Imagining the Digital future
How digital themes are transforming companies across industries
February 2015
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1. Introduction
1. Introduction

The new or rather the contextual definition of digital business refers to the way in which businesses are adopting technology platforms for their physical assets to improve processes to connect internally and to their stakeholders – customers, suppliers, employees, shareholders and the public at large.

Digital is fundamentally changing how companies do business. Enabled by data and technology, digital is a continuous form of disruption to business models, products, services and experiences. It has radically changed the way people consume content, communicate, and access products and services.

New companies are popping up overnight even as existing ones work to gain the required agility to compete in today’s increasingly complex market landscape. How an enterprise responds to the digital challenge will significantly impact its survival today and its success in years to come. Companies are exploiting opportunities and managing risks by becoming essentially digital.

Digital has already disrupted established businesses in many industries. But, there will be another tidal wave of digital change. Whether your company is among the early adopters disrupting the market or among those forced to follow is dictated by how you understand and respond to opportunities and risks that digital presents.

A look at contemporary literature on the subject reveals that most of it is focussed on building a case for these technologies using impressive numbers. Very few really get down to specifics. Even fewer discuss the impact of these technologies when used in a cohesive and complementary manner.

We have attempted to address some of the existing gaps. For this, we have undertaken a sector-by-sector analysis covering four large sectors of importance, namely, automotive, consumer goods and retail, BFSI and government. In addition, we have evaluated specific instances where digital technologies are being used. These companies have been selected from sectors basis their contribution to the economy, as well as the relative impact of digital transformation on their businesses.

Secondly, and more importantly, we have tried to give a sense of a roadmap to companies that are embarking on this journey. In this regard, some of the relevant questions that need to be asked are:

- **What** are you trying to achieve?
- **How** do you charter this journey and the steps in this direction?
- **Who** can be your partners in this journey?

That being said, your challenges may be unique. We shall be happy to discuss your specific needs and assist you in your journey in the digital realm.

We hope you find this report useful and will be happy to provide you with more information and guidance around some of these ideas.

**Samiron Ghoshal**
Partner, Advisory Services &
Member Global Emerging Markets Advisory Core Group
EY
2. Decoding digital transformation
2. Decoding digital transformation

2.1 Digital transformation is shaping future businesses

52% of the Fortune 500 companies have gone bankrupt, been acquired or ceased to exist since 2000 due to digital disruption.

30% of the IT spend of enterprises is being invested beyond the traditional corporate IT realm.

80%* of respondents said that achieving digital transformation will be critical to their businesses within the next 2 years.

Digital transformation is already having a profound impact on businesses:
- Augmented traditional business models, such as moving from selling products to providing solutions
- Emergence of wholly new types of business models
- Better customer experiences, streamlined operations and increased profitability

Digital transformation is not only redefining businesses within an industry, but is also expanding industry boundaries. This is because effective delivery of digital services requires (a) transition from a product-centric approach to an ecosystem-centric one and (b) seamless integration across diverse industries, leading to “coopetition” or co-existence of competition and cooperation. An automobile manufacturer, for example, in addition to focusing on its product, may have to collaborate with various stakeholders such as telecom operators, device manufacturers and insurance providers to create a connected car ecosystem.

Digital growth is just the tip of the iceberg currently:
- 50 bn internet-connected “things” by 2020, including sensors and RFID chips
- 35 days for a new technology to reach a critical mass of 50m users
- 1% of potential connectivity is estimated to have been achieved so far


Digital growth is just the tip of the iceberg currently

Product

Connected product

Intelligent, connected ecosystem

Intelligent, connected product

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2.2 The new digital transformation web

The smart, mobile connected digital world is driving companies to build and support an entirely new technology infrastructure. This “technology web” is the interplay of leading edge Social media, Mobility, Analytics, Cloud and Internet of Everything (SMACi) technologies, which are empowering enterprises across critical digital dimensions including products and services, customer experience, operations and workforce.

Key enablers of digital transformation

- **Social Media**
  - Social channels are being leveraged by businesses to interact with their customers

- **Mobility**
  - Mobility is shifting the focus of application development away from the traditional “desktop-based” approach to a “mobile-first” one

- **Analytics**
  - Analytics is enabling enterprises to explore large volumes of data to gain insights and drive strategic decisions

- **IoE**
  - Internet of Everything (IoE) is opening significant opportunities by connecting everything to internet

- **Cloud**
  - Cloud computing is reshaping the way software and services are sold and delivered

Amalgamation of key enablers is creating a new digital transformation web

The individual components of SMACi stack have been thriving in silos over the past few years. Through the convergence of SMACi, the IT landscape is now witnessing the burgeoning power of digital transformation. This entails the integrated play of SMACi to deliver content, commerce and collaboration to customers anytime and anywhere in a comprehensible, personalized, contextual and cost effective manner.
Digital transformation web is charting out a “must-have” digital portfolio for businesses

Digital ecosystem is revamping business processes, enabling organizations to be more innovative in how they engage with customers and employees alike. Enterprises are now monitoring the sales force effectiveness, employee engagement and retention, enabling greater efficiency and collaboration in operations.

