Innovating
Re-education
in an
Age Of Digital Transformation

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Change the only Constant thing

"The future of work is our **Ability** and **Willingness** to **Adapt** to Change"

"It is not the strongest of the species that survive, nor the most intelligent, but rather the one most **adaptable to change**"

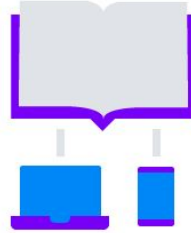- Charle Darwin

The hallmark of the
FUTURE

Exponential Growth

Rapid Change @ Fast Pace

Digitize

Digitization

Information from
Physical Format to Digital Format

Available, accessible from anywhere

Digitalize

Digitalization

Applying technology
to improve business,
generate revenue, **simplify** operations

TECHNOLOGY   COMMUNICATION   IOT   DATA   NETWORKING   AUTOMATION

Digital
Transformation

Integrating
digital technology
into all aspects of business.

**Changes in technology,
culture, operations
and value delivery.**

Competitive advantages
by improving
customer experience.

Why Digital Transformation ?

> Bring in **efficiency** and **optimize business** by removal of wastage **(Lean)**
> **Leveraging** technology and data
> Adapting to **reliable** business models
> It's a matter of **survival** for everyone.

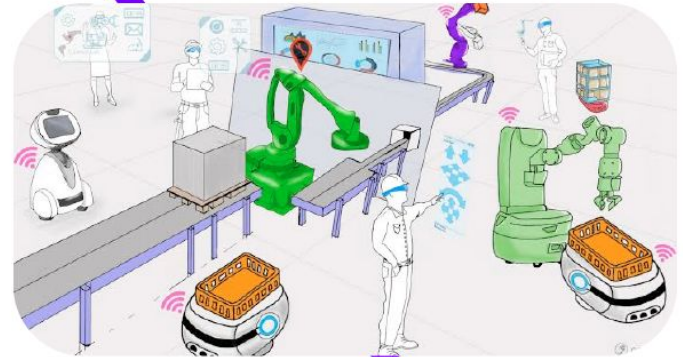# Digital Transformation **Connects**

> **People & Technology**

Gather and analyse **real-time information.**
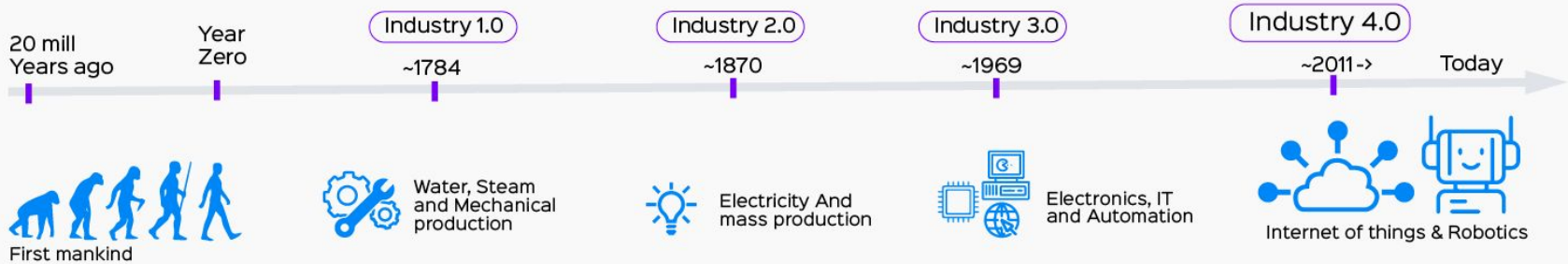
> **People & Objects**

Collaborate workers with smart objects

> **Objects & Objects**

Smart machines **coordinate** among themselves

Industry 4.0

20 mill Years ago	Year Zero	Industry 1.0 ~1784	Industry 2.0 ~1870	Industry 3.0 ~1969	Industry 4.0 ~2011 ->	Today

