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# Digital Transformation: A New Industrial Revolution

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**Abstract:** ***Rapid advances in digital technology are redefining society. Digital Transformation provides industry with unparallel opportunities for value creation. Digital Technology are creating new profit pools by transforming customer expectations & how companies can address them. This paper focuses on the digital revolution of industries. Now-a-days the digital revolution is transforming the industries thus product becomes increasingly smarter & flexible. To deal this challenge industrial sector must develop an exhaust response. They need to implement a comprehensive digital strategy & rethink their business and operating models to deliver this such strategy enable continual engagement with customers and suppliers. This paper gives the clear understanding about the different strategic paths of transformation used in industries and how one can use the best path for digital transformation according to the goods of their industry.***

**Keywords:** digital transformation; systematic change transformation method; paths to digital transformation; operating models; customer propositions

## 1. Introduction

Digitalization has been identified as one of the major trends changing society and business. Digitalization causes changes for companies due to the adoption of digital technologies in the organization or in the operation environment. Data and technology are transforming every aspect of our lives, disrupting the current status and creating exciting new ways of doing things. The disruption of the industrial products sector is no exception; companies in the field are focusing on how best to benefit digital to derive value and unlock opportunities for further growth and optimization.

Now-a-days, with increase in digital world, even companies in the primarily physical industries will not start digital transformation journey from zero instead most organizations are already finding ways to use digital information by providing interactive websites, improved customers service or enhanced customer experience. Similarly, they are creating basic operating capabilities such as online channel or digital supply chain tracking. In this new phase of development, autonomous factories are becoming reality that effectively reduces economies of scale and enables production of individualized products at a lower cost and with reduced lead times. Products turning "smart" − with the help of sensors collecting data continually, coupled with connectivity − lays the foundation for the changes in the industry.
There are various challenges in the sector as,

- New disruptive business models
- Workforce lacks vital skills
- Competition & Global operations bring data management challenges
- Predictive maintenance can decrease the service opportunities
- Cyber-attacks leave system vulnerable

Based on previously introduced definitions, digital transformation is defined as changes in ways of working, roles, and business offering caused by adoption of digital technologies in an organization, or in the operation environment of the organization. This refers to changes at several levels, including the following:

- Process level: adopting new digital tools and streamlining processes by reducing manual steps.
- Organization level: offering new services and discarding obsolete practices and offering existing services in new ways.
- Business domain level: changing roles and value chains in ecosystems.
- Society level: changing society structures (e.g., type of work, means of influencing decision making).

In the 1990s, only organizations in select industries – such as music, entertainment and electronics – were exploring digital products and services. Infrastructure providers took the lead in building out the information backbone to improve efficiency and productivity across specific functions – finance, supply chain, human resources. The Internet of the late 1990s ended with a crash in 2000. Yet consumer demand for digital products and services continued to evolve. As customers became increasingly empowered based on pervasive access to online information, along with a multiplicity of choices and channels, their expectations ratcheted skyward. As a result, customers have now become the primary force behind digital transformation in all industries.


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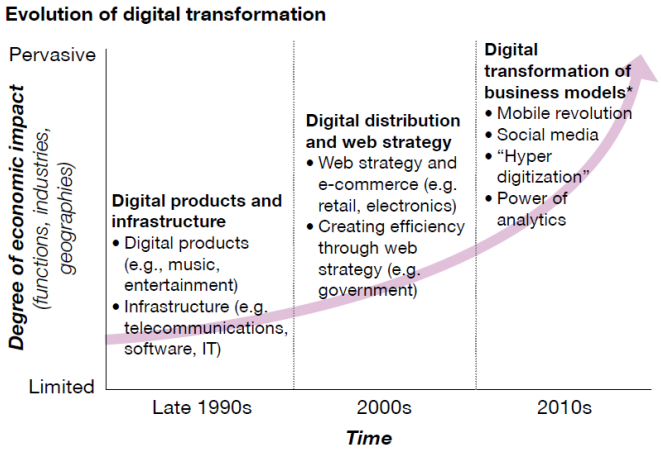


**Figure 1:** Evolution of Digital Transformation

## 2. Methodology

Identify transformation opportunities based on an understanding of a digital transformation in industry. This depends on the degree to which your product and services are on could be digitalized & how competitors are responding to new and rapidly changing customer expectations & products and services directly affected by new technology. To execute the strategy, redefine the operating model as needed support the new value proposition optimizes processes across online and physical interactions, building a new set of digital capabilities for customer engagement supply chain integration and network workforce.

