

DIGITAL

TRANSFORMATION: RECENT TRENDS AND PRACTICES



Dr. Meenakshi Kaushik

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DIGITAL TRANSFORMATION: RECENT TRENDS AND PRACTICES

Dr. Meenakshi Kaushik

Dean – Research,

Trinity Institute of Innovations in Professional Studies (TIIPS, GN),

2B/1, Knowledge Park – III,

Greater Noida, U.P. 201308.

Affiliated to GGSIPU (**Guru Gobind Singh Indraprastha University, Dwarka**).



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Branch Offices :

New Delhi : "Pooja Apartments", 4-B, Murari Lal Street, Ansari Road, Darya Ganj,
New Delhi - 110 002. Phone: 011-23270392, 23278631;
Fax: 011-23256286

Nagpur : Kundanlal Chandak Industrial Estate, Ghat Road, Nagpur - 440 018.
Phone: 0712-2721215, 3296733; Telefax: 0712-2721216

Bengaluru : Plot No. 91-33, 2nd Main Road, Seshadripuram, Behind Nataraja
Theatre, Bengaluru - 560 020. Phone: 080-41138821;
Mobile: 09379847017, 09379847005

Hyderabad : No. 3-4-184, Lingampally, Besides Raghavendra Swamy Matham,
Kachiguda, Hyderabad - 500 027. Phone: 040-27560041, 27550139

Chennai : New No. 48/2, Old No. 28/2, Ground Floor, Sarangapani Street, T.
Nagar, Chennai - 600 017. Mobile: 09380460419

Pune : "Laksha" Apartment, First Floor, No. 527, Mehunpura,
Shaniwarpath (Near Prabhat Theatre), Pune - 411 030.
Phone: 020-24496323, 24496333; Mobile: 09370579333

Lucknow : House No. 731, Shekhupura Colony, Near B.D. Convent School,
Aliganj, Lucknow - 226 022. Phone: 0522-4012353;
Mobile: 09307501549

Ahmedabad : 114, "SHAIL", 1st Floor, Opp. Madhu Sudan House, C.G. Road,
Navrang Pura, Ahmedabad - 380 009. Phone: 079-26560126;
Mobile: 09377088847

Cuttack : Plot No 5F-755/4, Sector - 9, CDA Market Nagar,
Cuttack - 753 012, Odisha. Mobile: 09338746007

Kolkata : 108/4, Beliaghata Main Road, Near ID Hospital, Opp. SBI Bank,
Kolkata - 700 010. Phone: 033-32449649; Mobile: 07439040301

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Dedicated to

*Dedicated to my Late father Shri J.L. Pandey and
my mother Smt. Sushila Pandey
who have always been a big source of inspiration to
me. My mother always encouraged and helped me
perform all my duties skillfully and magnanimously
as a path guider as well as a mentor.*



PREFACE

In the post COVID world, digitization and adoption of digital technology is the buzzword across all industries. Businesses have realized that to remain relevant in the future, digitization of every aspect of business is a must. Digitalization started many years ago but its power was realized and more executed in the pandemic era. Where economy did not plunge but was stable for any nation because digitalization generated employment and many apps online companies, e-commerce taking maximum benefit from it ... thanks to work from home, online yoga, online tutorials and classes for education and well-being did not let the people spirit die in times of utmost depression due to COVID era. Digitalization in business helps to improve the efficiency of its operations, making automation possible with various advantages to digitalization including increased efficiency, increased productivity, lower operational costs, improved customer experience, higher agility, enhanced employee morale, improved communication, increased transparency, improved competitive advantage, and faster decision-making. Digitization increases efficiency and eases ways of doing business.

Digitalizing an organization provides an advantage of doing things faster, better and cheaper. This can offer better profits and value-producing opportunities in the long run. This works out to win-win situation for both, i.e., customers as well as companies. Digitization leads, companies to the boosts their operational efficiencies, and boosts employees', morale, employees' experiences and customer's experiences. Digital Business Transformation (DBT) is a "process of reinventing a business to digitize operations and formulate extended supply chain relationships. The DBT leadership challenge is about reenergizing businesses that may already be successful to capture the full potential of information technology across the total supply chain. Communication, social networking, collaboration, content management, and access to analytics data, as well as staff and customer satisfaction, can all benefit from digital technology. Successful businesses are starting to embrace technology to build digital workplaces that help them promote businesses more effectively, make quicker and smarter decisions and make better decisions in less time. By putting data and analytics at the core of

a digital transformation journey, businesses will be able to capitalize on large datasets. Thanks to the Internet of Things (IoT), industries now have access to more data than ever before.