First mankind

Water, Steam and Mechanical production

Electricity And mass production

Electronics, IT and Automation

Internet of things & Robotics

Digital technology for **transforming manufacturing**
Cyber-Physical Systems communicating
over the **Internet of Things**
Collaboration across departments, partners,
vendors, product, and people
Leveraging data to boost **productivity,**
improve **processes**, & drive **growth**
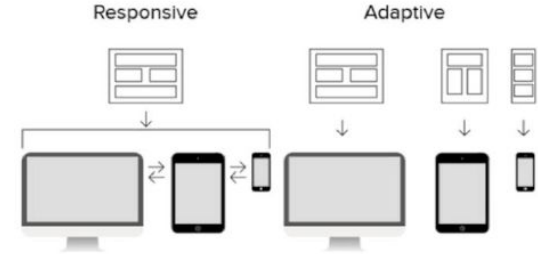And, predominantly, **empowering business owners**

Smart Factories

Highly **Digitized** premise

Well Connected production facility

Relies on **Smart** manufacturing

Responsive   Adaptive

Responsive and Adaptive – **Agile**

Consequences on **Productivity**

$ Asset Efficiency

★ Improved Quality

Reduce Cost

Work Safety

Enviromental Sustainability

Agile of Production

Can run autonomously, learn and adapt in real time and **Ability to self-correct.**

Scope of Digital Transformation

> **Harnessed** by Small & Medium Enterprises

> Aims to **boost competitiveness** in the market

> **Flexibility, entrepreneurial spirit** and **innovation capabilities**

> Becoming increasingly **proactive** in improving their business operations

> **Rethinking** business models and processes

Fostering **SMEs' growth** through **digital** transformation

Significant **Economic Potential for** today's SME-factories can be brought through digital transformation of production, logistics and services

S. Korean government to build **30,000** smart factories by **2022** to improve **SME Competitiveness**

Media publication on 2018.12.13 & 2018.12.14

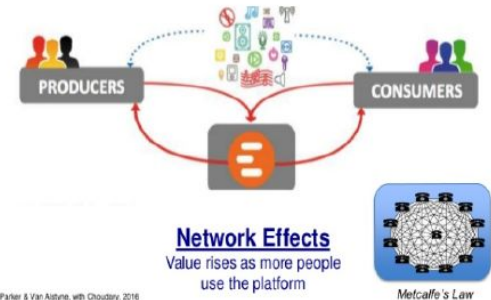# Platform Based Business Model – Key to Success

Linear/Conventional Business

Takes in components, creates finished products & **sells to consumers.**

> **Create value** in the form of goods or services and then sell them to someone downstream in their supply chain.

Platform based business

> Platform businesses don't own the means of production – instead, they **Create the Means of Connection**

> Creates **value** by **facilitating** exchanges between two or more **interdependent groups**, usually consumers and producers

> Create communities and markets with **network effects** that allow users to interact and transact.

PRODUCERS

CONSUMERS

Network Effects
Value rises as more people
use the platform

Metcalfe's Law

Parker & Van Alstyne, with Choudary, 2016

Digital Literacy

Adapting to New Business Model and Rapidly "**shortening...shelf-life** of employees' existing skill sets" calls for digital literacy

Information literacy
Technology literacy
Media literacy
Human literacy

"The **illiterate** of the 21st century will not be those who cannot read and write, but those who **cannot learn, unlearn, and relearn.**"

- *Alvin Toffler*

To ensure life-long employment, continuous **endeavour** towards **re-education is inevitable.**

Need for re-education

> Advent of **Disruptive** Technologies

> Current Education and training systems,
  having remained largely **static and inadequate.**

> Increasing **pace of change** in job destruction and job creation

> Growth of modern **skill based** economy

re-education

> Making education less standardised and **more personalised**

> Education **anywhere** and **anytime**

> Emphasis on **creativity, collaboration, knowledge** production

> Focus on **adaptiveness.**

To build the workforce
of the future,
we need to revolutionize
'how we learn'

The Concern

New technologies work **faster, cheaper, longer** and **reliable** than current experienced workers.

