EMERGING APPROACHES FOR DIGITAL TRANSFORMATION

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Abstract

Purpose – This study identifies the emerging approaches for leading and implementing a successful digital transformation which may challenge the traditional linear processes for the execution of successful digital transformation. Design/methodology/approach – This is a conceptual paper based on the current research and a careful analysis of the literature as well as the current practitioners world experience.

Keywords: Digital Strategy, Emerging Technologies, Digital transformation, Digital technology.

Introduction

The disruptive evolution of digital emerging technologies has pushed significant changes in the digital strategies and improved operations across the industries globally. Digital transformation is proving to be a do or die fight for the survival in the existential threat of digital disruption.

Digital transformation is the process of using digital technologies to fundamentally change the way an organization operates and delivers value to its customers. It involves the integration of digital technologies across all areas of a business, including operations, customer service, product development, and sales.

A common way to represent the process of digital transformation is a diagram that shows the various stages of the journey. Here is an example:

1. Assess: The first stage of digital transformation is to assess the current state of the organization, identify opportunities for improvement, and define the vision and goals for the transformation.

2. Plan: The next stage is to develop a plan for how the organization will leverage technology to achieve its goals. This includes identifying the specific technologies that will be used and the processes that will be affected by the transformation.

3. Implement: Once the plan is in place, the organization can begin to implement the changes. This includes purchasing and configuring the necessary technology, training employees, and making any necessary changes to the organizational structure.

4. Optimize: After the implementation phase, the organization should work to optimize the new systems and processes to ensure they are working efficiently and effectively. This includes monitoring and analyzing performance, making any necessary adjustments, and continually improving the systems.

5. Transform: Finally, the organization should work to transform its culture and mindset to fully embrace the new digital ways of working. This includes encouraging innovation and experimentation, and empowering employees to make the most of the new technology. This is just one representation of the

digital transformation process, and the specific steps and stages may vary depending on the organization's needs and goals. The key point is that Digital Transformation is a holistic process that involves not only technology but also business, culture, people and strategy.

Challenges for the Business Leaders

There are many emerging technologies for achieving digital transformation, but some of the most popular include:

1. Cloud Computing: This approach allows the organizations to move their data and applications to remote servers, which are maintained by third-party providers. This enables organizations to access the latest technology, scale resources as needed, and reduce costs associated with maintaining in-house infrastructure.

2. Artificial Intelligence and Machine Learning: These technologies are being used to automate repetitive tasks, analyze data, and improve decision-making. Some organizations are also using AI-driven chat bots and virtual assistants to interact with customers and employees.

3. Internet of Things (IoT): IoT is the network of physical devices, vehicles, buildings and other items that are embedded with sensors, software, and connectivity, enabling them to collect and exchange data. The ability to monitor and control devices remotely can lead to increased efficiency, cost savings, and improved decision-making.

4. Big Data Analytics: With the explosion of digital data, many organizations are turning to big data analytics to gain insights and make better decisions. Technologies such as Hadoop, Spark, and NoSQL databases are being used to process, store, and analyze large data sets.

5. Robotics Process Automation (RPA): RPA is the use of software with artificial intelligence (AI) and machine learning capabilities to handle high-volume, repeatable tasks that previously required human intervention. This technology can be used to automate tasks such as data entry, processing invoices, and customer service.

6. Digital twin: A digital twin is a virtual representation of a physical asset, processor system, consisting of data, models and simulation that allows to understand the behaviour, performance, and health of the system , helping to optimize the operations, maintenance and decision making. These are just a few examples of the many emerging approaches for digital transformation. The best approach will depend on the specific needs of the organization, but generally it's a good idea to start by identifying the areas of the business that can benefit most from digital technologies, and then developing a plan to implement those technologies in a cost-effective and sustainable way.