Digital transformation is of utmost importance and the need of the hour and digital technology speeds up the journey and open to these transformations and its definitely going to make a profound difference in the society. Digital transformation and digital technology like cloud, mobile and big data companies have the big opportunity to capitalize and optimize existing operations to achieve significant business improvements. Technology innovations give real-time data and connectedness enables business organizations to adopt quickly to changes taking place in dynamic market. The growing IoT (Internet of Things) is making all sorts of automatic execution possible. Digital transformation is happening in majority of products and services like airlines, hospitality, healthcare and financial services as this brings efficiency and maintenance of all resources. Many companies are taking steps to develop their own strategies by investing in data gathering and analysis, and systematic to explore and the best innovative ways to use data and information to connect with customers in the best possible manner. One great example of how digital technology is changing the world is the evolution of wearable devices that allows healthcare companies to have a vigil over customers by constantly monitoring how and what exactly they are doing. Digital transformation brings efficiency in healthcare by utilization of expensive equipment, space and clinical staff producing better care and experiences.

Organizations and industries by launching digital apps and remaining in touch with customers through websites and virtually are tracking those customer's likings and preferences. This kind of timely and clearly defined goals and personal connections with customers build trust and bond with the brand. Smart medical devices, like smart connected pacemakers, allow clinicians to track patients anywhere, and suggest appropriate and timely corrective actions. Digital technology brings productivity, efficiency, and decreases rote and repetitive ways. Digital transformation also brought lot of innovations and creativity in the field of plant, health, water and soil.

Any organization's success depends on the potential use of digitization and to offer smarter and faster services to the customers. Digital transformation is majorly affecting all the sectors of industries and economies and opens new networking possibilities and enables cooperation among various sectors. The rise of smart devices and social media platforms led to a sea-change in the methods of customer's communication with businesses, and also the expectations customers had with regards to response times and multichannel availability. Businesses started to see that they were now able to communicate digitally with their customers on an individual basis, and often in real time. Nowadays, there is a focus on mobile devices and on creating value for customers by leveraging the kinds of personalized customer data those mobile technologies can generate on a massive scale.

The intent of writing this book is to delve into the evolution of digitization and adoption of digital technology in business. Digital trends and developments have taken place in various fields. Digital transformation is significant and technology has been used to radically improve the performance of enterprises. Technology has finally progressed to the point where we can take the advantages of all the systems that came before and use them in a cohesive and unified way to create a better customer experience platform delivering revenue and productivity outcomes for customers, our employees and also ourselves. In last many years and specially during and post COVID-19, maximum digital disruption took place and consumers shifted maximum on digital platform for their online shopping. Organizations and industries started responding and interacting with customers through various digital and social media platforms. For many of these changes, respondents say, companies acted 20 to 25 times faster than expected. In case of remote working, companies moved 40 times more quickly than they thought possible before the pandemic. Before then, respondents say it would have taken more than a year to implement the level of remote working that took place during the crisis. In actuality, it took an average of 11 days to implement a workable solution, and nearly all of the companies have stood up workable solutions within a few months.

Digital transformation gave rise to many changes in the organizations and industries as it increased remote working practices and collaborations, increasing customer demand for online purchasing/services, increasing use of advanced technologies in operations, increasing use of advanced technologies in business decision-making, changing customer needs and expectations, increasing migration of assets to cloud, changing ownership of last mile delivery, increase in nearshoring and/or insourcing practices, increased spending on data security and building redundancies into supply chain. Digital transformation changed the customer preferences, needs and expectations by providing them several brands and services, increasing migration of assets to the cloud, changing ownership of last mile delivery within the industry value chain, qualification of additional suppliers to build redundancy in supply chain, increasing use of advanced technologies in operations increasing use of technologies in business decision-making.