Digital transformation harnesses the qualities of SMACi technologies to deliver integrated business solutions that empower enterprises across each of the digital dimension, as given below:

**Digital portfolio**

<table>
<thead>
<tr>
<th>Digital products and services</th>
<th>Digital customer experience</th>
<th>Digital operations</th>
<th>Digital workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>★ New digital business models</td>
<td>★ Digital commerce</td>
<td>★ Digitally-enabled field-force</td>
<td>★ Digital HR</td>
</tr>
<tr>
<td>★ Digital enhanced businesses</td>
<td>★ Digital marketing</td>
<td>★ Multi-channel integration</td>
<td>★ Connected workforce</td>
</tr>
<tr>
<td>★ Digital R&amp;D</td>
<td>★ Digital service</td>
<td>★ Digital maintenance and support</td>
<td></td>
</tr>
<tr>
<td>★ Create new revenue stream through new businesses</td>
<td>★ Generate incremental revenue by adopting customer-centric approach</td>
<td>★ Improve bottom-line by empowering sales force identify, pursue and close opportunities through channel of choice</td>
<td>★ Develop an efficient workforce by using digital solutions to reach and recruit, identify and provision need based training, manage employee performance and productivity</td>
</tr>
<tr>
<td>★ Augment existing portfolio by leveraging digital technologies</td>
<td>★ Prioritise customer convenience by selling products and services via digital channels</td>
<td>★ Achieve business agility and automation through better maintenance and support</td>
<td></td>
</tr>
<tr>
<td>★ Provide a collaborative ecosystem to ideate new products and services</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Having a digital portfolio would enable organizations across diverse sectors to reap full benefits of digital transformation, as is explained in the following chapter.

**Customer experience**
- Improved satisfaction
- Greater share of wallet
- Improved loyalty and retention

**Financial**
- Revenue Growth
- Increased profitability
- Increased effectiveness/efficiency
- Cost reduction

**Benefits of digital transformation**

**Innovation and operational efficiency**
- New category development
- New product and service development and innovation
- Optimize supply chain, maintenance and field service

**Branding and marketing**
- Improved branding and corporate reputation
- Improved market awareness
- Improved marketing ROI
3. Digital themes are transforming businesses across various sectors
3.1 Automotive sector
3. Digital themes are transforming businesses across various sectors

3.1 Automotive sector

3.1.1 Digital transformation in the automotive sector

Automotive sector is at the cusp of a digital revolution, driven by trends such as the rapidly changing consumer behaviour, an increasing need for greater fuel economy, new opportunities presented by connectivity and the emergence of new growth markets. In order to remain competitive and proactively address these trends, automotive players need to embrace innovation. Digital transformation is playing a key role in taking the automotive industry into the future.

Digital transformation across the auto industry ecosystem

The increasing number of trends in the industry is creating new challenges, along with opportunities. Sales have struggled in a tough economy while consumers have become more aware and vocal of their vehicle preferences. New mobility solutions are being embedded in existing business models. Connected vehicles are creating manifold opportunities for new sales and service formats which focus on holistic customer experience. Ongoing trend of digitisation has led to exponential growth in the volume of data generated. However, the real value will be derived from the insights that businesses will be able to draw from the data, rather than from the information per se.
The industry needs to create a formal digitization strategy including overall approach, governance (e.g., center of excellence) and adoption of analytics culture. Only companies that integrate analytics in their decision making will be able to sustain a viable business model.

To secure top-line value from digitisation, enterprises need a holistic and strategic plan for identifying opportunities, overcoming challenges and managing risks.

<table>
<thead>
<tr>
<th>20%</th>
<th>80%</th>
<th>~38%</th>
<th>104 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>outperformance by companies that successfully use data analytics</td>
<td>OEMs selected customer analytics as a critical business process according to EY’s global survey</td>
<td>consumers expected to consult social media before making their next car purchase</td>
<td>new cars likely to have some form of connectivity by 2025</td>
</tr>
</tbody>
</table>
3.1.2 Key areas of digital transformation for the automotive sector

**Enterprise operations**

Automotive companies need to leverage technology to ensure cost effective delivery of new processes and optimised operations. Huge volume of data is generated in an automotive organization with manufacturing plant and related operations being no exception. The digitisation of enterprise operations enhances stakeholders' ability to take decisions in real-time, formulate strategy based on evolving trends and ensures efficient support processes.

**Digital transformation is affecting the following business areas within enterprise operations in the automotive sector**:  

<table>
<thead>
<tr>
<th>Manufacturing</th>
<th>Finance and IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Availability of plant operational metrics on a mobile device enabling real-time decision making</td>
<td>► Digital solutions using cloud and analytics can reduce the cost to manage cash, liquidity and risk</td>
</tr>
<tr>
<td>► Analytics to enable organisations to prioritize equipment maintenance resources to reduce costs</td>
<td>► Increasing penetration of cloud computing has increased the need for IT program and portfolio management</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Workforce analytics</th>
<th>Sales forecasting</th>
</tr>
</thead>
<tbody>
<tr>
<td>► A skill gaps analysis of the current workforce enables an automotive organisation to design efficient trainings and plan recruitment</td>
<td>► Development of analytical models can help predict the sales of vehicles on a dealership level</td>
</tr>
<tr>
<td>► A streamlined workforce management through digitisation will enhance visibility and control over labor costs</td>
<td>► Detailed vehicle sales analysis can be fed into production schedules to optimise capacity utilization</td>
</tr>
</tbody>
</table>

**The perfect digital business of the future:**

Analytics and cloud solutions will be embedded in automotive operations. Organisations will generate business insights based on real-time data. It will reduce unplanned manufacturing downtime, provide accurate financial data and enable a complete view of vehicle demand to plan automotive production.