## 3. Strategic Paths to Digital Transformation

From the research it is clear that the strategic routes to transformation can be summarized by three basic approaches. One focuses on customer value propositions and another on transforming the operating model. Taking a more holistic and integrated approach, the third combines those two approaches, simultaneously transforming the customer value proposition and organizing operations for delivery.

A company's strategic approach to transformation typically follows one of the three paths shown in Figure 2. The figure shows the paths to digital transformation, x-axis shows the reshaping the customer value proposition and y- axis shows reshaping the operating model.

- **Path 1 –**

Create and integrate digital operations first. Then address the customer value proposition to achieve full transformation.

- **Path 2 –**

Enhance, extend or reshape the customer value proposition with digital content, insight and engagement. Then focus on integrating digital operations.

- **Path 3 –**

Build a new set of capabilities around the transformed customer value proposition and operating model in lock-step.

The best path for a particular company depends on its strategic objectives, industry context, competitive pressures and customer expectations. In industries where the product is mostly physical and customer requirements for information are not yet advanced, such as minerals and mining, companies may want to begin digital transformation with operations (Path 1). In others, such as financial services, where new revenue-based services can be offered online and through mobile devices, an initial focus on the customer value proposition will provide immediate benefits (Path 2). However, many companies, indeed entire industries, need to redefine customer value propositions and operating models simultaneously, (Path 3), to succeed in digital transformation. Organizations that are able and eager to do so are in a unique position to seize industry leadership.

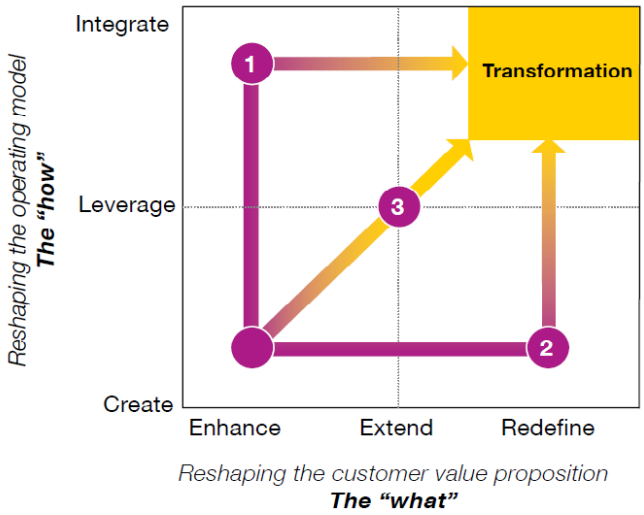


**Figure 2:** Paths to Digital Transformation

**A] Reshaping the customer value proposition –**
Using information and analytics, organizations can reshape the customer value proposition on three levels by enhancing, extending or redefining the value of the customer experience.

**Enhance products and services for a better customer experience.**
In all industries, companies augment traditional products with features and services that differentiate their brands on the basis of new types of information and interaction. Automotive companies like Volvo or BMW, for example, *enhance* their customers' automotive experiences by providing digital media access and enhanced security features, such as sensors that detect activity in blind spots. The Danish toy manufacturer, Lego, best known for its interlocking plastic blocks, has created new robotics products with the help of virtual communities that allow customers to compete in company design challenges.

**Extend offerings for new revenue streams**
The next step is to find new ways to monetize these features, adding new revenue streams by *extending* traditional products and services through the use of digitally delivered services, content or information. In some industries, such as media and entertainment, companies must entirely replace lost revenue streams.


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**Redefine core elements for a radically reshaped value proposition**

Seizing the full opportunity of the digital revolution, some companies transform the entire customer value proposition. Often this is a response to technologically innovative new entrants that spur traditional companies to radically reshape their customer value propositions.

