Digital Transformation

"Digital transformation is all about becoming a digital enterprise—an organization that uses technology to continuously evolve all aspects of its business models (what it offers, how it interacts with customers and how it operates)."

Digital Transformation is not just about the tools, technology and processes; it is a holistic process, which starts right from having a "Right mindset". Once you figure out the cultural issues of your organization & decide to solve them, the process of transformation becomes smooth. The entire chain of the business process should benefit from the transformation, including the suppliers, vendors, employees and consumers. It's a holistic process of unlearning the old lessons and learning the new things, which might take years or decades, but it starts from you right now. The sooner we accept the disruptions, the better we can accommodate the future of innovations.

There is no doubt that the companies that are leading the digital transformation by embracing digital technologies are reaping a lot of benefits. And, there's no doubt that companies that are not going for holistic digital transformation will become extinct. In today's day and age, you need to be able to respond to customer needs in real-time to survive.

Technology is changing at an exponential rate and the pace of change is picking up. Now, every business, even the traditional ones, is expected to be a digital-first organization. This means that you not only need to be on digital channels but also need to have a strong digital brand. You need to understand both your business and your customers. If you want to achieve success, you need to embrace it holistically.

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Pillars of Digital Transformation

The first pillar of digital transformation: Artificial Intelligence

Artificial Intelligence (AI) is one of the four digital transformation pillar namely ACID (AI, Cloud, IoT and Data). AI has completely transformed the way we do business.

Artificial Intelligence, by definition, is the simulation of human intelligence by machines. Artificial Intelligence includes Machine Learning (and has the ability to learn and mimic human minds). Intelligent machines mimic the human mind traits, for example, problem-solving and learning behaviours. AI mimics our minds so well that sometimes its decision-making matches exactly what we might have thought. It can be both positive and negative development when we look at it from a long-term perspective. But, here first, we will discuss the positive aspects of intelligent machines.

AI has been the game-changer in terms of delightful customer experiences and processes. The technology has brought a new lease of life in creating and innovating ways of doing business. It has not only automated most of the human brainstorming process but has also led to massive revenue generation in certain significantly as most of the decision-making processes are now in the ambit of Artificial Intelligence.

As per a study by Forrester Artificial Intelligence in the business prospects:

- 71% said AI has improved business efficiency
- 59% said it led to scalability
- 55% said AI helped in mapping consumer behaviour in product development

Another research report says that 52% of the customer switches to other brands if they do not get personalized services in a product.

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In the age of instant gratification, where people hate to attend customer support calls, there must be a system available in the organizations that can direct then to the right service representative to solve their queries. To direct customers towards the right solution, the system must be brilliant to sense customer issues. This is prominent where Artificial Intelligence supports the service industry.

The second pillar of digital transformation: CLOUD

Gartner predicts the worldwide public cloud service market will grow from $182.4B in 2018 to $331.2B in 2022, reaching compound annual growth rate (CAGR) of 12.6%.

A true digital transformation has the main feature of 'ready-to-use' business solutions for both the consumers and the business owners. The solutions should be so simple that the stakeholders merely need to apply minimum efforts to make it a ready-to-use service. AND CLOUD plays an important role to facilitate this.

Cloud refers to the on-demand computing services like computer networks, applications, processing and storage over the internet. It is a pay-as-you-go service for the end-users and the business providers. Instead of storing in huge hard disks or personal computers, we stash our data at a remote location at the internet on computers, laptops and mobiles.

In simple words, big organizations like Amazon, Google and Microsoft have invested hugely in the servers to host our data; these are rentable as a service.

The major reasons for this transformation are cost-effectiveness, scalability and capacity flexibility in terms of usage.

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Earlier, if you wished to start a new business, too many costs were involved, including the IT infrastructure – running a data centre, leased lines, the cost of physical hardware, the servers like CPUs, cores and RAM, storage, applications, constant monitoring of hardware to avoid any malware/virus etc. Cloud computing has waived off all these hassles and provided readymade solutions to set up an IT infrastructure.