► **EY engaged in an IT transformation project:** EY helped a global automotive financial services company to prioritise IT projects based on the client's strategy and business capability model.

► It reduced the time and effort spent on planning and budgeting IT projects and improved predictability and confidence in project delivery.
Sales and marketing

Consumers are interacting with automotive organisations through multiple touch points, driven by increasing penetration of digital channels. Data generated from these interactions, coupled with the uptake of customer analytics techniques, could result in a personalised customer experience.

Digital transformation is affecting the following business areas within sales and marketing in the automotive sector:

<table>
<thead>
<tr>
<th>Customer pre-purchase</th>
<th>Vehicle ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social media analytics help gauge customers’ feedback on new models and channel marketing activities</td>
<td>Vehicle diagnostics data, enabled by sensors, can be tracked to offer preventive maintenance services</td>
</tr>
<tr>
<td>Enterprise-wide data analytics enables OEMs to offer customised messaging/incentives to customers</td>
<td>Feeds from social media channels can be tracked and analysed for predictive analysis and customers’ feedback</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Brand management</th>
<th>Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>A well-outlined digital strategy ensures that customers have the same experience along all communication channels</td>
<td>Proactive analysis of vehicle diagnostics data helps identify when a customer is likely to buy a new car and allows to plan the timing of incentives accordingly</td>
</tr>
<tr>
<td>OEMs’ brand communication strategies should ensure that customers are able to switch channels at any time and without any disruption</td>
<td>Vehicle specific data can be tracked to build relationship with the second buyer of the vehicle</td>
</tr>
</tbody>
</table>

The perfect digital business of the future:

The OEM-customer relationship will transform from indirect and transactional to direct, personalised and lifelong. Users across the OEM will be able to access data and insights using a standard tool for customer analytics. The customer will, thus, be able to enjoy a seamless experience across offline and online channels without disruption.

- **EY engaged in crafting digital strategy**: EY helped the client engage prospects and manage relationship with customers. The OEM had multiple digital assets but lacked uniformity, completeness and adoption.
- **EY studied the key two-wheeler customer personas** in the national and international market place, as well as the adoption/usage of digital technologies by them. In addition, it identified ways in which competitors were leveraging digital technologies.
- **EY also created a digital heat map** across the customer lifecycle and provided a detailed digital maturity plan for the client across customer lifecycle.
Product innovation

Automobiles are increasingly being equipped with the ability to receive data and feed it into the cloud or to other vehicles, making them a key device in the IoE domain. As a result, automakers need to adopt new product development techniques and launch innovative connected car services. Also, the evolving legislative ecosystem has intensified the need to adopt technology-enabled solutions to ensure compliance in new product development.

Digital transformation is affecting the following business areas within product innovation in the automotive sector:

Collaborative product development

► Enterprise-wide cloud solutions can enable the sharing of vehicle specific output across the organisation and reduce product development time
► Social media channels and digital campaigns can be tapped to obtain customers’ input on future product development

Vehicle monitoring and data services

► Analysing vehicle or customer behaviour can help provide enhanced customer services such as safety aids or geospatial-related features
► Real-time vehicle data can be used to provide more information to the customer and enable predictive diagnostics

New partnerships and collaborations

► Increasing uptake of electronic and software components in vehicles has resulted in the need to identify strategic partners in the telecom and technology space to launch innovative services

Embedded product compliance

► Digital solutions enable the tracking of design and manufacturing information in real time to ensure compliance at all stages of new product development
► Such embedded product compliance can reduce time to market and prevent expensive litigations and fines

The perfect digital business of the future:

Automotive organisation will be able to optimize the flow of information across engineering disciplines and bring complex products to the market faster. This will entail effective collaboration with technology companies to launch innovative connected car services in the market.

► EY engaged in telematics risk management: EY helped a large off-road automotive organisation identify operational, technical and commercial risks related to the company’s telematics offering.
► EY also analysed additional challenges at the dealership and fleet owner levels in the US.
Supply chain and logistics management

Automotive companies depend on a complex and interdependent, multitier global supply network. Organisations can use analytics and digital solutions to reduce costs and avoid disruption. Production and demand information could be reconciled to optimise inventory levels and decrease lead times for orders.