Approaches	Differences from traditional approaches	Main features	Examples
Innovating by experimenting	From a linear process of strategy making and execution to an iterative, recursive, learning process	Using experiments to evaluate and recalibrate strategy and guide execution	Alibaba Google Amazon VMware
Radical transformation through incremental approaches	From one radical transformation to a series of incremental inter-locked steps to achieve radical change cumulatively	Strategy is developed, evaluated and recalibrated frequently through execution	Amazon Slack JD Didi
Dynamic sustainable advantages via temporary advantages	From SCAs to an evolving portfolio of temporary, transient advantages	Using successive temporary advantages to create sustainable advantages dynamically and cumulatively	Baidu Uber VMware Slack

"Born digital" vs traditional companies

This research is based primarily on emerging insights from some "born digital" companies, but similar trends have also been observed in traditional companies across different industries. "Born digital" companies are those that have been created and have grown in the digital age. They are characterized by their use of technology as a key differentiator and driver of their business models. These companies tend to be agile, data-driven, and customer-centric, and they often rely on digital platforms and networks to reach and engage customers. Examples of born digital companies include Google, Amazon, Face book, and Uber." On the other hand, traditional companies are those that have been around for a while and may have started their business before the rise of digital technologies. They may have been built on brick-and-mortar or analogue business models, and they may be less agile, less data-driven, and less customer-centric. These companies may struggle to adapt to the digital age, but many are recognizing the need to do so and are undergoing digital transformations in order to remain competitive. The main difference between these two types of companies is how they operate and how they interact with technology. Born digital companies are digital-native, meaning that technology is a core part of their DNA, is embedded in their business model and strategy and allow them to have a unique advantage to innovate and create new market possibilities. Traditional companies may have a more difficult time adapting to new technologies and finding ways to leverage them to their advantage. Both types of companies have different challenges, and both can benefit from digital transformation. The important thing is that companies understand the need for digital transformation and make the necessary changes to thrive in the digital age.

I-ology : Five stages of Digital Transformation.
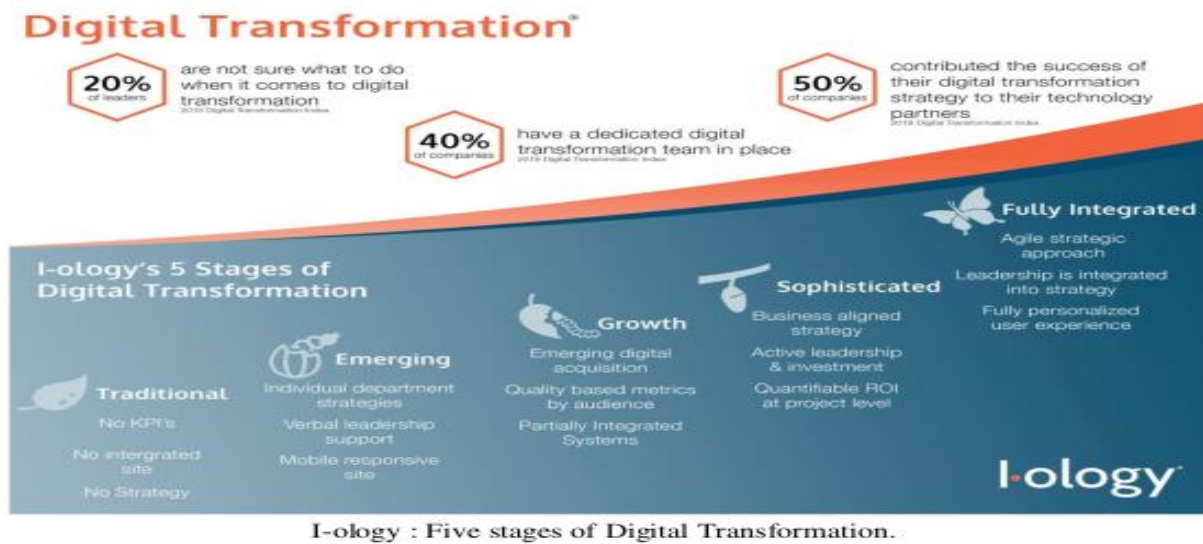
Here are a few examples of "born digital" companies and traditional companies to illustrate the differences:

Born digital'' companies:

Google: The world's largest search engine, Google was founded in 1998 and has grown to become one of the most valuable companies in the world, with a market capitalization of over $1trillion. Google's business model is built around its search engine and advertising platform, which generates almost all of its revenue. Amazon: Founded in 1994,

Amazon is one of the world's largest e-commerce platforms, with a market capitalization of over $1.6 trillion. Its business model is built around its online marketplace and cloud computing services, and it is also increasingly moving into areas such as streaming media and advertising.

Uber: Uber is a ride-hailing company founded in 2009. Uber's business model relies heavily on its mobile app and GPS technology, which allow riders to quickly and easily connect with drivers.

Traditional companies:

General Electric: General Electric is an American conglomerate that was founded in 1892. It is one of the largest companies in the world, with a market capitalization of over $100 billion. GE's business model is built around its industrial operations, which include areas such as aviation, energy, and healthcare.

Procter & Gamble: Procter & Gamble is an American consumer goods company founded in 1837. It is one of the largest companies in the world, with a market capitalization of over $250 billion. P&G's business model is built around its industrial operations, which include areas such as aviation, energy, and healthcare. Procter & Gamble: Procter & Gamble is an American consumer goods company founded in 1837. It is one of the largest companies in the world, with a market capitalization of over $250 billion. P&G's business model is built around its consumer goods products, which include brands such as Tide, Pampers, and Charmin.

Ford: Ford is American multinational automaker founded in 1903, it's one of the oldest companies in auto industry and its business model is built around producing, selling cars and trucks around the world.

The difference between born digital and traditional companies is that born digital companies have a business model that is deeply embedded in technology and digital platforms, while traditional companies may have started their business before the rise of digital technologies and may have a different type of business model such as brick and mortar, industrial or physical goods based. Traditional companies may have to work harder to adapt to the digital age, but many are doing so in order to remain competitive.

Leading Digital Transformation successfully leading a successful digital transformation requires a clear vision, a well-crafted strategy, and strong leadership. Here are a few key steps that can help organizations successfully navigate digital transformation:

1. Define a clear vision: Organizations need to have a clear idea of what they want to achieve through digital transformation. This vision should be grounded in the organization's strategic goals and should be communicated to all employees.

2. Develop a strategy: Once the vision is in place, organizations need to develop a strategy to achieve it. This should include a detailed plan for how the organization will leverage technology to improve operations, engage customers, and drive revenue. The strategy should also include a plan for how to manage change and minimize disruption to existing business models.

3. Lead by example: Successful digital transformations require strong leadership. The leadership team should set an example by embracing digital technologies and encouraging others to do the same. This means not only being willing to experiment and take risks, but also being open to feedback and willing to adapt the strategy as needed.

4. Foster a culture of innovation and experimentation: A culture of innovation and experimentation is crucial for successful digital transformation. Organizations should encourage employees to come up with new ideas and to test them out. This can lead to new products, services and business models and new ways of working.

