



RESEARCH ARTICLE

TECHNOLOGICAL ADVANCEMENT- A WAY TO DIGITAL TRANSFORMATION OF BUSINESS

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Abstract

Technology has been a driving force behind the rapid advancement of digital transformation. Technology had played a crucial role in shaping the digital landscape, from communicating and collaborating to conducting business and managing data. Digital transformation is the process of adopting next generation technologies, bringing cultural changes to improve the current state of an organization. New technologies lead to process improvements which leads to better products and services. Even though technology has evolved, improved and helped business in different way, it had certain challenges in the way of its effective implementation. This paper discusses both the opportunities and challenges in technology adoption.

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Introduction:-

Technology is an enabler of the overall transformational journey. It helps the company to increase the effectiveness and efficiency of processes along the value chain. Incorporating the digitalization of assets and increased use of existing technology in a meaningful way, can improve the experience of organizations, customers, employees, suppliers and partners.

Companies that continuously adapt their technology, processes and people's mindsets to new market conditions, at very short notice, are generally the leaders in their fields. They start with developing the right strategy, and then carry this through the operational divisions in alignment with competitive technology enablement

In the relentless race for innovation and sustainable growth, organizations have always looked to technology to be the catalyst for driving business results. Whether the objective was focused on getting data as the single source of truth to determine analytics capabilities for decision making, reducing costs through process optimization, or driving business continuity for economic survival in a competitive environment, technology has fueled value creation through business transformation.

A business transformation is all about making fundamental changes to operations and models, creating digital business models to realize significant gains in value. It is about aligning decision-making, operations and data to anticipate and respond to disruptions, changing customer needs and new market opportunities. Business transformation tools in a digital era include a clear digital transformation strategy, hybrid cloud architecture, deep analytics and a suite of advanced technologies: artificial intelligence (AI), blockchain, automation, edge computing and the Internet of Things (IoT).

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Rapidly evolving technology makes it challenging for businesses to determine where to start and what role that technology should play in their growth strategy. In the race to innovate and drive sustainable growth, organizations must focus on leveraging technology within the context of industry, domain and role.

They must shift from deploying technology for technology's sake, but rather make technology part of their overall business strategy. Businesses must structure their IT to move from a focus on cost cutting to a strategy around growth and value creation. In this new world, companies will come to rely not only on their IT departments, but on a new breed of strategic ecosystem technology partners to help them navigate new imperatives. These strategic partners can support the synthesis of strategy enabled by analytics, data, complex technology integration and business-transformation capabilities to drive industry-transforming human experiences.

Digital Transformation & Its Importance

Digital transformation refers to integrating digital technology into all facets of a business, which profoundly impacts how those firms function and provide value to their clients. It involves employing digital technologies to significantly alter how a company functions and provides value to its consumers. It is a journey that requires a change in organizational culture, business models, and processes.

Digital transformation is becoming increasingly crucial for businesses of all sizes and industries. Rapid technological advances have led to a shift in customer expectations and business practices.

1. **Competitive Advantage:** Companies that embrace digital transformation are better equipped to compete in the digital economy. They can offer new and improved products and services and can reach new markets and customers.
2. **Innovation:** Digital transformation can open up new opportunities for innovation, such as developing new products and services or creating new business models.
3. **Compliance:** Many industries have regulations requiring organizations to meet certain data security and privacy standards. Digital transformation can help businesses meet these requirements more efficiently.

In short, digital transformation can help businesses stay competitive, innovate, and stay compliant. Businesses that do not embrace digital transformation risk falling behind their competitors and losing market share.

Top Technologies that are Driving Digital Transformation

An organization's digital transformation is achieved by integrating digital technologies into all facets of its operations and delivering value to customers.

The following are some of the top technologies driving digital transformation:

1. **Cloud computing:** Cloud computing allows for storing and processing large amounts of data, making it easier for businesses to access and analyse their data. This enables companies to make data-driven decisions and improve efficiency.
2. **Artificial Intelligence (AI) and Machine Learning (ML):** AI and ML allow businesses to automate tasks and make more accurate predictions. This can lead to improved customer service, more efficient operations, and new product development.
3. **Internet of Things (IoT):** IoT devices and sensors can be used to collect and analyse data from various sources, such as manufacturing equipment and vehicles. This allows for real-time monitoring and predictive maintenance, improving efficiency and reducing costs.
4. **Blockchain:** Blockchain technology offers a secure and transparent way to store and transfer data, making it useful for various industries, including finance, supply chain management, and healthcare.
5. **5G:** 5G networks provide faster and more reliable internet connectivity, enabling new technologies such as AR/VR, autonomous vehicles, and smart cities.
6. **Robotic Process Automation (RPA):** RPA technology allows businesses to automate repetitive tasks, such as data entry and customer service. This can help in cost savings and improved efficiency.

