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IT Leadership in the Digital Era

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What is the Digital Era?

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The changing economies

1. The world shifts from activities dominated by analogue technologies to activities dominated by digital technologies.
2. An abundance of electronic devices (smart phones, tablets, computers, servers) and communication networks (fixed and mobile, voice and broadband, 3G, 4G, 5G and LTE).
3. In the late 20th century we talk about knowledge-based economy or knowledge-intensive economy.
4. In the 21st century Digital economy is where digital technologies are a primary source of economic activity for the production of goods or services.
5. IT professionals, IT users and consumers encounter complexity which includes uncertainty, unpredictability and discontinuity.

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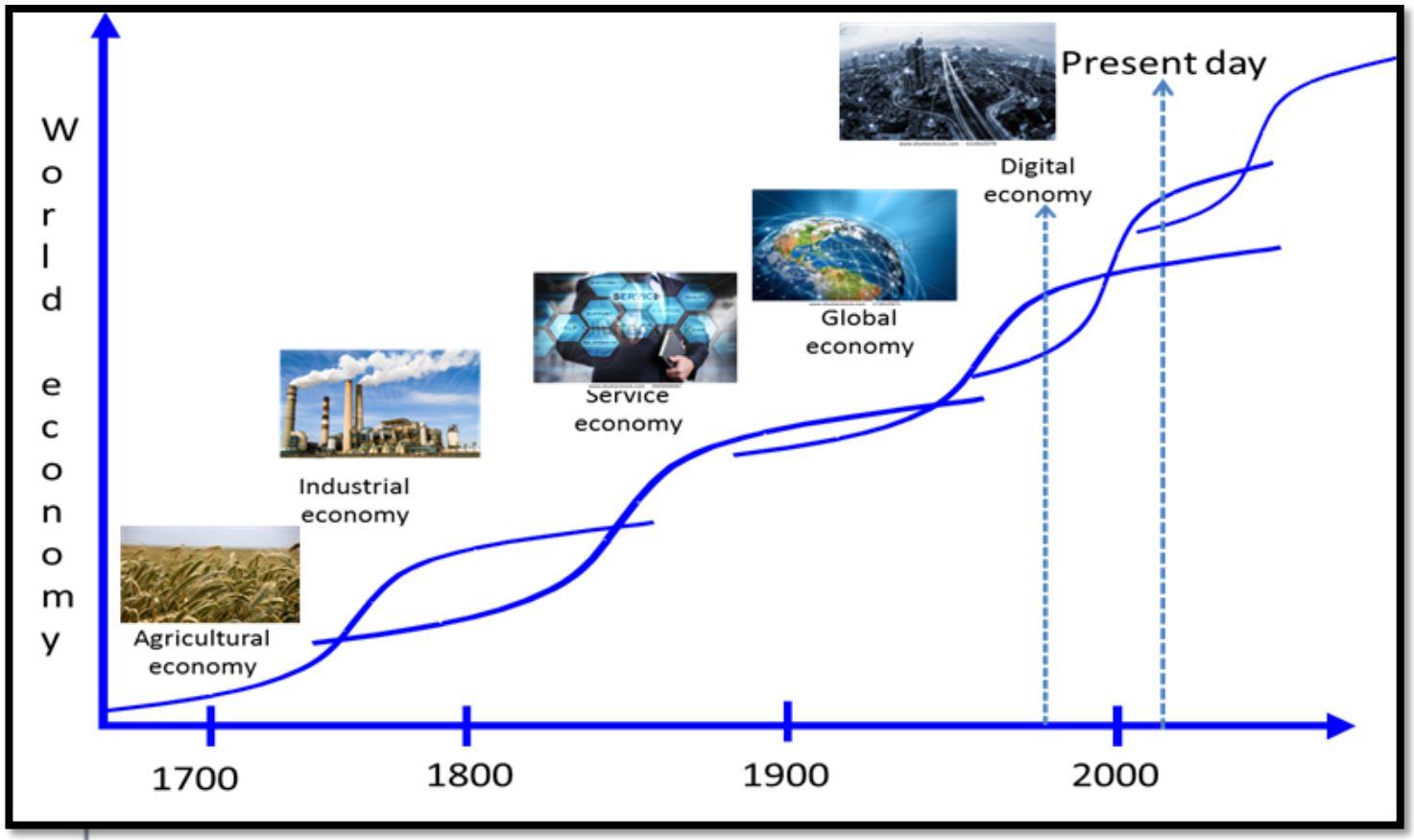
Evolution of the digital era