Digital transformation is affecting the following business areas within supply chain and logistics management in the automotive sector:

Supplier visibility (tier 2 and tier 3 suppliers)

- Big data analytics can enable an automotive organisation to minimise supply chain risks by analysing parameters such as production, capacity and financial health of its suppliers, and ensuring the supply of critical parts

Inventory management

- Analytics can enable real-time monitoring of vehicle inventory based on demand
- This will drive the demand planning and forecasting processes and help determine and optimise sourcing, production, distribution and purchasing plans

Warranty analytics

- Automotive companies can analyse warranty claims data to identify the root cause of the claim
- Also, better component traceability will result in reduced warranty/recall costs

Procurement

- Cloud computing is increasing the efficiency of procurement process in the source-to-pay processes and network collaboration
- Also, analytics can facilitate spend analysis and ensure better sourcing, contract management and invoice management

The perfect digital business of the future:

Automotive organisations will be able to minimise recall costs by tracing faulty components at the batch level. They will be able to maintain optimal inventory levels with appropriate product volume/mix and possess complete visibility of suppliers. Organisations can use vehicle servicing data to identify patterns in manufacturing defects and change specifications based on the performance of parts.

- EY engaged in a dealer audit process improvement: After identifying some significant risk events in OEM’s dealer network, its audit committee concluded that the dealer audit function needed to develop a more effective and efficient approach for investigating and remediating issues.
- EY created an analytics model that generated a population of high-risk dealers and transactions that would later be targeted for further investigation by the internal audit team. This enabled agile reallocation of audit resources to high-risk dealers and improved exception identification rates.
3.2 Consumer products and retail sector
3.2 Consumer products and retail sector

3.2.1 Digital transformation in the consumer products and retail sector

Digital transformation, though in its nascent stage, is bringing about a revolutionary change in the consumer products and retail sector in India. On one hand, the dynamics of consumer behaviour are undergoing a change, as consumers spend more time online and multi-task between screens. Organisations, on the other hand are directing their efforts towards building omnichannel marketing and supply chain capabilities.

Today’s tech-savvy consumers are looking at brands for enhanced and interactive experiences and are seeking innovative solutions to address the growing need for convenience and more rapid “anytime, anywhere” solutions.

Digital transformation is acting as a disruptive force across the entire value chain

- **Consumer-driven marketing**
  - Digital spend on the rise
  - Changing medium for consumer engagement
  - Consumer co-creation and collaborations with startups for new product development

- **Rise of disruptive channels**
  - Online distribution platforms for reduced costs and extensive consumer reach
  - Faster delivery
  - Innovative payment mechanisms

- **Smart organizations**
  - Digitally embedded organisational designs
  - Improved store layouts, merchandising, assortment and shelf space
  - Analytically driven CRM capabilities

- **Agile supply chains**
  - Better demand planning and inventory management
  - Automated warehouses for improved customer service levels

![Diagram showing the impact of digital transformation across the value chain](image)
With digital shifting control to consumers and routes to market becoming more complex, companies are being compelled to adapt to the new reality, or risk becoming irrelevant for consumers.

Digital transformation is driving companies to step up innovation across products, services, pricing and experiences, and re-think existing business models.

- **30%-50%** increase in digital spending by consumer products companies in India during 2013-14
- **70%** retail companies investing in technology to know their customers better and enhance consumer experiences
- **5.2%** share of e-commerce in the overall retail market by 2020
- **6.5x** increase in the number of consumers purchasing products online by 2020
3.2.2 Key areas of digital transformation for the consumer products and retail sector

Marketing and communication

The growing proliferation of mobile devices, coupled with ubiquitous broadband connectivity, is rapidly bringing about a shift in consumers’ media consumption habits. Companies are re-drafting their marketing plans and increasing digital spends to “go where the consumer is.” Digital is no longer an after-thought, and has assumed immense significance at the “drawing board” stage of campaigns.

Digital transformation is affecting the following business areas within marketing and communication in the consumer products and retail sector:

**Consumer engagement**
- Companies are leveraging online, social media and mobile platforms to interact with, and prompt consumers to try their offerings
- Role of digital platforms have evolved from mere airing of TVCs to becoming a separate channel for engagement

**New product development**
- Consumer co-creation and collaborations with startups specialising across digital technologies are some of the ways in which companies are adopting open innovation to accelerate speed-to-market of new products and improve product success rates

**Media planning**
- The share of digital in the overall media budget is on the rise as digital platforms are being viewed as a low-cost and effective means to tap new consumers segments, particularly in tier II and III cities
- Online and social media presence and partnerships have now become a mandate

**Product and campaign testing**
- Companies are testing new products by exclusively launching them online to gauge consumer reactions
- Social media channels are being used as a testing ground for new advertising campaigns before rolling them out across other channels

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**The perfect digital business of the future:**

As the share of digital in the overall media budget increases, the marketing landscape will evolve towards omnichannel campaigning to truly offer seamless consumer experiences across channels and devices.

- **Consumer engagement:** A leading global cosmetics company drove significant level of consumer engagement around the launch of its makeup foundation. The company first gathered insights on what consumers looked for in a foundation via an online poll. Based on results, it developed its foundation and launched it through its social media page. During the course of the campaign, the company received 75,000 poll responses and a social media fan base growth of 33,746 users.

- **Consumer feedback while naming a brand:** A global food company chose the brand name for its “vitamin enriched” flavoured water based on more than 50,000 responses from consumers on social media.
In a landscape where traditional retail continues to dominate distribution strategies and modern channels constitute only around 10% of consumer product companies’ revenues, online is emerging as a powerful distribution platform. The dual benefits of extensive consumer reach and significantly low fixed costs have made this channel an appealing alternative source of revenue generation.