Cloud provides the following services:

- IaaS - Infrastructure as a Service
- PaaS - Platform as a Service
- SaaS - Software as a Service
- DaaS - Desktop as a Service

IaaS: Infrastructure as a Service

Cloud infrastructure services, known as Infrastructure as a Service (IaaS), are made of highly scalable and automated compute resources. IaaS is fully self-service for accessing and monitoring computers, networking, storage, and other services. IaaS allows businesses to purchase resources on-demand and as-needed instead of having to buy hardware outright.

IaaS Delivery

IaaS delivers cloud computing infrastructure, including servers, network, operating systems, and storage, through virtualization technology. These cloud servers are typically provided to the organization through a dashboard or an API, giving IaaS clients complete control over the entire infrastructure. IaaS provides the same technologies and capabilities as a traditional data center without having to physically maintain or manage all of it. IaaS clients can still access their

servers and storage directly, but it is all outsourced through a “virtual data center” in the cloud.

As opposed to SaaS or PaaS, IaaS clients are responsible for managing aspects such as applications, runtime, OSes, middleware, and data. However, providers of the IaaS manage the servers, hard drives, networking, virtualization, and storage. Some providers even offer more services beyond the virtualization layer, such as databases or message queuing.

PaaS: Platform as a Service

Cloud platform services, also known as Platform as a Service (PaaS), provide cloud components to certain software while being used mainly for applications. PaaS delivers a framework for developers that they can build upon and use to create customized applications. All servers, storage, and networking can be managed by the enterprise or a third-party provider while the developers can maintain management of the applications.

PaaS Delivery

The delivery model of PaaS is similar to SaaS, except instead of delivering the software over the internet, PaaS provides a platform for software creation. This platform is delivered via the web, giving developers the freedom to concentrate on building the software without having to worry about operating systems, software updates, storage, or infrastructure.

PaaS allows businesses to design and create applications that are built into the PaaS with special software components. These applications, sometimes called middleware, are scalable and highly available as they take on certain cloud characteristics.

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SaaS: Software as a Service

Software as a Service, also known as cloud application services, represents the most commonly utilized option for businesses in the cloud market. SaaS utilizes the internet to deliver applications, which are managed by a third-party vendor, to its users. A majority of SaaS applications run directly through your web browser, which means they do not require any downloads or installations on the client side.

SaaS Delivery

Due to its web delivery model, SaaS eliminates the need to have IT staff download and install applications on each individual computer. With SaaS, vendors manage all potential technical issues, such as data, middleware, servers, and storage, resulting in streamlined maintenance and support for the business.

DaaS – Desktop as a Service

DaaS was first introduced in the early 2000s as a subscription and cloud-based virtualization service. In DaaS, the third party manages the entire virtual desktop infrastructure – data storage, computing, networking, backup, security and up-gradation. The end users can access these back-end operations through client software or a web browser. These virtual desktops are hosted on cloud infrastructure, and the organizations can focus on managing the apps, security or images. It reduces the client's software license coset, which is cloud-hosted and internet-accessible.

The third pillar of digital transformation: Internet of Things (IoT)

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The internet of things (IoT) has brought a paradigm shift in technology and taken the world by storm by combining the real and virtual worlds. IoT has transformed our lives by connecting us in unimaginable ways. This technology is the key to digital transformation. It is invading everything around us and seeping into our daily lives too. This invasion has made things more comfortable and easier than ever before.

The Internet Architecture Board includes four common communication models based on how IoT devices connect and add value to our lives.

- Device-to-Device
- Device-to-Cloud
- Device-to-Gateways
- Back-End Data-Sharing

These devices collect the data and start the process of sensing, analyzing and acting on it. It brings the power of the internet. Data processing and Analytics for global interaction under one platform. This intelligent connectivity among the devices is making way for energy-efficient systems, which can be the foundation of the social and economic goals of any nation. These interconnected systems have already given us some of the smartest systems in the field of Energy Generation, Agriculture, Healthcare, Hospitality, Home Automation, Environment Management, BFSI, Retail, Warehousing and Surveillance.