The readers of this book will benefit from understanding the evolution of digital technology in business, and how it impacts the current business. The book will also delve into the future of business and how it will evolve in the coming decades with adoption and prevalence of Artificial Intelligence, Machine Learning and Metaverse.

The book has been edited and written by all eminent contributors in a very simple and lucid style so that it can be easily understood by the readers. I shall appreciate receiving comments and suggestions from my readers for the improvement of the book. This edition will be very useful for students ,teachers, university professors, executives and all professionals. Suggestions and comments for improvement of the book are welcome.

Dr. Meenakshi Kaushik

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Dr. Meenakshi Kaushik



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Digital Transformation: Concepts, Trends and Practices

Dr. Meenakshi Kaushik

*Dean, Research,
Trinity Institute of Innovations in
Professional Studies (TIIPS, GN)
2B/1, Knowledge Park – III,
Greater Noida, U.P.201308
Affiliated to GGSIPU (Guru Gobind Singh
Indraprastha University, Dwarka)*

Dr. Arvind Kumar

*Professor and Dean,
Atal Bihari Vajpayee School
of Management and Entrepreneurship
(ABVSM & E), Jawahar Lal Nehru University
(JNU), New Delhi - 110067.*

The emergence of digital transformation has made every aspect of business very simple and easy to connect with people all over the globe due to its unprecedented speed and global accessibility. The fast-paced technology is making its contribution almost in every area and sphere. Digitalization refers to the use of digital technologies to bring forth change in business processes, strategies and business models by providing new avenues and other opportunities. Digital Transformation is the process of rethinking the use of a company's technology, platforms and processes to create new business models and new forms of revenue. Most organizations have a vision, where exactly they want to go in the long and short time period, and the strategy towards achieving that vision. One of the key drivers for achievement of the strategic goal is to seek various opportunities to digitize their organizational processes, strategies, operations and business models according to the demands of the dynamic, changing customer preferences and competitors' strategies. Traditional companies continuously analyze and evaluate present working trends and patterns, operations, processes and business models, and have a proper understanding of competitive landscape, long-term goals and discovery driven planning (DDP) as this always help organizations and industries more ready and prompt to face digital challenges. Organizations need to adopt discovery driven digital transformation approach by applying digital technology in majority of their operations and becoming more customer-oriented. They also need to interact continuously with them and harness their knowledge about the products and services, preferences, digitized operations and adoption of business models.

Amazon and Alibaba have used digital transformation as a vital tool to automate and digitize all parts of their business. This has brought in significant value to the organization. In these companies, the digital footprint is all-pervasive, from customer acquisition to supply chain to digital payment. Nike has launched an app to offer their customers audio-visual training guides and plans. Organizations and industries by launching such digital apps and remaining in touch with customers through websites and virtually are tracking those customer's likings and preferences, and this kind of timely and clearly defined goals and personal connections with customers build trust and bond with the brand. Smart medical devices, like smart-connected pacemakers, allow clinicians to track patients anywhere and suggest appropriate and timely corrective actions. OLA and UBER are also another examples of digital transformations. It has brought many new devices at workforce and then matching and identifying the locations of devices and passengers.

Let's take the example of power generation. Digital technologies are disrupting this once-stable industry. Traditionally, power was generated from a central source and sent to its destination over a centrally managed grid. But new advances have made it possible to dynamically distribute power generated from dispersed small-scale producers tapping multiple energy sources. People with solar panels on their roofs or windmills in their gardens can sell surplus energy back to the grid, making households' cost of investing in power generation hardware more affordable and reducing the public's reliance on huge fossil fuel power plants. If incumbents assume that the old business model will predict future success, they are likely to make big mistakes.

Digital Transformation Evolution

Digital transformation evolution started with Systems of Record (SOR) relying on using internal data to store information that is easily accessed by employees. Examples of a SOR include a CRM for a customer-facing company or an electronic health record (EHR) system for a health care organization creating a record and specialized data used to make future decisions. The next step in the evolution involved systems of engagement. Companies began to realize they needed a system to compile and digest the wealth of information collected from the previous systems. It gave leaders the information and actionable insight to develop digital strategies and switch from being product-focused to delivering service-focused outcomes serving as a catalyst for the next step in the evolution. The final stage of the evolution involves threading systems of productivity and outcomes together. By linking digitization to productivity and outcomes, you can make sure these other systems are working together to create efficiencies of organization teams, customers and the organization.