Digital transformation is affecting the following business areas within distribution in the consumer products and retail sector:

### Distribution

**Channel management**
- Companies are reformulating distribution strategies to sell products through own websites and virtual stores
- They are also tying up with e-commerce players for exclusive launches and deals

**Payment mechanisms**
- To enable consumers to reach the “pro-online buying” stage, companies are resorting to COD. The advent of COD is bringing about a change in the terms of agreement (operating model, product returns, credit terms and interest spread) between suppliers and logistics companies
- The sector is transitioning to online payment systems such as credit and debit cards and net banking, as well as niche services such as mobile wallets, social network-based payment and near-field communication payment solutions

**Delivery**
- Companies are developing faster online order fulfilment capabilities by deploying strategies including “click and collect” (buy online and pick up at a designated location) and real-time order tracking

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The perfect digital business of the future:
As the share of e-commerce and m-commerce in overall company revenues increases, speedy omnichannel fulfillment and secure online payment systems will assume utmost significance.

- **Tapping market through e-commerce:** A Swedish hygiene products manufacturer has tied up with leading e-commerce companies to distribute its products to tier II and III consumers. It already generates 10% of its revenues in India online and has been focusing on m-commerce.
- **Virtual shopping mall:** A leading Indian e-commerce company set up its virtual shopping mall at the New Delhi Indira Gandhi International Airport in 2013. The mall allows passengers to browse through the company’s merchandise by using smartphones and can also place orders by calling at the call centre of the company.
- **Investment in cloud infrastructure:** A leading Indian e-commerce marketplace is investing INR615 million to scale up its cloud-based technology infrastructure to support traffic during peak seasons.
- **“Click-and-collect” service:** In May 2014, a leading global e-commerce company piloted the use of kirana stores and petrol pumps as pick up points for its “click-and-collect” service in India.
- **Investment in omnichannel retailing:** In September 2014, a leading Indian retailer announced plans to invest INR1 billion in omnichannel retailing. Omnichannel operations - which will allow its customers to view the company’s entire inventory (online and in-store), place orders online and opt for in-store or home delivery - are expected to enhance the company’s revenues by 6%-9% by 2016.
Digital transformation has resulted in an explosion of data, as insights across all consumer touch points are now being captured. Having access to such rich data, there is a need to maximise return by leveraging more powerful analytic tools and capabilities to drive “smarter” decisions. Companies are re-thinking their entire approach to decision making, right from the formulation of use cases to digital teams.

Digital transformation is impacting the following business areas within decision making models in the consumer products and retail sector:

### Organisational design
- Companies are creating dedicated digital business units, research, innovation and marketing teams, and new positions focused on digital innovation.
- They are upping the ante on hiring right talent to successfully compete in today’s “digitised” world.

### Customer segmentation, targeting and relationships
- Analytics is enabling companies to better define consumer targeting strategies, for instance, by leveraging text and social network mining to gauge consumer sentiments.
- Analytically enabled marketing is paving the way for robust CRM capabilities.

### Store operations
- Based on insights obtained from the point of sales, retailers are optimising store layouts, improving visual merchandising and assortment to better target customers, as well as optimising shelf displays and inventory to minimise stock outs.

### Marketing ROI optimisation
- Digital transformation is helping companies determine the impact of their campaigns and develop understanding of the right channels to target consumer segments; this would help increase the return on their marketing investments.

#### The perfect digital business of the future:
As capabilities for analysing insights develop, the importance of big data analytics will increase significantly. With this, the conventional roles of CMO and CIOs will undergo a change, demanding closer collaboration.

- **Separate unit for online sales:** A leading Indian personal care company reorganised its operating structure to create a separate unit for online sales.

- **Investment in analytics:** A leading global personal care and food company invested in analytics to create “perfect stores” in India. These reported 4% higher average growth than other outlets. The concept is based on the insight that every geography and outlet size has an optimal store and merchandising layout that best addresses consumers’ needs and presents the company’s brands.

- **Acquisition:** A leading Indian online marketplace acquired a company to leverage its proprietary algorithm-based platform that offers users gift options based on parameters such as relationship with the recipient, their age, personality, likes and interests.

- **Deployment of visual analytics:** A leading jewellery manufacturer and retailer in India deployed visual analytics to explore and analyse business data, including supply chain and profitability metrics.
Technology intervention in the supply chain has evolved from the mere usage of computers to include a gamut of applications ranging from factory automation, data recognition equipment and enhanced communication devices to automated hardware and services. IT-enabled infrastructural capabilities, in addition to helping companies strip out costs, are empowering them to increase their supply chain agility and responsiveness to drive growth.

Digital transformation is affecting the following business areas within supply chain management in the consumer products and retail sector:

**Demand management**
- Companies are leveraging RFID tags extensively for tracking of merchandise. This has resulted in optimisation of inventory levels, as well as minimisation of obsolescence and mark downs.