We all must have heard of Google Maps using an Android phone's density on a particular road to tell whether there is any traffic jam.

Google tries to find out how many Android phones are there on a particular road. According to me, this was one of the first example of Google using IoT concept to help us in knowing the traffic status.

The fourth pillar of digital transformation: DATA

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Big Data today is fuelling the Digital Transformation engine all across the globe. The organizations are on the path of chartering new business models; therefore, they combine big data-structured and unstructured – to enable digitalization and automation of their operations.

One of the top Indian industrialists once quoted that “Data is the new oil”.

We fed the data of our choice on a social platform – here, Facebook – which has inbuilt AI in its system. This input data produced more similar output data, which might relate to our choices. This is just one example. We have been consciously and unconsciously feeding our data in the form of documents upload like identity cards, bank details, photographs, videos, shopping preferences, movie choices, destination preferences, skill details, resume on job-portal etc.

There are two type of Data:

- Structured
- Unstructured

Structured Data

Any data that can be easily searched in terms of the phone number, zip code, names, dates, addresses, credit card numbers, stock information, geolocation, etc. is structured. We can access this data from relational databases and spreadsheets across various places.

Unstructured Data

Any form of videos, photos, audios, presentations and web-pages, which are not there as per the pre-set data models is called unstructured data. This data is available much more than the structured data over various platforms and is the wealth of information that can be tapped via Artificial Intelligence technology to shape business ideas.

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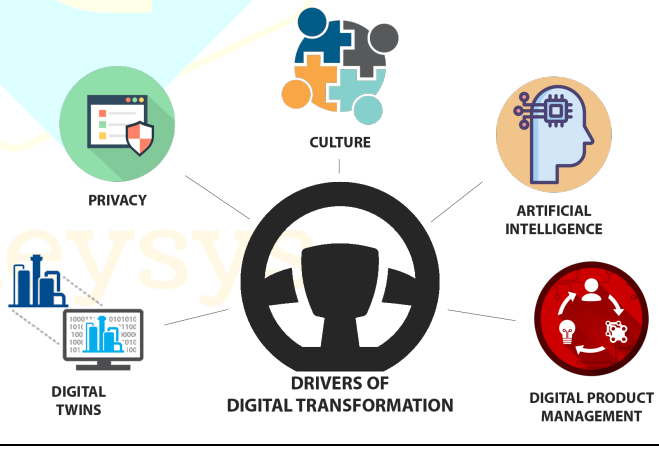
The Different Types of Digital Transformation

1. **Customer Experience** — working to understand customers in more detail, using technology to fuel customer growth, and creating more customer touchpoints
2. **Operational Processes —** improving internal processes by leveraging digitization and automation, enabling employees with digital tools, and collecting data to monitor performance and make more strategic business decisions
3. **Business Models —** transforming the business by augmenting physical offerings with digital tools and services, introducing digital products, and using technology to provide global shared services

Drivers of Digital Transformation:

• Digital Twin • Privacy • Culture • Augmented Intelligence • Digital Product Management	

Reasons Why Digital Transformation Fails:

Digital transformation fails for many reasons, but most issues can be linked back to one of three things: people, communication, and measurement.

- People

  People can make or break your digital transformation. Remember: culture is both a top driver of digital transformation and one of the six pillars of successful ones. If you don't put enough focus on people and culture, your initiative is bound to fail.

  - Poor Communication

    Announcing a digital transformation initiative is not the same as communicating with your team about it. Often, leadership simply mandates changes without taking the time to explain the why and how. If you don't provide specific and actionable guidance before, during, and even after a transformation, your initiative won't make it very far.

  - Lack of Measurement

    You can't have a successful digital transformation if you failed to define what success means to you. Companies sometimes assume they can monitor success based on the performance metrics (KPTs) they've already established for their business. But if you're changing the way you do business, you'll need to set additional KPIs to monitor the effects.