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Rise of digital technologies

1. Digital technologies are transforming all economic sectors we see trends towards digital marketing, online banking, online shopping, online tourism, smart cities, smart power grids, driverless vehicles, advanced e-health technologies, mobile internet, etc.
2. Rise of the Internet of Things (IoT) applications adding further complexity to connectivity of electronic devices.
3. For IT professionals the risks arise as new technologies replace older technologies as the battle to integrate new technologies into the work place.
4. Digital skills are required to create digital infrastructure and create value through over-the-top (OTT) innovations.
5. Digital services enable organisations to do more services in an online environment.
6. Enterprises will look to the IT division and CIO for leadership in the Digital Era.

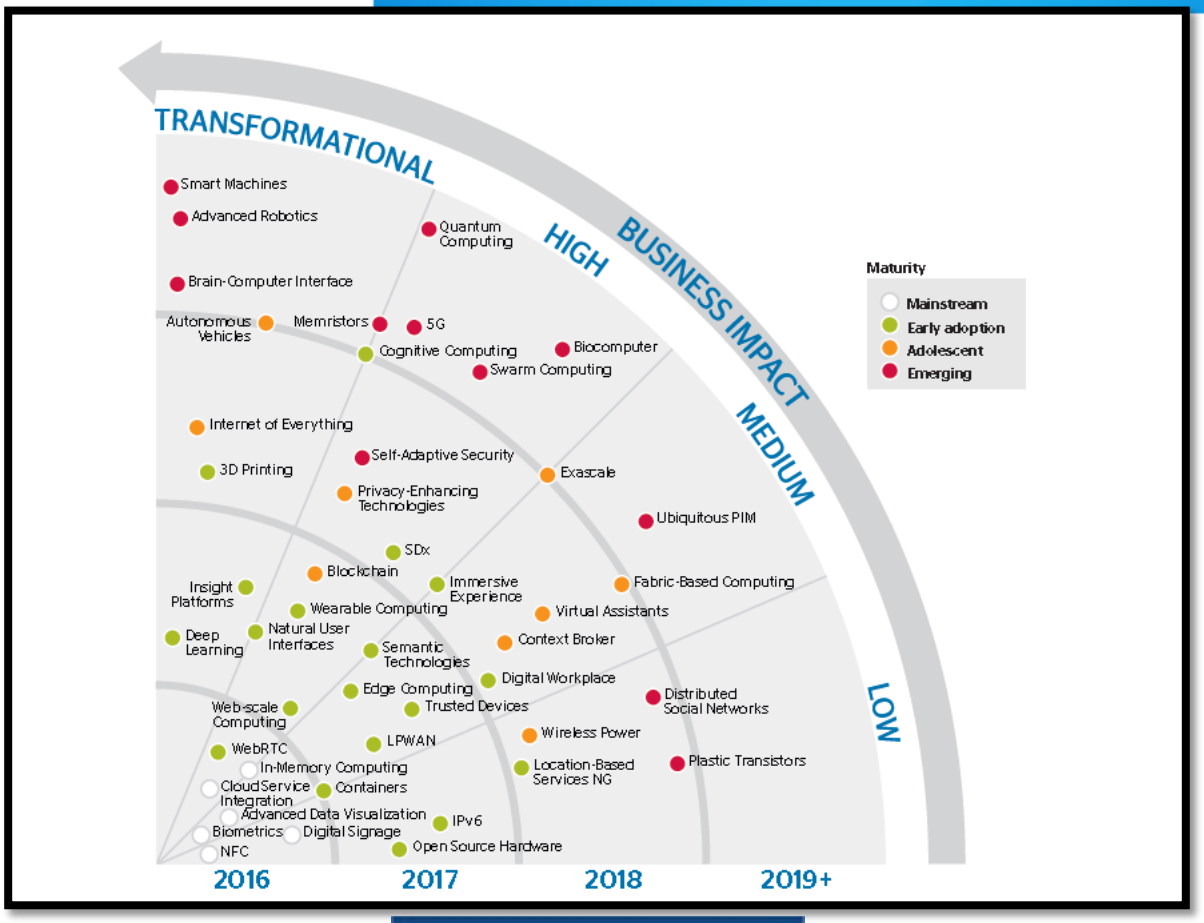
Rise of digital technologies

1. The Internet and the World Wide Web have given rise to the digital economy, putting pressure on enterprises to re-engineer the way they operate.