**Inventory management**
- Digital transformation is enabling companies to increase accuracy in demand planning and forecasting.
- In addition to leveraging SMACi technologies to run statistical queries based on historical sales data, companies are equipping their in-field sales agents with handheld devices for faster relaying of sales data from the field to distribution centres; this would help significantly reduce stock replenishment cycles.

**Warehouse management**
- Automated warehouses enable faster delivery and improved customer service and satisfaction.

**The perfect digital business of the future:**
As the digital adoption across the value chain, companies will be re-thinking supply chain models to make them fit for omnichannel and strive to attain end-to-end visibility.

- **EY engaged in optimising supply chain:** EY, to support a European online mail order client’s international growth strategy, helped it set up an online retail shop that connected to ERP back-end systems, as well as extended warehouse house management module. It also supported the client in standardising and automating processes for its suppliers and freight forwarders. The project resulted in a marked improvement in customer satisfaction levels for the client.

- **Real-time information:** A leading global consumer health care company uses handheld devices to keep its distributor teams updated about distributor selling, inventory, salesmen performance measurement and training tools.

- **Virtual mapping:** A leading fashion e-tailer uses in-house technology for virtual warehouse mapping, inventory management, and customer care and payments functions, i.e., merchants can log into the system to track how quickly their stock is moving from the portal.
3.3 Government/Public sector
3.3 Government/Public sector

3.3.1 Digital transformation in the government/public sector

Organisations across the world are riding the digital transformation wave to drive innovation, and the government/public sector is no exception. It has become necessary for government bodies to leverage SMACi technologies to create and nurture an effective and efficient ecosystem. Smart governments are integrating ICT in their operations across multiple domains and jurisdictions to generate sustainable public value.

**Areas of digital transformation across the government/public sector:**

- **Delivering public services**
  - Sharing information with citizens and ensuring quick delivery of services
  - Effectively managing public finances and strengthening security

- **Improving healthcare systems**
  - Improving healthcare delivery mechanisms
  - Expanding accessibility in remote areas

- **Promoting sustainable living**
  - Reducing traffic congestion and improving safety
  - Increasing energy efficiency with reduced costs

- **Enhancing learning environment**
  - Enhancing the teaching and learning experience
  - Improving quality of education

Governments are rapidly infusing new technologies into their citizen engagement practices and approaches to problem solving. They are exploring ways to leverage big data analytics to better address challenges and improve operational efficiencies and services. At the same time, social media is changing how citizens communicate, interact and mobilise, making it an imperative that governments are more responsive. Innovative governments are also shifting away from specialised agencies and discrete services towards more streamlined, citizen-centric processes.

**Yesterday: Governments deliver services to citizens**

**Tomorrow: citizens drive public service delivery**
In its pursuit of digital transformation, the government/public sector continues to face issues in governance such as the need for specialised infrastructure, data availability and reliability, and information security. Concerted effort across all levels of the government is required to enable technology platforms that are scalable and allow the quick creation and delivery of services.

Governments all over the world need to develop a comprehensive approach towards embracing digital transformation across their services to secure a sustainable ecosystem.

### Smart cities

Governments are progressively moving on to develop smart cities to tackle the increasing urban population. Smart cities use digital technologies to enhance performance, reduce costs and resource consumption, as well as to engage more effectively and actively with its citizens. Digital technologies could potentially revolutionise the management of resources. Governments are using smart cities to promote sustainable economic development. Key areas of deployment of smart solutions include governance, public finance management, energy, transport, education and health care.

**Smart cities framework for the government sector:**

**Institutional infrastructure**

This refers to the activities that relate to the governance, planning and management of a city. ICT has provided a new dimension to this system, making it citizen centric, efficient, accountable and transparent.

**Physical infrastructure**

This refers to the stock of cost-efficient and intelligent physical infrastructure such as urban mobility system, energy system, water supply system, sewerage system, and solid waste management system, which are all integrated through technology.

**Economic infrastructure**

To create an appropriate economic infrastructure, Governments need to successfully implement and integrate all the above pillars.

**Social infrastructure**

This relates to components that work towards developing human and social capital; these include education, health care, entertainment, as well as creative arts, sports, and gardens.
### 3.3.2 Key areas of digital transformation for the government/public sector

#### Governance and finance management

| Fiscal constraints imposed by macroeconomic adjustment programs across geographies have created strong demand for efficient public finance management. Increased efficiency in administration and service delivery has been driving Governments to shift away from manual to IT-enabled processes. While emphasis has been primarily on automation and computerisation, Governments have also endeavoured to use ICT tools in connectivity, networking and delivering services. |

*Digital transformation is affecting the following business areas within governance and finance management in the government sector:*  

- **Citizen identity**
  - Governments are migrating to e-identity solutions to replace traditional paper
  - Examples include e-passports, e-driving licenses and national e-identity cards

- **Citizen-centric service delivery**
  - Governments have progressively launched several e-governance initiatives
  - Governments are also reaching out to citizens using mobile device

- **Tax administration and fraud detection**
  - Governments are counting on technology tools to increase collections and check tax evasion
  - The Indian Finance ministry is rolling out seven to eight technology projects as part of tax reforms

- **Public finance management (PFM)**
  - Governments are shifting to Integrated Financial Management Information Systems (IFMIS)
  - IFMIS use a common ICT platform for integrating treasury operations, budgeting, procurement etc.