In addition, the advancements in big data analytics and Blockchain technology have also played a key role in digital transformation. These technologies have made it possible to process and analyse large amounts of data to gain insights, improve decision-making, and increase security.

However, these technologies are just a few examples of how digital transformation impacts businesses today. Adopting these technologies can help companies stay competitive and deliver value to customers in new and innovative ways.

Technological Impact in Driving Digital Transformation

Technology has played a significant role in driving digital transformation in various industries. Technological advancements have enabled organizations to automate processes, improve communication and collaboration, and gain insights from data, leading to increased efficiency, productivity, and competitiveness.

The following are some of the key ways that technology is impacting digital transformation:

1. **Improved efficiency:** Technologies such as robotic process automation (RPA) and artificial intelligence (AI) allow businesses to automate repetitive tasks and improve efficiency. This can result in cost savings and improved productivity.
2. **Data-driven decision making:** The **internet of things (IoT)** and big data analytics enable businesses to collect and analyse data from various sources. This allows for real-time monitoring and predictive maintenance, improving efficiency and reducing costs. Furthermore, it will enable companies to make data-driven decisions, which can lead to better outcomes.
3. **Increased flexibility:** **Cloud computing** and mobile technology allow employees to access data and applications from anywhere, enabling more flexible work arrangements and allowing companies to be more responsive to changing market conditions.
4. **Enhanced security:** As businesses become more digitized, cybersecurity is becoming increasingly important. Technologies such as Blockchain and encryption can help protect sensitive data and prevent cyberattacks.
5. **Improved customer experience:** Technologies such as chatbots, AI-driven customer service, and personalization can enhance customer engagement and experience.
6. **New business opportunities:** Advancements in technologies such as 3D printing, virtual reality, and machine learning open new opportunities for businesses to create new products and services.

Review Of Literature:-

- 1) Varun Grover et al (2008) in his research Business Process Transformation have introduced about many technical aspects such as reengineering, conversion to old process to new process using of many IT tools into business, success and failure in a business is clearly mentioned.
- 2) Larry Bonfante (2011) in his study "Lessons in IT Transformation: Technology expect to Business Leader for the successful and sustained running of a business on influence of an efficient captain or leader matters. In case of business we may classify them as Chief Information Officer (CIO)s, they are typically evangelist, an innovator, a revenue producer, a consumer expert and an executive relationship manager. He says not everyone is inborn as a leader, they themselves through their experience get molded as a leader, who has grown up through the ranks of technology organizations. This study focus on the traits and talents that you must be able to incorporate into your portfolio to be a successful businessman.
- 3) Mohan Nair (2011) in this book Strategic Business Transformation: The 7 deadly sins to overcome mentioned the seven ingredients of the promise which have to be well accompanied while transforming a business. He says combinations of efficient talents, the technologies and the other variables in your organization into the right one can make the difference.
- 4) Kevin Easterwood, Jerry Power and Allison Cerra (2012) carried out research on Transforming Business: Big Data, Mobility and Globalization which explores the influence of technology on workplace and how it transforms the traditional organization roles into the technology driven environment and how technology can become meaningful magnet to the changing scenario, how long it is capable of generating sustainable advantage for the companies in a competitive market.
- 5) Lisa K Gundry et al (2014) conducted research on "Women-owned family business in transitional economics. Key influences on firm innovativeness and sustainability, study focuses on Russian female entrepreneurs heading family firms where women are completely out from the traditional myth of risk aversion and it is clear that firms sustainability is impacted by the risk taking attitudes and the entrepreneurial intensity of their women leaders moreover they suggest bold decision making, risk taking competitiveness and innovative skill is crucial for long term survival and growth of the enterprise led by women entrepreneurs.
- 6) Aiman Zeid (2014) in his book Business Transformation: A roadmap for Maximizing Organizational insights notes that every company effectively introduces and promote analytics within their enterprise to set strategies

and accomplish business objectives. He had suggested multiple methods of information processing for the smooth functioning of firm.

Research Methodology:-

This paper is conceptual and descriptive, The secondary data was collected from different articles, journals, scholars, blogs, websites.