Discovery Driven Digital Transformation

This approach mainly looks deep into the problem and tries to solve and explore the various causes of the problem and giving rise to innovative solutions with the help of digital technology. A discovery driven approach exploits rich knowledge of customers and tries to understand their preferences, broad operational scope, deep talent pools and a new business model. Digital transformation has made life very easy by saving time and energy and creating new value to the customers. The DDP process translates that challenge into transparent and clear project goals. A key part of discovery driven transformation is identifying organizational problems that can be addressed with digital technology, the desired improvement for each, and a metric for assessing progress towards it. The digital transformation converts a platform into an attractive one as its needs less capital and in determining a vision of where they want to go by continually finding opportunities to digitize problematic processes in their core operations. This helps in determining what metrics to use, which assumptions to revise, where they can introduce new business models, and who their new competitors might be, and their understanding of their competitive landscape, long-term goals they set for themselves.

Digital transformation requires new ways of approaching strategy. Starting big, spending a lot, and assuming you have all the information is likely to produce a full-on attack from corporate antibodies—everything from risk aversion and resentment of your project to simple resistance to change. DDP helps firms confront digital challenges and learn their way toward a new business model. This approach was developed in recent decades with the advance of technology. Digital transformation is driven by changes in customer expectations, and at no time, it is more apparent since 2020, when the COVID-19 pandemic took hold of the world. Businesses needed to adapt to the changing circumstances. Retailers such as Walmart, Target, etc. switched to curb side delivery, with apps and automated messages letting people know when to pick up their products — a completely digital means of what would once have been someone knocking on a customer's door. Digital transformation is about the combination of business and technology in order to make customers' lives easier – whether that is using apps, software, new devices, etc. That depends on the services or products offered by the business, but adapting to new ways of doing things has already become crucial in the current market.

Let's take the example of case of the German metal's distributor Klöckner. Its CEO, Gisbert Rühl, wanted to build a digital platform for the entire industry. His goal was to build digital competencies gradually, while benefiting from the knowledge and insight of people working in the firm's core steel business. For the first two years, Rühl focused on digitizing inefficient manual processes. The

firm created an online shop, a contract portal, order transparency tools, and a parts-manager app. Klockner's story reveals another advantage that incumbent firms have, at least in the early stages of an industry's adoption of digital models. They are led by people who already know their customers and can mine rich databases of prior transactions for insights. Start-ups are often led by technical experts and tend to be driven by new technical functionality rather than by the full portfolio of what customers are looking for. Klöckner insisted that every project focus on how to help customers communicate more easily and efficiently with the company.

Digital technologies enable embracing new ways of working. Digital transformation enables great advantage to companies in terms of paying customers, financial resources, customer and market data and the larger talent pools. Agility, innovation and digital thinking are the significant parts of digital transformation addressing all complex organizational challenges. Convenience of shopping at home, making available a wide variety of products ranges, with good discounts, lower prices, detailed information about products with other amenities are now available on various online shopping platforms. Back in 2010, Amazon launched its price comparison app, that allowed customers to check out products in a physical store, but the condition was to buy the same product online at some discount. This was called "Showrooming."

Pandemic COVID and Digital Transformation

After pandemic COVID-19, organizations and industries shifted from physical platform to digital platforms to fulfil their requirements. Now, contactless and remote customer relationships is the new normal. Digital transformation is the incorporation of technologies into organization's products, processes and strategies. Organizations and industries have understood the significance of digitalization very well and taken an initiative to undertake digital transformation to better engage and serve their people and to serve the customers' needs to achieve competitive advantage. The digital transformation has completely changed the mindset of people and organizations. The digital transformation topic is of utmost importance and received a growing attention. Research scholars have come up with a wide range of topics related to digital transformation. Digital transformation refers to the phenomena to rethink, re-imagine and reinvent all facets of an organization starting from employee skill-sets, customer interactions and value proposition to supply chains, workflows and stakeholders. Globalization have put forth several kinds of changes and challenges before business not only to stay alive, but also to thrive in competitive age. Business needs to integrate through digital processes and collaborative tools (White, 2012). The importance of digital transformation has increased in past two

decades affecting majority of the segments of business. Successful digital transformation in business world can be achieved by consistently exploring and exploiting the dynamic market, customer changing needs and demands.