**The perfect digital business of the future:**

Providing services online will no longer remain optional for local and central government. They would have to modernise their operations to achieve greater efficiency. Emerging technologies would be used to make their public finance management procedures more transparent and efficient.

- **EY engaged in UID project:** In 2010, EY was selected as a project management consultant for the Government’s ambitious project - Unique Identification project (UID). EY was tasked to provide professional services to set up the Central ID Data Repository (CIDR) and help with selection of MSP.
  - The scope of work included planning and formulating the overall programme management strategy, preparing a road map and implementation plan for the UID project, identifying and developing business models and business cases for potential revenue streams from the CIDR, among other things.
Infrastructure

With increasing urbanisation and rising burden on rural land, Governments have realised the need for equipping cities with the ability to cope with the challenges of urban living. Infrastructure involving technological platforms such as automated sensor networks and data centres will be the basis for providing essential services to residents.

The GoI has recognised the key role of smart infrastructure in accelerating the momentum of economic development. Many projects are being initiated in categories such as smart transport, smart environment, smart supply chain and logistics for the development of smart cities.

Digital transformation is affecting the following business areas within infrastructure in the government sector:

<table>
<thead>
<tr>
<th>Water and waste management</th>
<th>Transport system and ticketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable management of urban water resources calls for the use of intelligent sensing and appropriate data management.</td>
<td>Intelligent Transport System (ITS) uses technology to enable gathering of data or intelligence.</td>
</tr>
<tr>
<td>The GoI plans to implement projects to detect real-time leakages and wastes of factories in rivers and other natural water bodies.</td>
<td>It helps to provide safety to drivers, better traffic efficiency and reduced traffic congestion.</td>
</tr>
<tr>
<td>Power distribution networks</td>
<td>Some components of ITS include passenger information systems, advanced vehicle control systems, electronic toll collection systems and electronic ticketing systems.</td>
</tr>
<tr>
<td>Smart grid energy networks automatically monitor energy flows and adjust to changes in supply and demand.</td>
<td>Mysore implemented the ITS project in 2012 under the sustainable urban transport project.</td>
</tr>
<tr>
<td>The Ministry of Power has started smart grid pilot projects and plans a nation-wide rollout by 2027.</td>
<td>►</td>
</tr>
</tbody>
</table>

The perfect digital business of the future:

Smart infrastructure could potentially revolutionise the management of resources for a sustainable future. Going ahead, infrastructure designs will need to be anticipatory and proactive, and will contain many small-scale, networked elements that serve a multitude of uses. Sensors and technological controls embedded within new and retrofitted urban designs would monitor existing conditions and provide real-time feedback. Computers, electronics, satellites and sensors will become the prerequisites for infrastructure.

► EY engaged in smart card ticketing project: A metro rail corporation has appointed EY as a consultant for developing the Common Smart Card Ticketing Solution. EY is expected to deliver the detailed feasibility report within six months. Its responsibilities include preparing a policy for implementing the smart card-based ticketing system and holding discussions with all the stakeholders for system implementation.
Health care

Overburdened public health care systems are relying on ICT to effectively and efficiently deliver health care services. Developments in health information technology are making it possible for health care providers to better manage patient care through secure use and sharing of health information. Several tools are available for e-health systems such as health information networks, electronic health records, telemedicine services, personal wearable and portable communicable systems and many others for assisting in disease prevention, diagnosis, treatment, health monitoring and lifestyle management.

Digital transformation is affecting the following business areas within health care in the government sector*:

**Medical records**
- Electronic medical record (EMR) is a digital version of a paper chart that contains a patient's entire medical history
- The GoI plans to have complete online medical records by 2020

**Healthcare delivery in remote areas**
- Telemedicine is being used to eliminate distance barriers and provide remote access to medical services
- Mobile phones are being used for spreading awareness, tracking inventory and planning medication schedules

**Disease surveillance and tracking**
- Digital disease detection or “clues from the cloud” are opening doors to detect and combat diseases even more effectively

**Hospital information management**
- The hospital information system automates all the aspects of hospital operations, i.e., medical, administrative and financial

The perfect digital business of the future:
The rapid evolution of technologies is paving the way for improved health care delivery to patients in urban as well as rural areas. mHealth will improve the convenience, cost and quality of health care in coming years. Telemedicine will increase accessibility through remote diagnosis, monitoring and treatment of patients.

► **EY engaged with the Australian Government:** In 2011, EY was engaged by the Health Department for the Australian Government's personally controlled e-health record program (PCEHR), winning a US$1 million contract to provide "external delivery assurance adviser" services over the next 14 months.

► As the external assurance adviser, EY was responsible for project monitoring and providing independent advice on progress, covering design assurance, process assurance and benefits assurance.
Education and skill development

Digital education has taken over the traditional chalk and blackboard method in a big way. Educational institutions are now using technology to make teaching a more interactive and simple affair. Virtual classrooms, e-lectures, web conferencing and online courses are few of the options available.

Public educational institutions are also leveraging technology for enhancing the teaching-learning experience, as well as improving the quality of education. The GoI has launched the National Mission on Education through ICT (NMEICT) to leverage the potential of ICT in teaching and learning processes.