2. The fundamental difference between the digital economy and previous economies is that the consumer is now the primary focus, able to make his/her demands known instantaneously, through mobile messages, websites, or social media.
3. Consumers are demanding variety and have more personal choice.
4. Given the rapid development in global logistics, goods can be at your doorstep within a few days of ordering online.
5. Enterprises have to adapt to these demands, or they will be left behind as other competitors adapt faster to consumer needs and demands.
6. Globalisation of knowledge and finance, technologies and the new digital economy create change and uncertainty.

Rise of digital technologies

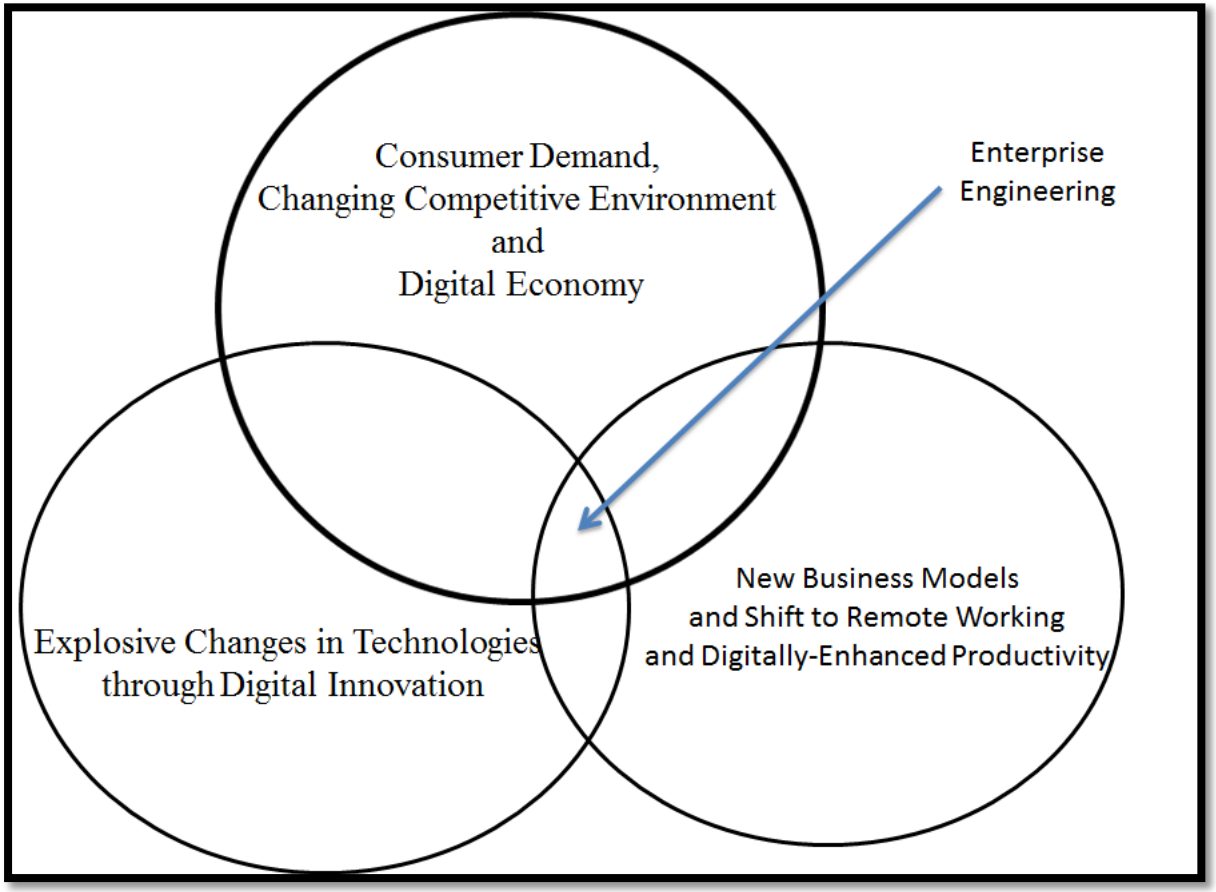
1. Historical ways of doing business have become obsolete and the rules of global competition and local service delivery are changing at what some people perceive as a bewildering rate.
2. Innovations in digital technologies have enabled people to work more productively, to work remotely, from home, or from customer or supplier sites, or from other countries.
3. IT has given rise to new ways of working where people collaborate as virtual teams, resulting in massive productivity gains