Objectives:-

1. To analyse how technology helped entrepreneurs in different ways?
2. To examine why technology holds the key to business success?
3. To ascertain the challenges faced by entrepreneurs in technology adoption.

Analysis

1)How Technology Helped Entrepreneurs In Different Ways?

Evidence of technology's potential to help resolve our job concerns can be found in online talent platforms. Digital platforms already have transformed many parts of the economy. The online marketplaces built by Amazon and Alibaba, for example, have reshaped the retail landscape, partly by changing the local nature of retail markets.

Online talent platforms apply a similar approach to the world of work – with a similar impact. By creating regional, national, and even global job markets, they allow employers to tap into broader talent pools and connect job seekers with a wider universe of opportunities. In this way, they have transformed the typical job search, and are now approaching the critical mass needed to move employment numbers.

Digital platforms make markets more transparent and efficient, which is exactly the kind of disruption that today's labour markets need. In many countries, 30-45% of the working-age population is unemployed, inactive, or working only part-time. Meanwhile, companies are complaining that they cannot fill open positions in sectors ranging from technology to health care. And those who are employed are often stuck in roles that do not take full advantage of their skills. These issues represent a staggering waste of human and economic potential.

Online talent platforms can boost labour-market efficiency by aggregating data on candidates and job openings in a broader geographic area, thereby illuminating for workers which positions are open today, as well as the actions they can take to gain more fulfilling work. Moreover, by facilitating faster matches, online talent platforms shorten the duration of unemployment, while the creation of flexible part-time opportunities can draw more inactive workers into the labour force and help part-time workers add hours. At the same time, by connecting the right person with the right role, such platforms can boost productivity.

In short, while online talent platforms cannot boost weak demand in advanced economies, solve complex development issues in the emerging world, or create better jobs across the board, they can have a major impact on seemingly intractable issues like unemployment, underemployment, and low job satisfaction. Much of the impact of online talent platforms stems from the use of technology to bridge information asymmetries that impair labour-market performance. In the past, these gaps were only partly bridged by signals carrying useful information. But online talent platforms aggregate much larger amounts of information efficiently, increasing the "signal density."

With expanded data, companies can use predictive analytics to identify the best candidate for a given role. Job seekers can augment their educational credentials and employment histories with samples of their work and endorsements from co-workers and customers, thereby conveying their potential value to employers more effectively. With global smartphone subscriptions set to reach eight billion by 2025, online talent platforms have enormous room to expand into new regions and sectors. As these technologies continue to evolve, they may change the world of work in ways we cannot even imagine today. It seems that there is room in the labour market for a little optimism, after all.

2)Why Technology Hold the Key To Business Success?

The first point to note is that there are many different types of competitive advantages. They are not merely limited to a few processes that you may execute better than a competitor. It could be operational excellence or product leadership, for example. Or your offering may deliver superior customer personalization. Regardless of your specific

competitive advantage, it's crucial to note that most are unsustainable. That is, they will only last for a period of time. For instance, a first-to-market product only holds an inherent advantage until a competitor either creates something extraordinarily similar or the patent runs out. Technology is helping reframe the business landscape. It's no longer a case of technology being an esoteric phenomenon that stands apart from specific companies and industries. Rather, every company should now be looking to become a tech company.

As the distinction between those who make technology and those who utilize it vanishes, it will be the companies that use technology for a sustainable competitive advantage that will leave rivals trailing in their wake. With the onset of the internet of things (IoT) and big data gathering powered by cloud technology, early adopters will gain an advantage that could be developed into a sustainable edge over the competition.

User experience (UX) is an increasingly crucial factor for customers interacting with your product or service. That is to say, there's an emerging shift in behaviour from how well a product or service performs to how a product or service makes someone feel. Thus, the UX and design of your product or service have never taken on such prominent roles given the current capability of technological solutions, you can use online tracking and analytics tools to monitor customer behaviour and understand UX preferences, and then subsequently tailor your offering to better match those needs. Designing your offering based on this information could help you develop a sustainable competitive advantage.

Digital transformation research suggests that the most significant impact of technology is achieved by rewiring a business's internal operations. For instance, technology can automate all the back-office functions to make workflows better, faster and cheaper. Today, the company collects data from its customers and can easily engage, update and follow up with order updates and specials. Company technicians are also able to enter customer details and order requests while working off-site. Lastly, the management team can see reports from multiple locations and make smart organizational decisions. The company now benefits from more return customers and improved time management and cash flow.