Skills, not job titles,are the **new metric** for the labour market.

Reskilling

Learning new skills
so that you can do different job

Upskilling

Focuses on improving current skill
set within the same job

Top 10 skills

in **2020**

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

in **2015**

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity

Source: Future of Jobs Report, World Economic Forum

The Jobs Landscape in 2022

emerging roles, global change by 2022

133 Million

Top 10 Emerging

1. Data Analysts and Scientists
2. AI and Machine Learning Specialists
3. General and Operations Managers
4. Software and Applications Developers and Analysts
5. Sales and Marketing Professionals
6. Big Data Specialists
7. Digital Transformation Specialists
8. New Technology Specialists
9. Organisational Development Specialists
10. Information Technology Services

declining roles, global change by 2022

75 Million

Top 10 Declining

1. Data Entry Clerks
2. Accounting, Bookkeeping and Payroll Clerks
3. Administrative and Executive Secretaries
4. Assembly and Factory Workers
5. Client Information and Customer Service Workers
6. Business Services and Administration Managers
7. Accountants and Auditors
8. Material-Recording and Stock-Keeping Clerks
9. General and Operations Managers
10. Postal Service Clerks

Source: Future of Jobs Report 2018, World Economic Forum

WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

Re-interpreting different forms of information and knowledge

Information

Physical form – Reports, Statements, Invoices

Digital form – Electronic to Physical form

Audio form – Meetings, Phones, Voice Mails

Visual form – pictures, charts and graphs

Knowledge

5%	95%

● Explicit Knowledge　　　● Tactic Knowledge

Explicit Knowledge

- Data, Information
- Documents
- Records
- Files

Tactic Knowledge

- Experience
- Thinking
- Competence
- Commitment
- Deed

Four Pillars
Producing, Nurturing
and Leveraging talented individuals

Together we are strong

Societies / Universities / Colleges

Government

Businesses

Individuals

Societies / Universities / Colleges
Nurturing Individuals

> Building **dynamic/agile** educational system

> Preparing citizens/students for **creative work**

> **Transforming education** to "learn how to learn, unlearn and relearn"

> Personalising **adaptive learning** taking **behaviour** into account

> **Linking** learning material to students' **daily lives**

> **Integrate learning** with the information technology developments

> **Collaborating** industries with universities to **co-create programmes.**

> Curriculum for **ethical reasoning**, for **awareness of societal** impacts

Government Timely response to relevant developments

› Embracing **"agile"** governance

› **Collaborate** with business/private sector and civil society to drive digitization.

› Improving **infrastructure**

› **Simplification** of labour markets

› **Prioritize spending to boost** education and training

› Regulatory environment that **protects citizens' interests**

› Support business friendly environment/ ease of doing business

Businesses - Role in nurturing and using talented individuals

> Set **priorities** for what and how to adapt

> Build digital **capabilities** among people

> **Collaborate** with universities

> Think of themselves as **digital-first** organizations

> Have a high **tolerance for failure** and redeployment.

> Strategically **engage** in public policy through dialogue

> Evaluate, invest, and **promote** training programs

> **Collaborate** with government initiatives

CFO asks CEO: "What happens if we invest in developing our people and then they leave us?"

CEO: "What happens if we don't, and they stay?"

PUTTING PEOPLE FIRST

Role of **Individuals**

> Work with a **Purpose**

> Move **out of comfort** zone

> Make learning a **habit**

> Learn how to **learn, unlearn** and **relearn**

> **Embrace** re-skilling and up-skilling

> Be **agile** and expect the unexpected

> Focus on **skills**, not on **positions**

> Take **responsibility** for performance
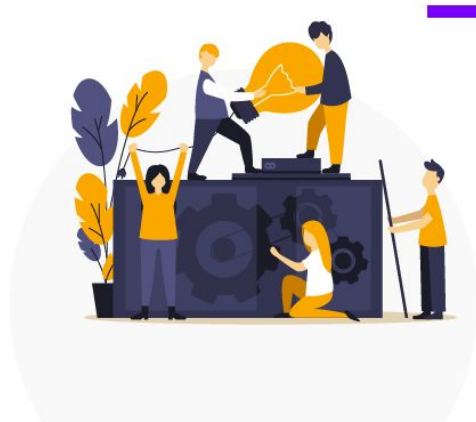
> Think and act as **Self-directed learners**

Legal and Institutional challenges

Business accountability in technology based competitive environment.