Technologies that will impact your business



Source: Tech trends, 2016. AscentLook Out

The digitally-engineered enterprise



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Leadership of the IT function and the role of the CIO in the Digital Era

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From IT to BT

1. In the Digital era there is a strong move from IT to business enabled technology (BT).
2. BT is an approach to IT management, this is a shift towards technology-decision-making being business lead.
3. The IT division and CIO are responsible for advising, coaching and guiding the business in technology investments and implementation, the business is responsible to technology-decision-making, implementation and adoption.
4. The path from IT to BT requires an enterprise-wide shift in enterprise culture and climate.
5. The IT division does not get a free ticket to be an adviser, coach and guide, this has to be earned.
6. The IT division has to earn the credibility and trust of the business.

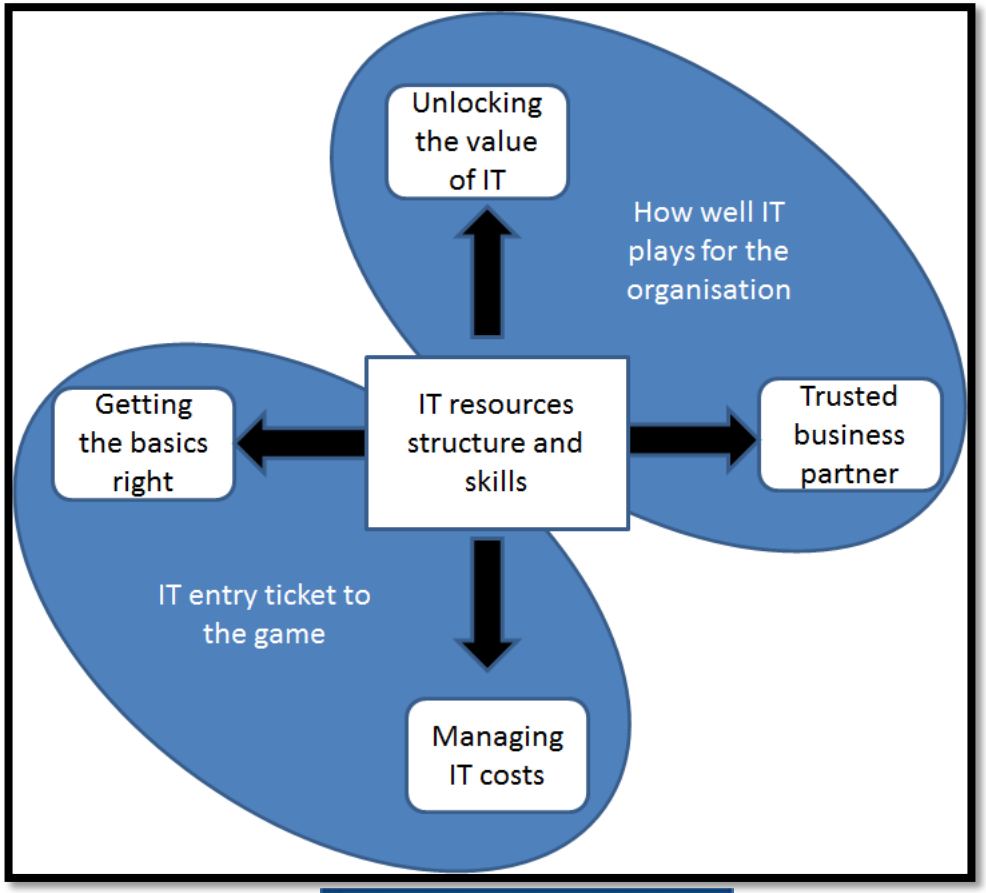
From IT to BT

1. Forrester (2012) speaks to 3 models on how CIOs have traditionally worked viz.:
   a) Solid utility model – The IT division provides cost-effective reliable IT solutions at declining costs.
   b) Trusted supplier – The IT division is expected to deliver projects on time and on budget based on the enterprise requirements as well as all the services from the Solid utility model.