Digital Transformation Defined

Digital transformation is the combined effects of several digital innovations bringing about novel actors (and actor constellations), structures, practices, values, and beliefs that change, threaten, replace, or complement existing rules of the game within organizations, ecosystems, industries, or fields (Hinings *et al.* 2018, p. 53).

Liu *et al.* (2011, p. 1728) defined digital transformation is an organizational transformation that integrates digital technologies and business processes in a digital economy.

According to Martin (2008, p. 130), Digital transformation is the use of information and communication technology, not when trivial automation is performed, but in the case where fundamentally new capabilities are created in business, public government, and in the lives of people and society.

Bondar *et al.* (2017, p. 33) states ‘Digital transformation is a consistent networking of all economic sectors and an adaption of actors to new circumstances of the digital economy’.

According to Fitzgerald *et al.* (2014, p. 2), Digital transformation is the use of new digital technologies such as social media, mobile technology, analytics, or embedded devices to enable major business improvements including enhanced customer experiences, streamlined operations, or new business models.

According to Westerman *et al.* (2011, p. 5), Digital transformation is the use of technology to radically improve the performance or reach of enterprises. According to Solis *et al.* (2014, p. 3), Digital transformation is the realignment of, or new investment in, technology and business models to more effectively engage digital customers at every touch point in the customer experience lifecycle.

Digital disruption and disruptive changes are an integral part of digital transformation. These disruptions and changes not only affect companies but also impact environmental factors, create high level of uncertainties and put a pressure over business organizations to adapt themselves as per these changes and challenges in the market. Efficient integration can only be achieved through digital processes and collaborative tools (White, 2012). With this being the case, the importance of digital transformation (DT) has increased. Research emphasizes that DT should be included into the existing business perspectives, as this topic addresses much more than just technological shifts (Bouncken *et al.*,

2021), and affects many or all segments of business. Successful business transformation is achieved by simultaneously exploiting and exploring what it offers to achieve organizational agility (Hess *et al.*, 2016). Implement e-banking to gain competitive advantages over their competitors. Innovative agile businesses introduce transformation requirements into their strategies to maintain their positions in competitive markets. By doing this, they respond to new opportunities and work to become resilient against risk (Bondar *et al.*, 2017). This implementation emphasizes the importance of DT for staying competitive in a digital economy (Liu *et al.*, 2011).

Digital technologies not only impacts the transformation of products, business processes, or sales, but entire business models as well (Hess *et al.*, 2016).

Hess *et al.* (2016) develop the digital transformation framework (DTF) that identified four key dimensions for a company-wide DT strategy formulation: the use of technologies, changes in value creation, structural changes, and how to finance DT.

Parviainen *et al.* (2017) provided a similar approach by suggesting four necessary steps to benefit from DT. First, a company needs to analyze recent trends to decide which position to take toward the change impact of digitalization. Second, the current state in regard to the desired positioning and digitalization impact is also reviewed. As a third step, the authors propose defining concrete actions to close the gap between the current state and desired position of the organization. The fourth step seeks to implement and validate the actions with technical support.

In present scenario, when there is cut-throat competition, organizations need an online presence to reach out to the customers. Companies form their own website and they reach out to the customers globally through various social media platforms. In a digital age, businesses need to reconfigure the customer value proposition and what they offer customers (Berman, 2012). Berman (2012) suggested rethinking what customers value most to recognize new possibilities in an effort to set the own company apart from the competition. Thus, digital transformation is to innovate and integrate technologies into business processes to re-shape their business models. Reputed companies always take part in customer interaction to make customer value proposition.

