand the impacts of the change and include them in planning the new system roll out. Identifying their needs in the new system will determine their pulse in adapting to the new system. This step also lays a foundation in determining the critical processes across the organization and the training needs when the transformation happens. End stakeholder's users buy-in is essential for the change to happen as the ultimate users of the new system [3].

Identify the advantages of the modern technology - This step involves conducting a feasibility analysis of the technology, doing market research on the successful implementation of the tool, and ensuring the new system meets the organization's long-term vision. This step is as important as identifying the limitations on the current system and it would help determine if the new system would be able to overcome the challenges in the current system and if it has any return on investment to move forward with the change.

Identify the designated champions of change – This is a critical step in building the coalition to identify the change champions at every level who can guide and lead the implementation and promote the change at their respective levels. These champions embrace change and understand the organization's culture, challenges, and strengths and share the same vision of the organization and can bring collaboration among the teams to meet the shared goal. Though the executive leadership are the sponsors for adopting modern technologies, business analysts can help lead the adoption across all levels of the organization [3].

Communication – Finally, the business analysts can help promote transparency in the technology implementation by providing periodic updates to both the leadership and stakeholders. The business analysts can help operationalize a two-way communication plan allowing the information not only to flow top down, but also bottom up and across the coalition by enabling the feedback from the teams thus promoting better adoption of the technology across. Clear and effective communication would help the end users understand the importance of the change, the challenges in the current system, the benefits in implementing the new system and create an environment of trust with the leadership.

## CONCLUSION

The need for technology adoption and its recent comes from the very fact of explosion of emerging technologies such as IOT, Cloud, mobile applications etc. in the recent years and the growing competition for organizations to adopt to this changing technological landscape. Business analysts play a very strategic role in the adoption and implementation of emerging technologies by making sure the change aligns to the enterprise vision and goals, improves efficiency and there is a return of investment. Their role as a liaison with business and information technology teams with a strong understanding of the domain and the technology make them a critical role in driving the change in any organization.

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