   c) Partner Player – The IT division is expected to create unique solutions which create competitive advantages for the enterprise. This is a BT partner model, the IT division is also expected to deliver on the services from the Trusted supplier model.
2. Forrester (2012) speaks of true partner player where the shift is towards an empowered BT model, in which the role of IT as a sole technology provider diminishes.

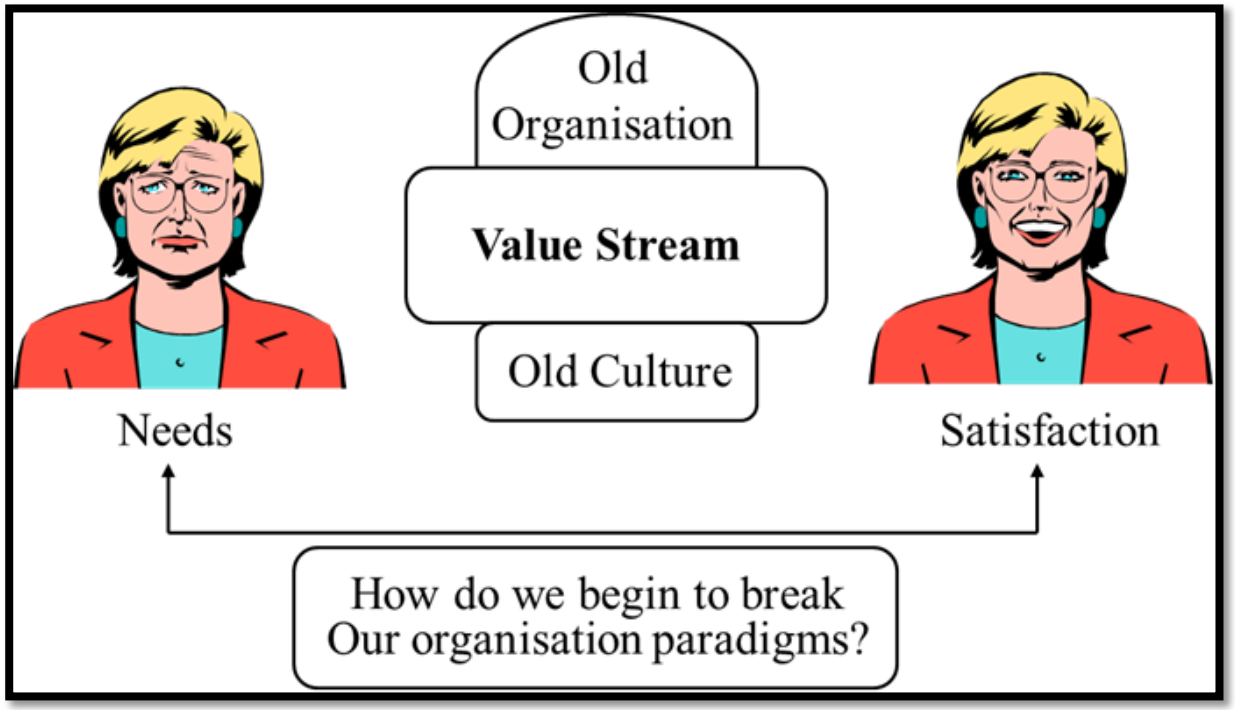
From IT to BT

1. IT does not automatically become an empowered trusted business partner, this status is earned.
2. The IT division must demonstrate capabilities in at least the following 4 areas to reach the status of an empowered trusted business partner:
    1. Managing IT costs – The IT division needs to demonstrate IT services are provided at market related costs, as well as show year on year cost economies of scale.
    2. Getting the basics right – The IT division must demonstrate they can keep the lights on, that is reliability and availability of systems, no interruptible breakdowns on critical systems.
    3. Unlocking the value of IT – The systems and technologies must yield bottom line business value.
    4. Trusted business partner – success in the above 3 categories will lead to a trusted business partner model.