By being constantly connected online, digital transformation journey has made available a wide range of new choices and the tremendous influence of social networks that serve as independent buying and information advice. Digital transformations yield ongoing business benefits and enable organizations to respond to customer needs. Digital transformation also enables an organization to be more proactive towards market, environment, and competitors' strategies and

also builds the infrastructure and skills required for taking advantage of fast-evolving technologies that could confer a competitive advantage. A digital transformation strategy assists organizations and industries to survive and thrive in present and future. Digital technology is an integral part of digital transformation and is the main key economic driver. The process of digitization in society including companies started in the late 20th century and underwent rapid acceleration in the first two decades of the 21st century, spurring a growing need for digital transformation across industries. Many of the organizations and industries have realized this fact very well that if they will not accommodate themselves as per the changes and challenges in the dynamic market and booming technology and adapt to the changing market forces driven by digitization, then they will have to face extinction in upcoming years. Even if they would survive, but they will only incur losses.

The power of digital technologies and digital disruption is very evident through the example of the transition of Amazon from online book-seller to an electronic commerce (e-commerce). These have multistore portals reaching to targeted audience with multiple storefronts that improve marketing ROI and google ranking. Digital technology also helps manage custom deals, inventory and shipping from a common dashboard. The most comprehensive features of digitalization are to assist and cater to the needs of diverse needs of business and customers by managing multiple websites efficiently and effectively using a single dashboard. Digital transformation and digital technology also help in creating multiple domains for your storefronts to ensure better marketing, better SEO and SERP, and different URL. Digitalization helps, to set up exclusive languages and currency for each store and many other facilities based on the requirements and preferences of the target audience and country-wise. For example, you can have two different storefronts for India and US having INR and USD as default currency respectively. Digitalization helps these e-commerce businesses through different Payment Gateways by offering multi-store shopping cart based on geographical location of customers along with a seamless shopping experience to the customers, multi-seller marketplaces, B2B or B2C business bringing higher traffic and conversions.

Technology means the ability to rapidly collect, generate, analyze and transmit data, and is the main key driver of digital transformation. Artificial intelligence (AI), cloud computing, mobile technologies, social media platforms and next-generation technologies, such as the internet of things (IoT), edge computing and robotic process automation (RPA), have dramatically changed the way how quickly we get information. Few digital leaders like Amazon, Airbnb, Uber and many MNCs tried to understand the customers choices and based on that they respond quickly, as well as to provide products and services tailored to

their needs. Nespresso, Netflix, Capital One, Financial Corp, Domino's Pizza – all are examples of digital transformation journey. The 60-year-old pizza company successfully transformed itself for the digital age, launching innovative tech-driven services, such as its Pizza Tracker and mobile technologies that helped fuel significant growth in the past decade.

Goals of Digital Transformation

1. Digital transformation enables an organization, community and society as a whole and better serves the customers, employees, partners and shareholders.
2. The integration of digital technologies in business, products, services, processes and strategies help increase companies' productivity, major market share, employee productivity and increase responsiveness towards customers' needs and wants.
3. It tries to gain more insight into individual customers to better anticipate and personalize products and services and improve customer service. Digital transformation helps opening up new market opportunities, enabling innovation and increasing operational efficiency.
4. Organizations have understood well the significance of digital transformation that enables organizations to succeed in this digital age leading to survival and strength in the future. The implementation of technologies such as Artificial Engineering and RPA boost worker productivity, reduce errors and speed time to market – meanwhile, revamped business processes enabled by digital technologies further increase productivity and the pace of business improved engagement with customers, employees and business partners.
5. Organizations are able to better process data to make smarter, more accurate decisions and anticipate the needs of their different stakeholders. Organizations are becoming more agile and responsive to changing markets with enhanced ability to innovate and digitalization. These benefits help fuel ongoing transformation, as automation enables employees to shift to more innovative and higher-value work and more agility enables the organization to better identify opportunities and pivot resources toward seizing upon them.

