**WEEK -1**

**EXPERIMENT-1**

**1. Digital Transformation Through Convergence of IT And OT:-**

A copper mining company brought information and operational technology under a single governance and operating model to aid digital transformation

**Digital transformation**:- is the fundamental rewiring of how an organization operates. Digital transformations are different from regular [business transformations](https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-business-transformation), in both small and big ways. For one thing, business transformations usually end once a new behavior has been achieved.

**Digital Technology: -** The definition of **digital technology** refers to digital devices, systems, and resources that help create, store, and manage data. An important aspect of digital technology is **information technology (IT)** which refers to the use of computers to process data and information.

**Information technology**:-

Information technology (IT) is the use of any computers, storage, networking and other physical devices, [infrastructure](https://www.techtarget.com/searchdatacenter/definition/infrastructure) and processes to create, process, store, secure and exchange all forms of electronic data.

**Operational Technology:-**

Operational technology (OT) keeps [critical infrastructure and industrial environments](https://www.tenable.com/blog/security-implications-of-infrastructure-modernization) functioning. OT is made up of software and hardware used to manage, secure and control industrial control systems (ICS) systems, devices and processes in your OT environment. OT devices are commonly found in manufacturing, transportation, oil and gas, electricity and utilities, and other similar industries.

**Convergence of IT and OT:-**

IT/OT (information technology/operational technology) convergence is the integration of data from systems that handle information about manufacturing (such as production plans and raw material shipments) with data from systems that directly monitor and control manufacturing (such as records of oil refinery temperatures and pressure).

## 2. Digital transformation success stories:-

## 1. Budweiser:-

The King of Beers became the Kings of Digital Transformation when they decided to implement AI to revolutionise their processes. ABinBev, the owner of Budweiser, Stella Artois, and Corona, established **the ‘Beer Garage’ — a Silicon Valley-based innovation centre**,where it researches, develops, and tests technology-driven solutions.

## 2. Under Armor:-

Their high-profile commercial relationship with English football giants Liverpool FC and other sports teams globally means Under Armor have high brand visibility worldwide. This informed their decision to **attempt to become more than a sports clothing company when they introduced ‘connected fitness’** — a platform to track, analyse, and share personal health data to their customers’ phones.

## 3. IKEA:-

Let’s start with a big hitter. The famous Swedish home and furniture giant showed that transformation isn’t limited to the financial sector and the automotive industry. When one thinks of digital initiatives, furniture isn’t necessarily the first thing that comes to mind.

## 4. San Francisco 49ers:-

Digital transformation success stories don’t immediately make you think of sports. But digital has changed the game, literally. In European football, they say that attackers win you games but defenders win you championships. Perhaps in American sport they’ve added data and digital initiatives to that recipe.

**3. How Technology Has Impacted Digital Transformation:-**

Digital transformation changes the way an organization operates. Systems, processes, workflow, and culture are all part of this process. This transformation affects each level of an organization and brings together data across areas to work together more effectively.

By taking advantage of workflow automation and advanced processing, such as artificial intelligence (AI) and machine learning (ML), companies can connect the dots on the customer journey in a way that wasn’t possible before.

Digital technologies have advanced more rapidly than any innovation in our history – reaching around [50 per cent](https://www.un.org/en/pdfs/DigitalCooperation-report-for%20web.pdf) of the developing world’s population in only two decades and transforming societies. By enhancing connectivity, financial inclusion, access to trade and public services, technology can be a great equaliser.

**4.Case study digital transformation through IT/OT convergence**

## Challenge:-

**With the goal of becoming a leader in the use of automation in its operations, a large copper mining company wanted to take advantage of an information technology (IT) and operational technology (OT) convergence movement sweeping across industries.**

**Technological alignment:-**

The different enterprise system layers are conventionally depicted as in the ISA95 standard below. It indicates an IT/OT separation within the operations management layer (level 3). This theoretical divide

varies greatly from company to company and from sector to sector, and can change over time and with

the arrival of convergence.

**Cultures:-**

The technological convergence larges groups are experiencing must be reflected in organisational changes. However, the very different cultures involved can be an obstacle to integration. This is a real challenge for company leaders. The IT world is often lumped into a single entity while the world of industry is very diverse, and many corporations' organisational structures are very disparate, with often as many teams as there are industrial physicalsites. Another difficulty is the life cycle differences between equipment and software, which have a direct impact on teams' understanding of their obsolescence (OT systems are sometimes obsolete when they come into service). OT is based on a ten-year life cycle, and the approval process takes at least 1 year, while IT applies patch management principle, which enables much shorter cycles. Another major difference is the real-time collection of information for OT. IT is not always accustomed to real time, and rollback is often an option. In the world of industry, systems are also often criticised from an operational perspective and hard to return to service. Thus, very resilient systems are supplied in both environments but not always for the same reasons.

**Implementing IT/OT convergence in business**

* Identify the catalysts of the approach and the stakeholders;
* Take a snapshot of existing arrangements;
* Explore the differences in constraints, supported business-side processes, and risks, and

Ensure that all stakeholders clearly understand the ways in which the two worlds contribute

To and depend on each other (entanglement);

* Shape the vision and define common goals, formalise a convergence strategy led by a sponsor on the company's Executive Committee;
* If applicable, provide a common environment/place for experimentation and discussion to

Start the convergence of IT/OT cultures;

## Accenture did:-

The company and Accenture team designed and implemented unified technology governance and a common technology operating model across various sites and brought the management of IT and OT together under one new centralized technology organization.

**Assessment:-**

The team used a Kanban board (a key tool to depict workflow visualization), created sticky notes to record ideas and gave presentations.

**Design:-**

The team designed a global IT/OT convergence strategy, along with transition plans for each asset that would vary depending on the complexity.

**Execution:-**

The team launched strategy and transition plans as the company moved to a new technology organization that encompassed both IT and OT.