Using advanced data analytics technology to track user journeys, better understand your clients' needs and optimize your marketing efforts can help you build a sustainable competitive advantage over rivals left effectively stabbing in the dark. These changes in consumer behaviour and digital workflows, combined with new hybrid work environments, have altered the way SMBs (Small and Midsize Business) equip their employees as well as how they advertise, market, and deliver products and services.

Mobile networks, devices, and tools make these new business models possible, providing the connectivity, applications, analytics, personalization, and security required for a wide variety of use cases. The following are a few examples of how the use of digital tools and mobile technology can create new opportunities and efficiencies for your business.

1. **Online ordering** became a vital feature for even the smallest of businesses, during the pandemic. It's inexpensive, flexible, and immediate. One jewellery chain that had to close its 16 stores shifted to online sales and saw 300% revenue growth between 2019 and 2020.⁸ In 2020, online shopping grew by 3.5% over 2019 to \$5.6 trillion and is credited by some with preventing a catastrophic year in retail.⁹
2. **IoT (Internet of Things) sensors** monitor the status of your equipment and property from one central system to ensure that operations run smoothly, and people and assets are well protected. Sensors can help deliver substantial time and cost savings by managing a wide variety of remote monitoring needs while reducing human error. From refrigeration monitoring to push button alert systems, sensors can be your eyes, ears, and even hands in all kinds of helpful places.
3. **Collaborative technology** makes work more efficient with seamless connectivity that ensures your people can work together from multiple locations. Not to mention that most employees now expect their favourite apps to be available for them to use on the job. Especially now that conferencing and messaging are the norm for everyday work situations in today's mobile work environments.
4. **Fixed wireless technology** allows people that work at home or from another stationary remote job location, to remain seamlessly, and securely connected. Enabled easily via router, it can be easily set up so employees can start sending and receiving large data files immediately. And if they work from home, installing a fixed wireless option for business needs means they won't have to compete for bandwidth with others in the house.
5. **Buy online, pickup in store (BOPIS)** got a big boost from the pandemic, as millions of consumers either couldn't or didn't want to enter stores or restaurants for fear of catching the virus. Instead, consumers are buying

online and picking up either at the curb of the store or restaurant, from a designated locker, or from a customer service station. As we begin to move back to normal, customers want to continue using these types of options. To manage customer expectations, retailers and other SMBs would be wise to consider creating a strategy for BOPIS, including an online ordering platform long term, sourcing and moving the products to the pickup spot's customers prefer.

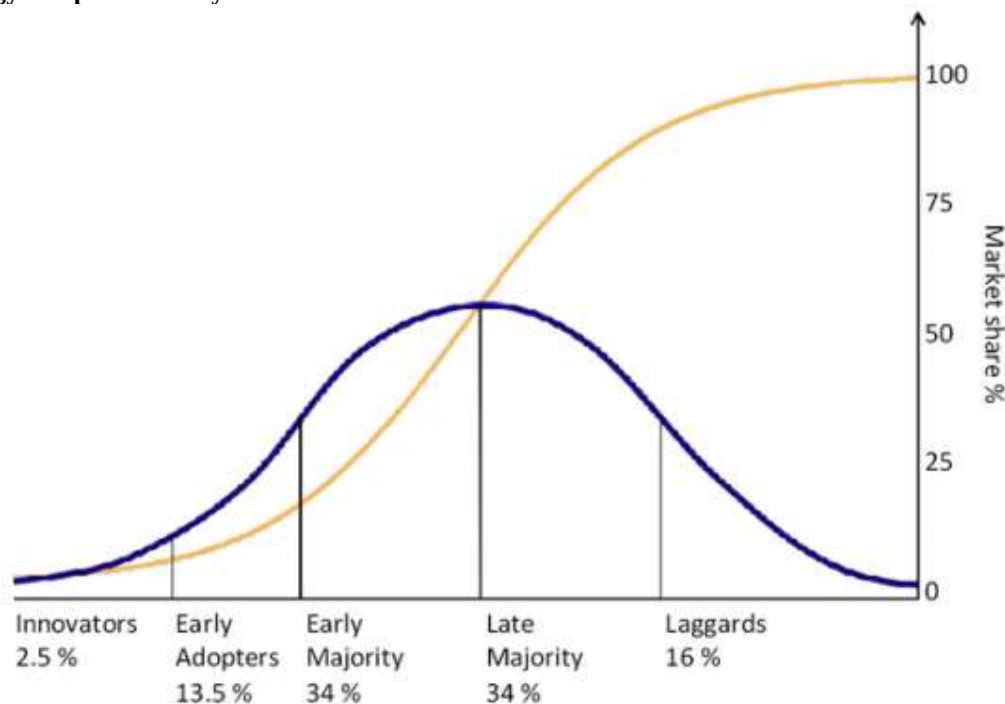
6. **Home food delivery** via online ordering has become a standard option across the world—and it started long before the pandemic. From 2015 to 2020, market revenue in the platform-to-customer, home delivery food services market increased 204% percent.
7. **Personalization through use of analytics** has now become automated. Machine learning algorithms process historical data from in-person and online interactions, transactions, polls, and other relevant databases to understand customer sentiment, guide recommendation engines, perform market basket analysis, and enable marketing relationship personalization.
8. **Artificial intelligence (AI)** was already top of mind for U.S. retailers, before the pandemic, to improve business operations and customer engagement. Businesses invested \$3.4 billion in AI for applications like automated customer service bots, product recommendation engines, and expert shopping advisor systems.¹³ However, small businesses have not been at the forefront of AI implementation, with only 14% using it in 2018.¹⁴ But now the tools and infrastructure are widely available, affordable, and proven. One study expects that the compound annual growth rate (CAGR) of the AI market for SMBs globally will average 44% through 2023, a huge increase.¹
9. **Mobile Hotspots** are a must for mobile workers who don't have a stationary work area. They provide reliable internet connectivity on the go from a job site or almost anywhere work needs to happen.