Digital transformation has its own set of challenges. A 2020 Gartner report found that, while 91% of organizations are engaged in some form of digital transformation and 87% of senior business leaders say digitalization is a priority, “Only 40% of organizations have brought digital initiatives to scale Everest in their digital transformation initiatives; the research firm cited unsustainable

returns, limited user adoption and abandoned projects among the top reasons for failure. One of the biggest digital transformation challenges for companies that were not “born digital and with older technologies not supporting digital initiatives, but can’t easily be replaced. The necessary executive- and board-level support for investing in a technology is necessary for them. Creating and building a digital transformation culture is considered as the single most important task for organizations engaged in transformational change. Leaders need to create a culture where continual improvements happen and where stakeholders are open to ongoing changes and challenges. Organizations, however, need to build a corporate culture capable of supporting transformation.” A recent Dell Technologies report found that, while digital transformation has become “an imperative for all organizations,” only 48% of enterprises were sharing knowledge across business functions, and only 49% were investing in digital skills and digital talent. It also found that few have adopted Agile practices, with a mere 17% hosting hackathons and just 29% encouraging a fail-fast-then-succeed mindset.

Last two decades have seen and realized an unprecedented growth in information and communication technologies (ICTs). The digital transformation revolution is remarkable, outstanding and extraordinary. It took at least a century for printing press to touch 50 million individuals, thirteen years for television. But when it comes to world wide web, it took only four years to make the million marks. Digital transformation age has created lot of transparency in governmental policies and actions, faster internet facility, network of networks, universal access to information for all, formation of new international communities, availability of life and health enhancing information and insights to common people all over the globe and thus digital transformation has helped nearabout all trades, industries and professions increase and expand their business and communities and transparency in the systems. Digital technology is not only the digitalization of communications but includes entire plethora of new processes and instruments. The micro-electronic revolution, modern satellite technology, and fibre optic cables have played a very significant role in all these leading to emergence of wide range of products like mobiles, e-books, pagers, players, notebooks, recorders, etc. Digital technology allows the introduction of many innovative transmission techniques. Printing industries are increasingly adopting digital technology to compliment or replace analogue ones. Digital technology not only helps in creating high paying job but also puts a pressure on organizations to re-think, restructure, re-build systems processes and strategies, focussing more on employee re-skilling and multi-skilling. It has also brought revolution in education industry by increasing speed, efficiency, effectiveness and quality of learning manifold. It has also influenced our

communication with the rest of the world by providing instantaneous access to the whole world.

Digital transformation helps in disseminating information to anyone, and they can access and use those data and information for their various purposes like entrepreneurs to commercial activity, scientific and technological discovery helps scientist and others to adopt new innovative tools, techniques and practical applications. Information about government policies enables individuals and communities to fully exercise their rights and take advantage of public programmes. So, data and information as a source from digitalization related to all fields, administration, commerce, education, finance, health, tourism and technology is used in shaping our dreams, making some fruitful decisions regarding various organizational issues. Discovery driven planning Digital transformation also helps in generating home-based employment opportunities, especially for women. Thus, digital transformation and discovery driven planning (DDP) is an incremental experimental approach, focusing on rethinking and re-inventing the way an organization sells and delivers products as well as create and deliver new value through new digital capabilities leading organizational transformation. Thus, technology is an opportunity for the business rather than frame the business as an opportunity for the technology.”

In conclusion, Digitization is not a fad now...it is now essential for business survival and growth. While digitization has its own challenges, the benefit of digitization far outweighs the challenges that a business may face. Without effective digitization, no business can survive let alone thrive in the future. Digitization needs to be part of the organization fabric from leading commitment to adoption of digital tools in every activities of business is must. Digitization which includes automation, artificial intelligence and machine learning is the future and companies which are early adopter of technology will reap the benefit of this in the future. Failure to digitization will stunt the growth of any company and will lead to eventual decay.

References

- Benbasat, I., D.K. Goldstein and M. Mead (1987), The Case Research Strategy in Studies of Information Systems, *MIS Quarterly*, 11(3), 369-386.
- Bendor-Samuel, P. (2017), The Power of Digital Transformation in a Data-driven World. Retrieved October 14, 2017, from <https://www.forbes.com/sites/peterbendorsamuel/2017/07/21/the-power-of-digital-transformation-in-a-data-driven-world/HYPERLINK> " [#4e1837393f2c](https://www.forbes.com/sites/peterbendorsamuel/2017/07/21/the-power-of-digital-transformation-in-a-data-driven-world/#4e1837393f2c) " [https:// www.forbes.com/sites/peterbendorsamuel/2017/07/21/the-power-of-digital-transformation-in-a-data-driven-world/#4e1837393f2c](https://www.forbes.com/sites/peterbendorsamuel/2017/07/21/the-power-of-digital-transformation-in-a-data-driven-world/#4e1837393f2c) .:

