**Week-1**

**Experiment-1**

**1.Digital transformation through convergence of IT and OT;**

When IT (Information Technology) and OT (Operational Technology) teams work together, they can accomplish great things. IT and OT convergence helps manufacturers [extract the full potential from their production data.](https://braincube.com/resource/iiot-podcast-value-of-iiot-in-achieving-joint-it-and-ot-business-objectives/)

**Digital transformation:**

Digital transformation is the incorporation of computer-based technologies into an organization's products, processes and strategies. Organizations undertake digital transformation to better engage and serve their workforce and customers and thus improve their ability to compete.

**Digital technology:**

Digital technology means electronic tools, devices, systems, and resources organizations utilize as they process or store data and complete many other functions, increasing[**employee productivity**](https://www.digital-adoption.com/employee-productivity-with-dap/)**and efficiency.**

**Information of technology:**

Information Technology uses computer systems or devices to access information. It is a combination of both information and technology. This system is responsible for a large portion of any workforce, business operation, and other personal access information comprising an individual's daily activities.

**Operational technology:**

Operational technology (OT) is hardware and software that detects or causes a change, through the direct monitoring and control of industrial equipment, assets, processes and events.

**Convergence of IT and OT:**

IT encompasses the technology, equipment, personnel, and resources businesses use to store and utilize data across the business, including servers, computers, applications, and IT professionals. OT is the system businesses use to manage physical assets, including everything from manufacturing equipment and vehicles to boilers, freezers, HVAC systems, and specialized machinery. OT determines when and how these resources will be used.

**2.Digital transformation success stories:**

## IKEA:

## The famous Swedish home and furniture giant showed that transformation isn’t limited to the financial sector and the automotive industry. First, IKEA purchased the online service TaskRabbit to help customers who don’t like assembling their own furniture — a foray into software.

## June 2021, [it was reported](https://hbr.org/2021/06/inside-ikeas-digital-transformation) that they had seen a 300% increase in ecommerce sales as a direct result of their transformation efforts.

## San Francisco 49ers:

## Digital transformation success stories don’t immediately make you think of sports. But digital has changed the game, literally. They’ve **leveraged the power of analytics with a venue management platform to help them delivercustomer experience** that goes above and beyond.

### Capital One:

Capital One has used new artificial intelligence technologies to provide brilliant customer service .customers get answers without even logging in to online banking.

Capital one shows how a focused digital adoption strategy can improve customer service. Their digital transformation project reconfigured only part of the business. At the right time, small interventions can produce very effective changes.

### Nike:

### Nike, the global sportswear leader, showcases the excellent results that digital transformation initiatives can create. Nike’s entire approach to branding, sales, and technology has changed.

They now focus on becoming a robust direct-to-consumer brand, reducing their retail partnerships, and increasing their work to create online sales. Programs like Nike Training Club collect detailed consumer data and use advanced analytics to make sense of the patterns. Smaller physical stores now do a lot of work to promote the Nike brand. Nike, the global sportswear leader, showcases the excellent results that digital transformation initiatives can create. Nike’s entire approach to branding, sales, and technology has changed.

### Microsoft:

Microsoft have been leaders in software innovation since the dawn of home computing in the late 1980s. But faced with the advent of cloud-based software systems in the early 2000s, their long-established distribution model suddenly seemed dated.

Their digital strategy was to completely overhaul their delivery systems, using their proprietary cloud solution. They launched Microsoft Azure in 2008. Azure has now become the 2nd biggest cloud provider in the world, providing a vast range of digital services for individuals and companies of all sizes.

## 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:**

**Challenges**

##### While IT teams tend to solve problems from a global approach, OT teams are more focused on a localized problem-solving approach.

**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 organizational 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' organizational structures are very disparate, with often as many teams as there are industrial physical sites. 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**

1. Identify the catalysts of the approach and the stakeholders.

2. Take a snapshot of existing arrangements.

3. 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).

4. Shape the vision and define common goals, formalise a convergence strategy led by a sponsor on the company's Executive Committee.

5. If applicable, provide a common environment/place for experimentation and discussion to start the convergence of IT/OT cultures.

**Principal security threats to IT/OT convergence:**

* **Lack of collaboration**
* **Legacy OT systems.**
* **Insufficient insight**
* **Mission-critical demands**

**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.

Because of the complexity involved and because processes and technologies varied widely at different sites, the effort was divided into three phases:

### 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.