3) Challenges In Technology Adoption

In a recent study 45% of SMB's said they are ready to start planning for a digital future and 28% said they are already working on it, But nearly half mentioned the steep learning curve is a barrier to adoption. In addition there is a wide disparity among study participants about what technology innovation really means.

The acceptance and integration of new technologies into already-existing systems or the development of brand-new ones are referred to as technology adoption in business. It involves utilizing technology to the fullest extent possible while making adjustments to meet changing consumer needs.

Technology Adoption Life Cycle



The progression of customer behaviour as it adopts new technology is known as the technology adoption life cycle (or technology adoption curve). It describes the process a product goes through as it spans its life cycle and how consumers adapt to new technologies. This concept is crucial because it enables businesses to monitor and forecast how society will adopt new technologies. It can be used as a tool to predict future sales and inventory requirements. Innovations, early adopters, early majority, late majority and laggards are the five stages of technological adoption.

Businesses are integrating new technologies into their workflows to stay competitive. However, this does not mean that everything goes smoothly. Businesses frequently face obstacles. Here are some of the common challenges.

1. Sufficient skill sets

Many businesses lack the expertise needed to use the technology they're implementing. Especially when you don't have access to in-house IT specialists with the necessary skills, the condition gets even worse. To overcome this, you can hire an in-house team or outsource it to other vendors that satisfy your requirements. In today's remote world, organizations aren't restricted by locations — enabling them to access talent worldwide and discover the specialized skills they need to develop or execute their new technologies.

2. Clear objectives and goals

If you're unsure of what goals you're looking to achieve with technology adoption, you won't be able to make the most out of it. It's because having a clear view of your goals in mind helps you strategize your steps in the right direction. Otherwise, chances are you'll end up spending your time, money and resources with zero ROI.

3. Cost

Even though many businesses desire to tap into technology transformation, they hesitate because of the required investment. However, it's important to understand that adapting to new technology will help you save more in the long run. Because relying on the older ones will demand higher maintenance and you also lose out in terms of efficiency. So, consider measuring the ROI and think for the long term.

4. Employees are resistant to digital change

When you introduce digital changes, such as a new CRM (Customer Relationship Management) software or digitalization of physical record-keeping, not all employees will embrace it. Some employees might insist on sticking with the status quo, believing that digital transformation is disruptive rather than productive. Jobs and businesses may have evolved, but human resistance to change still remains. Ultimately, employee resistance to change makes it difficult to drive digital adoption.

5. Training for new tools at scale is difficult

It's one thing to train a two-person team to use your data entry system, but it's a different story when you have to train hundreds of employees to use enterprise software across departments and regions. Training employees to use new tools at scale is expensive and time-consuming and can delay your digital adoption efforts. Consider a tool like Microsoft Dynamics 365, for example. The powerful enterprise software has nine different apps across sales, marketing, operations, HR, and customer service. Within each of these apps, there are myriad features and functions that may be relevant to different employees on your team.