**B] Reshaping the operating model**

A focus on new customer value propositions is always dependent to some degree on a new operating model. In many cases, the extent to which one transforms the operating model is also correlated to the efficiency and productivity gains that can be achieved.

- Create new digital capabilities
  Typically, organizations first create the basic structures to engage customers through online channels. Company creates an innovative online channel, designed especially for young customers to gain followers on social medias.
- Leverage information to manage across the organization
  At the next level of operating transformation, companies leverage information and relationships across channels, business units and supply chain partners. This makes it possible to integrate digital and physical components that provide the most value to improve speed to market, for example, or to equip employees with information enabling them to surpass customer expectations.
- Integrate and optimize all digital and physical elements
  Companies focused on fully reshaping the operating model optimize all elements of the value chain around points of customer engagement.

## 4. Choosing a Transformation Path

Determining the best path to transformation – whether an extensive reshaping of the customer value proposition, a transformation of the operating model, or a combination of both – requires a thorough understanding and evaluation of several factors:

- Where products and services are on the physical-to-digital continuum in your industry
- Mobility and social networking adoption levels and expectations of customers
- Strategic moves by other industry players
- The degree of integration at every stage of the transformation – between new digital processes and legacy, physical ones.

Transforming operations first, for example, builds customer alignment and efficiency. But if competitors are interacting with customers in new ways, operationally focused organizations may lose revenue opportunities, customer loyalty and market share. Conversely, moving too quickly to transform the value proposition may raise cost challenges if the new offering involves too much complexity or manual intervention. Too narrow a focus on customer value is also very likely to result in a one-time breakthrough rather than continuous innovation for greater customer value.

## 5. Success of Digital Transformation

Digital traction can enable companies to increase their valuation because digital transformation has more scalable, more highly engaged customers than traditional analog companies. Digital transformation of industries project identifies number of technologies enable efficiency for several industry.

a) Logistics: Over the course of next 10 years, digital technology in the logistics industry will lead to creation of 2 million jobs and decrease in carbon emission by 10 million tons. Total value impact to the industry from key digital initiatives is expected to be $1.5 trillion.
b) Healthcare: Robots, 3D Printing, Digestible Sensors are all key technologies for healthcare innovation. Smart connected medical devices could save the US healthcare system alone more than $30 billion a year, while telemedicine in care homes could decreases hospital admissions by 35%.
c) Electricity: Key technologies include connected sensors & real time analytics to create predictive maintenance system for wind farms and other assets. Cumulative value at stack to the electricity industry in the next 10 years from digital initiative is $1.7 trillion with reduction in carbon footprint by 16 billion metric tons. Digital technology will lead to creation of 3.5 million jobs in the electrical industry.
d) Consumer: Key digital trends in consumer goods industry such as hyper-personalization shift from products to service to experience smart industry etc. are expected to the result in significant synergies and saving to the industry. Total value at stake for consumer goods industry from digital initiatives in the next decade is close to $5 trillion. Time saved due to digital technology will also lead to increased productivity.

## 6. Conclusion

Business in every industry are under intense pressure to rethink their customer value propositions and operations yet few, if any offerings and operations will ever be entirely digitalized leads to digital revolution in industry.

The following actions are taken by the industries towards digitalization:

a) Reshaping customer value propositions.
b) Remodeling their business model/operations to fulfill requirement effectively and innovative way.
c) Doing both at the same time which leads to the broadcast industry transformation.

All of these transformation paths require clear vision, the right skills in the right place and tenacity to overcome cultural resistance to analytically based decisions across the extended enterprise. The path to digital transformation will vary by industry, as will customer adoption and an organization's legacy environment. However, every industry is under pressure to change, and every organization needs to have a plan in place. Those that do not take advantage of the new digital age may drastically limit opportunities for future success. Those that are able to overcome the challenge of optimizing both physical and digital elements by implementing new business models based on customer


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demand can win first choice of talent, partners and resources. As industry leaders, they have the opportunity to distance themselves from new and existing competitors.

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