5. Prioritize data and analytics: The ability to analyze data is essential for digital transformation. Organizations should invest in data management and analytics capabilities to gain insights and make better decisions. This includes the ability to harness big data, to use artificial intelligence and machine learning and to make real-time decisions.
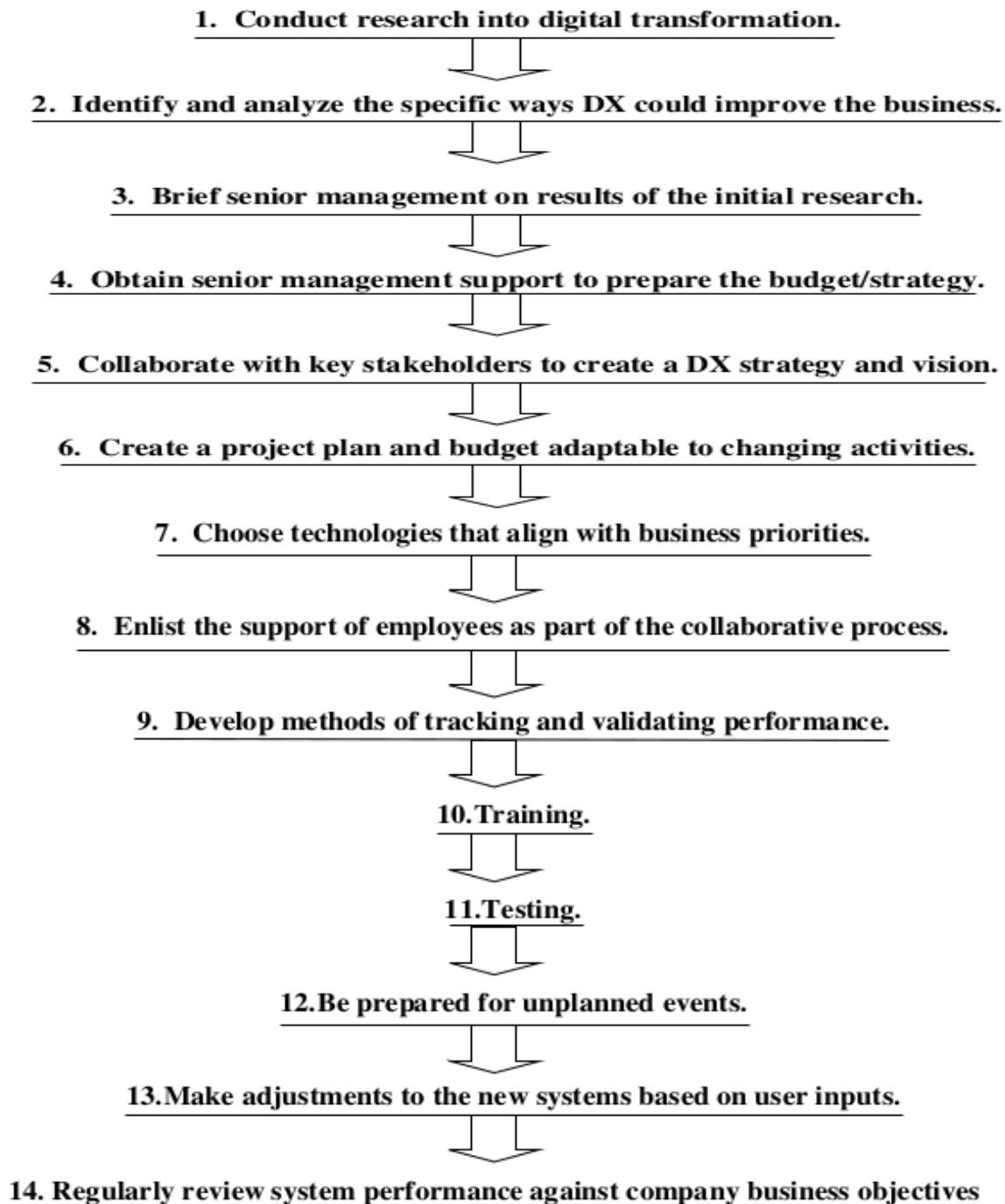
6. Build a strong digital foundation: A strong digital foundation is needed to support a successful digital transformation. This includes the necessary infrastructure, platforms, and tools needed to enable innovation, such as cloud computing, mobile technology and cyber security.

7. Design for the customer experience: The customer experience should be central to any digital transformation effort, so organizations should design their digital services and platforms with the customer in mind. This means thinking about how customers will interact with the service, what their needs are, and how to make the experience as seamless and convenient as possible.