To train employees of different departments to use different features of a complex app like Microsoft Dynamics 365, you'd either need to: (1) Conduct small, targeted training sessions with the help of specialists; or (2) Train with an online platform whichever you choose, both would be difficult to implement effectively at scale. Providing targeted training sessions at scale means that you have to figure out what time and place works best for everyone on your team and then get people to attend the training session so that it's not a waste of time and resources. Online training at scale means you need to sink hours into training content creation—from at least 10 hours for six minutes of microlearning content to 694 hours for 17 minutes of engaging eLearning content, at most.

6. Measuring user adoption is difficult

Measuring user adoption tells you which of your digital adoption efforts are working and which are not so you can iterate and improve. But most companies struggle to measure user adoption for new digital tools. That's because most enterprise tools such as Salesforce may provide companies with statistics such as daily, weekly, and monthly log-in rates of employees and average session times. Still, they provide little to no insight into how employees use a product. Companies don't know which features of applications your employees use most, which features they may need help understanding, and which parts of an app are not used at all. Without a way to closely track user adoption of new tools, adopting new software becomes one of the most prominent digital adoption challenges for organizations.

Conclusion:-

Technology is at the heart of every successful business, whether it's through products, marketing, sales, communication, design or employee management. Digital transformation is constantly evolving and changing how organizations operate, so it's important to embrace these technologies by shifting our corporate mindsets. Utilizing technology and putting it at the forefront of business plans can enable companies to reduce costs and inefficiencies, boost productivity, enhance workplace experiences, improve the customer journey and accelerate product creation.

Internally, the cloud has revolutionized the way the world does business: Employees globally can access, edit and share files anytime, anywhere. Providing employees with the freedom to work from anywhere has become a standard across many modern businesses, but the only way to truly achieve a successful hybrid business model is through technology, so deciding which apps are essential can not only improve productivity but also reduce costs. Overall, technology has been a key driver of digital transformation and has enabled organizations to become more efficient, productive, and competitive. As technology continues to evolve there will be rapid digital transformation advancements.

Through this paper it has analysed the opportunities technology provide to boost entrepreneurship and at the same time the challenges faced initially to adopt it also well clearly discussed. Technology is also essential as it is one of the best preventions for cyber hacks: Cybersecurity technology can help to reduce threats. Old-fashioned security, firewalls and antivirus software are no longer always strong enough to defend against modern, sophisticated cyberattacks. To make technology a core part of your business strategy, consider adding cybersecurity tools and training throughout your organization. This means that all employees are aware of the safety tools, how to use them efficiently and most importantly, receive training on how to spot any cyber threats before they become a serious problem to the company. There will always be challenges when you are introducing a new technology to your business, but it's essential that you do so that you remain ahead of the competition and position yourself as a leader in your industry. Technology is changing all the time, and those who fail to keep up with the changes may be left behind.

References:-

- .Anjan Sarkar (October 17, 2022): Technology Adaption-Benefits, Challenges and how to create.
- . Apty (April 14, 2020): Digital Transformation- How technologies changing business.
- . Andrew Shipilov et al (January 28, 2022): The Four Pillars of Successful Digital Transformations.
- . Aeologic Technologies (October 7, 2022): Information Technology and its role in India's Economic Development.
- . Blessions Phiri (June 3, 2021): Why technology holds the key to business success.
- . Clodagh O'Brien (June 7, 2022): What is digital transformation? A Guide for Businesses.
- . Disha Gupta (May 27, 2021): 4 Key Digital Adoption Challenges and How to Overcome them.
- . Holt Hackney (February 10, 2023): The Role of Technology in Digital Transformation.
- . Igors Astapciks (March 20, 2023): Why do companies need Digital Transformation?
- . Inspire Zone (May 10, 2022): Role of Technology on Economic Development.
- . Mark Samuels (August 5, 2022): What is Digital Transformation? Everything you need to know about how technologies changing business.
- . Nathan Altadonna (January 9, 2023): Digital Transformation.
- . Nguyen Thanh Trung (October 20, 2020): The Role of Technology in Business Transformation.
- . Onpassive (January 28, 2023): The Role of Technology in Advancing Digital Transformation.
- . Resources for Employers (2023): What is digital transformation in business?
- . Stphaine Meier (June 26, 2023): How does technology drive business transformation?
- . Vladimir Lupenko (August 23, 2022): Why a Tech- First Strategy is key to success and how to implement it in your business.
- . Veritis (2023): What technologies enable business transformations.
- . World Economic Forum, Madeleine Hillyer (November 18, 2020): Technological Transformations.
- . Zia Qureshi (February 25, 2020): Technology and the future of growth: Challenges of change.