Steps to becoming an IT business partner



Organizational paradigm shift



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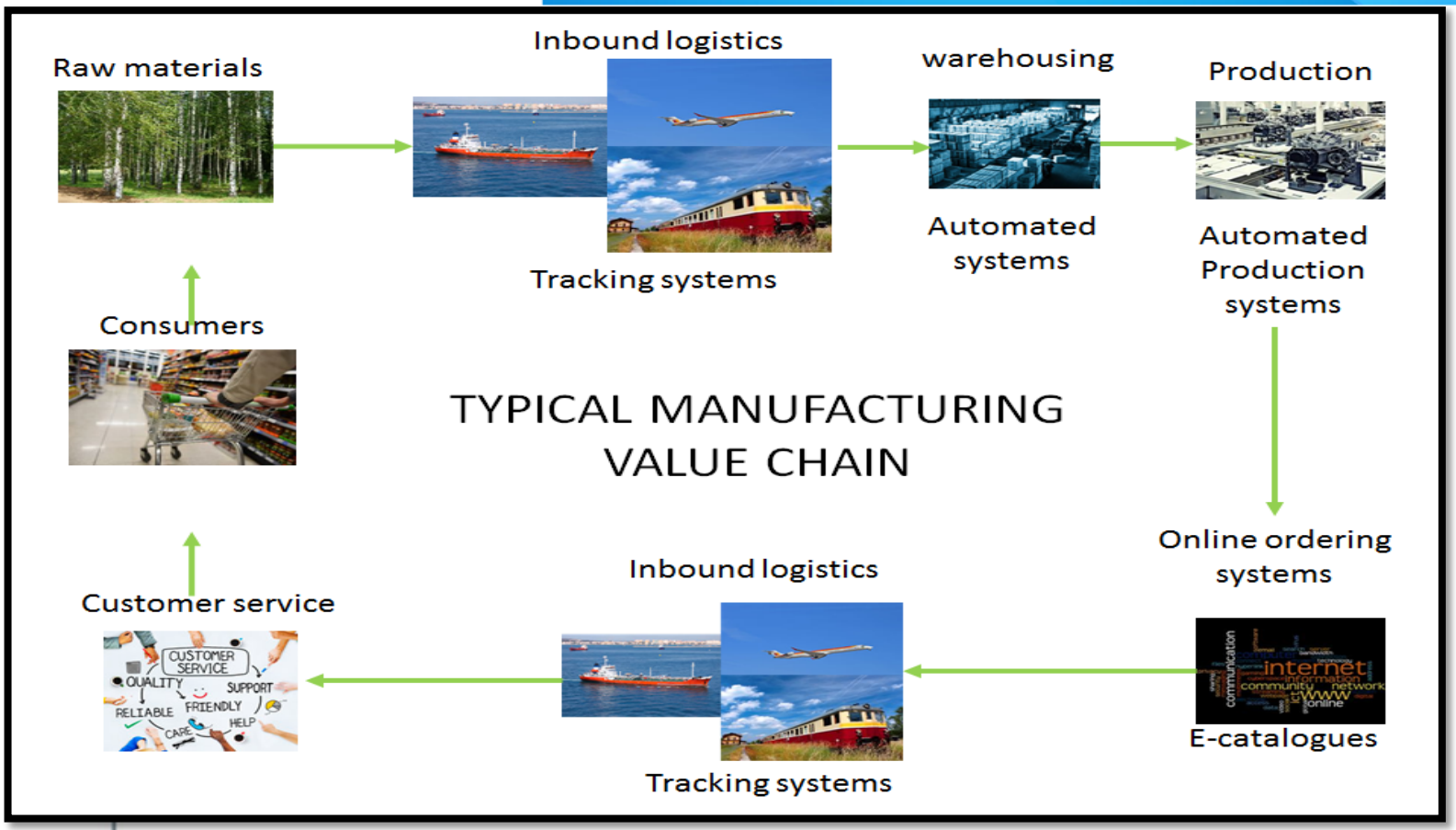
Typical manufacturing value chain