Regulations for Platform based economy should rapidly catch up with technology

IT Security, Data Security, data piracy and privacy issues

> Policy frameworks to meet future workforce

> Manage brain drain

> Address economic and societal concern

Salient features of a future ready
Education Ecosystem

> **Digital fluency** – master from an early age

> **'Future-ready' curricula** – what to teach; and, second, how to teach it.

> Professionalized teaching to Instill the **curiosity** and **critical thinking**

> Ongoing **Internships, mentoring,** access to employer networks and site visits

> Building a lifelong learning **culture** in the workplace

> Moving from "education for employment" to **"education for employability"**

> Moving from "job security" to **"career security"**

ARE YOU FUTURE READY?

Digital Transformation is a **unique opportunity** to be welcomed, **not a problem** to be confronted

> Strong **Leadership**

> Organization **Culture**

> **Agile** Mind set

> Willingness to **learn**

> Being **customer centric**

> Technical **Readiness**

> Strong **Gov't Policies**

TIME FOR CHANGE

Key steps in digital transformation.

> Define **Purpose**
> Create a **Plan** that works for the business
> An **Approach** with a clear **Roadmap**
> Manage **People** dimension
> **Re-Education / Re-Skilling**
> Let go off **Legacy** technology
> Compete against **Situation**

BY → **BY** → **BY** →

STEP → STEP → STEP → STEP
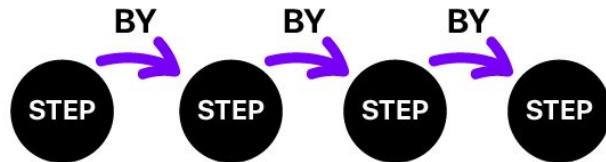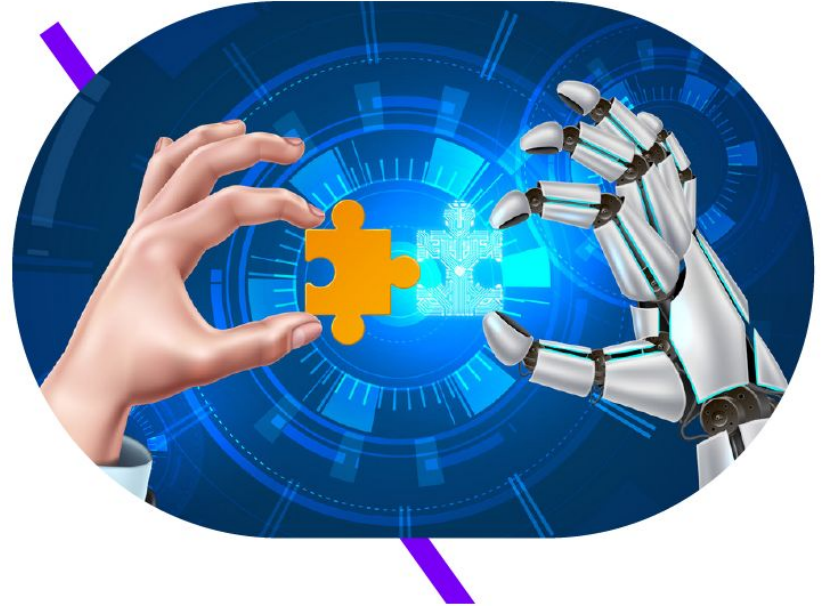
The power of 'Purpose'

Thank You!

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