- Bharadwaj, A. (2000), A Resource-based Perspective on Information Technology Capability and Firm Performance: An Empirical Investigation. *MIS Quarterly*, 24(1), 169-196.
- Collin, J., Hiekkanen, K., Korhonen, J., Halén, M., Itälä, T. and Helenius, M. (2015), IT Leadership in Transition – The Impact of Digitalization on Finnish Organizations.
- Chen, Y., Jaw, Y. and Wu, B. (2016), Effect of Digital Transformation on Organizational Performance of SMEs: Evidence from the Taiwanese Textile Industry’s Web Portal, *Internet Res.*, 26(1), 186-212.
- Digital Transformation (2015), Vol. 14, MIT Sloan Management Review and Deloitte University Press.
- Gimpel, H. and Röglinger, M. (2015), Digital Transformation: Changes and Chances – Insights Based on an Empirical Study.
- HBR, “On Leading Digital Transformation”.
- Hess, T., Matt, C., Benlian, A. and Wiesböck, F., Options for Formulating a Digital Transformation Strategy, *MIS Quarterly Executive*.
- Horlacher, A. and Hess, T. (2016), What Does a Chief Digital Officer Do? Managerial Tasks and Roles of a New C-level Position in the Context of Digital Transformation, In: System Sciences 49th Hawaii International Conference, pp. 5126–5135.
- Kane, G., Palmer, D., Phillips, A., Kiron, D. and Buckley, N., Strategy, Not Technology, Drives Digital Transformation, Vol. 14.
- Lee, M., Lee, Y. and Chou, C. (2017), Essential Implications of the Digital Transformation in Industry 4.0, *J. Sci. Ind. Res.*, 76, 465-467.
- Martin, A. (2008), Digital Literacy and the “Digital Society”, *Digital Literacies – Concepts, Policies and Practices*, 30, 151-176.
- Kokkinakos, P., Markaki, O., Koussouris, S. and Psarras, J. (2016), Digital Transformation: Is Public Sector Following the Enterprise 2.0 Paradigm? In: *Digital Transformation and Global Society*, pp. 96-105, Springer International Publishing, Cham.
- Roadmap for Billion-Dollar Organizations, pp. 1-68, MIT Sloan Management, MIT Center for Digital Business and Capgemini Consulting (2011).
- Schmidt, R., Möhring, M., Härting, R., Reichstein, C., Zimmermann, A. and Luceri, S. (2015), Benefits of Enterprise Architecture Management – Insights from European Experts, In: *IFIP Working*

Conference on The Practice of Enterprise Modeling, pp. 223-236. Springer, Cham.

- Sebastian, I., Ross, J., Beath, C., Mocker, M., Moloney, K. and Fonstad, N. (2017), How Big Old Companies Navigate Digital Transformation and *MIS Quarterly Executive*.
- Solis, B., Lieb, R. and Szymanski, J. (2014). The 2014 State of Digital Transformation, Altimeter Group.
- Westerman, G., C. Calm ejane, D. Bonnet, P. Ferraris and A. McAfee (2011), Digital Transformation: A Roadmap for Billion-dollar Organizations, MIT Center for Digital Business and Capgemini Consulting, 1-68.
- Richert, A., Shehadeh, M., Willicks, F. and Jeschke, S. (2016), Digital Transformation of Engineering Education, *Int. J. Eng. Pedagogy*, 6(4), 23-29.
- Kaivo-oja, J., Roth, S. and Westerlund, L. (2017), Futures of Robotics: Human Work in Digital Transformation, *Int. J. Technol. Manage.*, 73(4), 176-205.
- Kohli, R. and Johnson, S. (2011), Digital Transformation in Latecomer Industries: CIO and CEO Leadership Lessons from Encana Oil and Gas (USA) Inc., *MIS Quarterly Executive*, 10(4), 141-157.
- Abrahamson, E. (1996), Management Fashion, *Acad. Manag. Rev.*, 21(1), 254-285.