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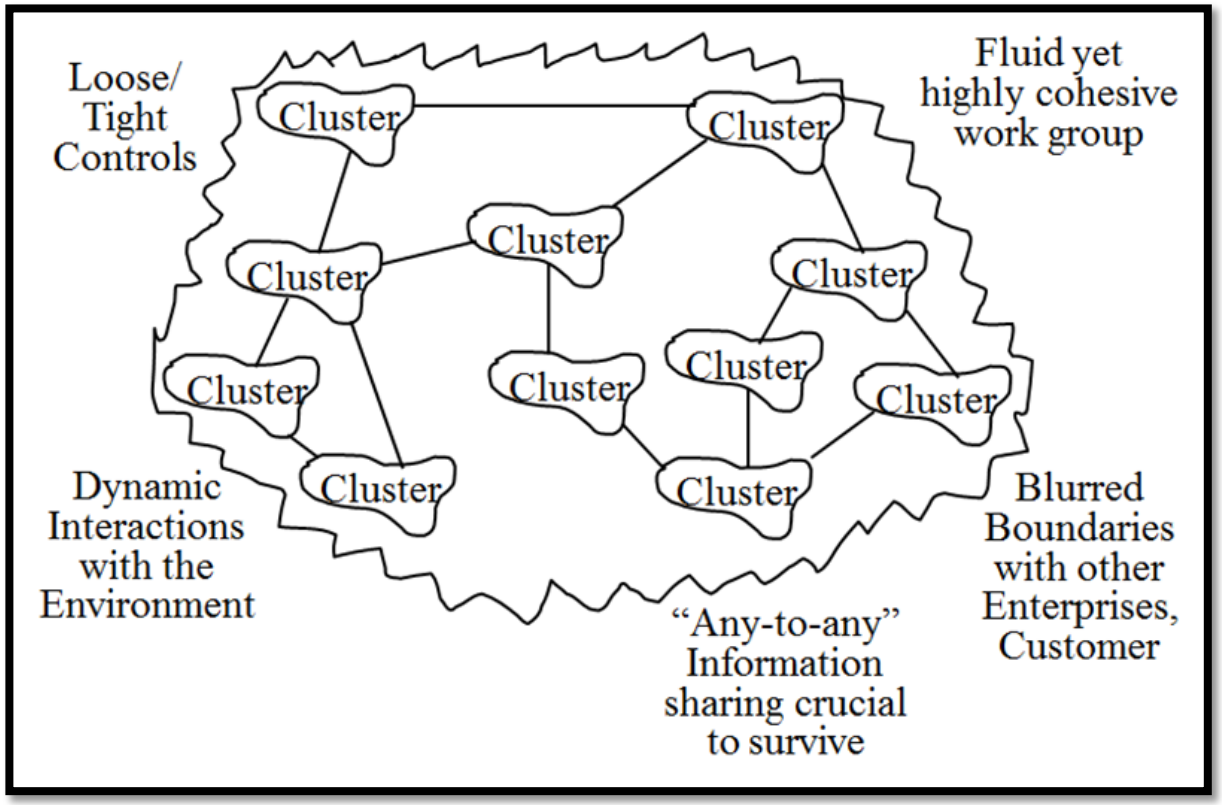
Cohesive work teams



Self defeating systems

1. Systems that act against themselves.
2. Self defeating systems succeed in achieving an immediate objective or aim but fail to satisfy long-term goals.
3. An example is a firm that over-sells, and as a result, over commits or an economy which encounters a balance of payments crises because it is to anxious to trade with certain foreign countries.
4. The IT to BT approach maybe heading in the direction of a self defeating system.
5. Current research indicates as we move towards a BT approach the role of the CIO will move towards an advisor, coach and guide.
6. Is this really true, in short-term probably in the long-term we probably have to see.
7. To advise, coach and guide, one must have been there done it before, so an advisor, coach and guide over time will not be the one who has done it before.

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Business insight?