8. Continuously monitor measure and adjust: This is the ongoing process of digital transformation, regularly measuring the progress, identifying areas for improvement and adjusting the strategy accordingly. It will help to keep the organization aligned with the goals, vision and the digital trend.

Digital transformation is a complex and ongoing process, but by following these steps, organizations can increase their chances of success. Remember that digital transformation is a journey and not a destination, so companies should be prepared to continuously adapt and evolve as the technology and digital landscape change.

A roadmap to a successful digital transformation initiative:

1. **Conduct research into digital transformation.**

2. **Identify and analyze the specific ways DX could improve the business.**

3. **Brief senior management on results of the initial research.**

4. **Obtain senior management support to prepare the budget/strategy.**

5. **Collaborate with key stakeholders to create a DX strategy and vision.**

6. **Create a project plan and budget adaptable to changing activities.**

7. **Choose technologies that align with business priorities.**

8. **Enlist the support of employees as part of the collaborative process.**

9. **Develop methods of tracking and validating performance.**

10. **Training.**

11. **Testing.**

12. **Be prepared for unplanned events.**

13. **Make adjustments to the new systems based on user inputs.**

14. **Regularly review system performance against company business objectives**

Future research

As the technology and digital landscape continue to evolve, there will likely be new and emerging approaches to digital transformation. Here are a few areas that may be ripe for future

research:

1. Quantum computing: As quantum computers become more powerful and accessible, they may enable new forms of digital transformation. Research in this area could focus on how quantum computing can be used to solve complex problems in fields such as finance, healthcare, and logistics.

2. 5G networks and edge computing: The rollout of 5G networks and the increasing use of edge computing will allow for faster and more reliable communication and processing of data. Research in this area could focus on how these technologies can be used to improve the performance and scalability of existing digital services, and also how they can be used to enable new ones.3. Digital twins: As the technology to create digital twins becomes more advanced and widely adopted, research in this area could focus on how digital twins can be used to improve the performance and efficiency of industrial systems, buildings and cities.

4. AI ethics: As AI and machine learning technologies continue to improve and become more widely adopted, research in this area could focus on ensuring that these technologies are used ethically and responsibly, and also on finding ways to ensure that AI models are explainable and fair.

5. Blockchain: As block chain technology matures and becomes more widely adopted, research in this area could focus on how block chain can be used to create more secure, transparent, and decentralized systems.

6. Immersive technologies: The use of virtual and augmented reality is becoming a more common tool in the digital transformation journey. Research in this area could focus on how these technologies can be used to improve customer engagement and experiences, remote collaboration, and also how they can be used to train and up skill employees.

7. Human-centred design: In order to truly transform organizations, the design of digital solutions must take into account the people who use them and the environments in which they operate. Research in this area could focus on how to create more effective and efficient digital solutions by considering the people who will use them.

These are just a few examples of the many areas that may be ripe for future research in the field of digital transformation. As technology continues to advance and new use cases are discovered, there will be many opportunities for researchers to explore and make new contributions to the field.

References:

Li Feng, (2020), "Leading digital transformation: three emerging approaches for managing the transition", International Journal of Operations & Production Management, © Emerald Publishing Limited,0144-3577.

Anthony, S.D., Trotter, A. and Schwartz, E.I. (2019), "The top 20 business transformations of the last decade", Harvard Business Review, Digital Articles, September 24, 2019, pp. 2-7.

Dubey, R., Gunasekaran, A., Childe, S.J., Blome, C. and Papadopoulos, T. (2019), "Big data and predictive analytics and manufacturing performance: integrating institutional theory, resource based view and big data culture", British Journal of Management, Vol. 30 No. 2, pp. 341-361.

D'aveni, R.A., Dagnino, G.B. and Smith, K.G. (2010), "The age of temporary advantage", Strategic Management Journal, Vol. 31, pp. 1371-1385.

Diamandis, P. and Kotler, S. (2020), the Future Is Faster than You Think, Simon and Schuster, New York, NY.