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Business insight

1. Business insight means finding a solution to a problem or challenge, by approaching the challenge or opportunity from a different perspective. Sometimes referred to out of the box thinking.
2. Business insight requires a paradigm shift and it does not mean identifying solutions or opportunities through a process of elimination, through reduction of errors, reduction of waste, elimination of systems, or gaining process efficiency.
3. Business insight requires a fundamental shift in how the enterprise approaches a problem or challenge.
4. IT divisions and CIOs need to develop business insight to become true trusted business partners.
5. IT professionals and CIOs need to step outside their comfort zones and lead through management by walking around (MBWA) get in front of the external client.

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Typical Mission and Vision statements for IT/BT

Mission Statement:

"To be a centre of competence providing Innovative Business Technology Solutions to the organisation".

Vision Statement:

"To develop Effective and Efficient Value Added Services for business by Adopting Best Practices and Innovative Solutions".

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What is Innovation?

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Some definitions

1. Invention the action of finding discovery.
2. Technology the practice or application of any of the applied sciences for practical value or industrial usage.
3. Innovation to change into something new, the introduction of novelties.
4. Evolution the process of disengaging from an existing envelope.

Therefore

5. Innovation = Invention + Commercialization

Source: Grulke (2001)

What is Innovation?

Market Linkages	Technology linkages: Enhances	Technology linkages: Destroys
Destroys	**Disruptive Innovation (Disrupting the market)**	**Radical Innovation**
Enhances	**Evolutionary Innovation**	**Disruptive Innovation (Disrupting the technology base)**

Source: Grulke (2001)

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Innovation in the BT model

1. Do not hide behind the definition of innovation.
2. Everything is not innovation.
3. If you are not doing something that is fundamentally different you are doing what others are doing there is no differentiation.
4. The BT model needs to give rise to differentiation so the enterprise can develop competitive advantages so it can outsmart its competitors.
5. In the BT model IT needs to take the lead and demonstrate innovate capabilities which lead to bottom line benefit.
6. Some enterprises are already moving towards creating Chief Digital Officers (CDO), who are responsible for the end to end digital value chain.
7. CDOs are responsible to ensure digital technologies are embedded across the enterprises value chain from order to cash.
8. If the IT leadership does not rise to deliver business value others will do it and the role of the IT division and the CIO will be different.

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Industry trends?

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Top IT management concerns CIONET 2016 report

1. Business (Enterprise) and IT alignment – Enterprise and IT alignment have been in the spotlight for more than 30 years, despite this focus it still requires further attention. Technology must be leveraged for business benefit.
2. Business (Enterprise) agility and flexibility – Enterprise agility and speed to market are essential for creating competitive advantages.
3. Business process management – Aligning IT to optimise business processes will continue to be a focus area.
4. Innovation from using newer technologies can greatly benefit the enterprise and lead to competitive advantages.
5. Business (Enterprise) continuity – the ability to continue business operations at pre-defined levels following a disruptive incident is fundamental to good governance and will receive more attention in the digital era.

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The 4 most important IT trends for investment CIONET 2016 report

1. Analytics and business intelligence – the ability to provide data to users where users can manipulate and customise data to their requirements.
2. Enterprise resource planning (ERP) – ERP systems have held the top 5 position since 2009. ERP systems fundamentally change the way enterprises transact and impose certain work processes and methods on the enterprise. ERP systems and Business Insight, give enterprises the added advantage of doing things differently to their competitors.
3. Application and software development – this involves the development of customised applications and software development and is still an area of focus for many enterprises despite the trends in software as a service (SaaS).
4. Cloud computing - Cloud Computing includes SaaS, PaaS (Platform-as-a-Service), and IaaS (Infrastructure-as-a-Service). Future IT trends indicate that there will be an increase in the provision of cloud services through external service providers.

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Some remaining questions

1. Given these industry trends and IT investment areas, the question remains how can we use technology to create business value which will assist the enterprises we work in to outsmart its competitors?
2. Do IT professionals and CIOs have the capabilities to advise, coach and guide business? And is it sustainable?
3. Do our enterprises have business-savvy leaders who can lead the technology-decision-making process? And is it sustainable?

Question and answer session

Question and Answers