Digital transformation is affecting the following business areas within education and skill development in the government sector:

- **Administrative processes**
  - Government universities and colleges have now started to digitise their admission as well as examination processes
  - Educational institutions are automating their administrative processes such as fees, attendance records and resource planning

- **Learning platforms**
  - Traditional classrooms are being transformed into digital classrooms
  - Kerala is all set to introduce multi-media "Digital Collaborative Textbooks", the first of its kind in the country, in government schools
  - Distance learning is also being transformed via virtual classrooms and Massive Open Online Courses
  - In FY15 budget, the GoI had allocated US$15 million to set up virtual classrooms and online courses

- **Teacher training**
  - Use of ICT helps to train greater numbers of teachers at a low cost; also improves the effectiveness of their teaching
  - TESS-India programme is working with state governments to train teachers using online courses, videos and mobile apps

The perfect digital business of the future:

Technology has not only been instrumental in addressing the demand-supply gap for quality education, but it has also fundamentally changed the nature of several educational processes. Digital teaching solutions are being adopted to make the classroom environment more inclusive, help students with disabilities, and expand the reach of schools and colleges to remote villages and small towns. With the evolution of technologies such as the cloud, data centers and virtualisation, there is a huge potential for technology to be integrated into numerous aspects of the education sector.

- **E-learning programs**: The Ministry of Human Resource Development has launched several e-learning initiatives such as National Programme on Technology Enhanced Learning (provides e-learning through online web and video course) and Virtual Labs (provide remote access to Labs in various disciplines of science and engineering).
- **Digital classroom**: An Indian state Government has decided to implement the digital classrooms concept from 2015 in all residential schools across the state.
3.4 Financial services sector
3.4 Financial services sector

3.4.1 Digital transformation in the financial services sector

Changing customer expectations, combined with increasing competitive pressures, challenging macroeconomic conditions and a stringent regulatory environment, are forcing financial services (FS) companies to re-think and review current processes. Digital transformation is definitely a huge opportunity for the FS sector. Such technologies will not just redefine and maximise customer experience, but will also restructure players’ internal process.

Areas of digital transformation across the financial services sector:

<table>
<thead>
<tr>
<th>Maximise customer lifetime value</th>
<th>Mitigate risks and better reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Easier customer acquisition and retention</td>
<td>► Real-time risk monitoring</td>
</tr>
<tr>
<td>► Targeted products and effective communication</td>
<td>► Better prevention of fraudulent transactions</td>
</tr>
<tr>
<td>► Differentiated branches</td>
<td>► Improved reporting and transition to new regulations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drive productivity</th>
<th>Evolution of alternate payment modes</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Remodelling of legacy systems and processes</td>
<td>► Emergence of mobile banking and digital wallets</td>
</tr>
<tr>
<td>► Efficient distribution of physical network</td>
<td>► Precise, easier and more economical fund transfer mechanisms</td>
</tr>
<tr>
<td>► Greater data quality and reduced costs</td>
<td></td>
</tr>
</tbody>
</table>

The Indian FS sector has already started adopting digital technologies in its day-to-day operations. Large private sector banks are the front runners. In India, mobile phone ownership exceeds bank account penetration, and mobile is emerging as a popular mode of usage due to ease of access and cost benefits. Alternate payment options are also gaining traction. Social media has re-defined customer interaction. Most Indian FS providers have established a presence on social media. Many banks are offering fund transfer services through social media websites. Insurance companies are using the social media platform as a new distribution channel. Analytics has huge potential, spanning from providing valuable customer insights to risk management to distribution network optimisation. Cloud computing is set to drive efficiency and cut costs by ensuring efficient resource utilisation. Many banks have already started implementing cloud services, as it entails low investments, effective data management and control over expenses.
Digital transformation will not only help FS companies in customer acquisition/retention, revenue generation, cost optimisation and achievement of operational efficiency, but will also assist in effective monitoring, regulatory compliance and risk mitigation. This will, in turn, help these companies maximise customer experience and gain a competitive advantage in the market.

<table>
<thead>
<tr>
<th>70%</th>
<th>72%</th>
<th>16%</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>customers use the online channel weekly more often for banking needs in India, according to EY’s global banking survey</td>
<td>respondents believed that big data analytics helped in fraud prevention and detection according to EY’s Global Forensic</td>
<td>customers in India use social media to find a personal financial service provider according to EY’s global banking survey</td>
<td>rise in NEFT transactions volume in FY14, while increase in debit card usage was only 28%</td>
</tr>
</tbody>
</table>
3.4.2 Key areas of digital transformation for the financial services sector

**Customer relationship management**

Increasing competition and decreasing customer loyalty has made customer relationship management paramount for banks and other financial service providers. Financial service providers need to earn the highest level of trust in order to retain existing customers, acquire new ones, create genuine loyalty and maximise customer lifetime value. Effectively leveraging digital technologies will help FS providers gain in-depth knowledge of customers. In addition, they will be able to target them with customised products and communications, as well as through preferred transaction channels and differentiated branch designs.

Digital transformation is affecting the following business areas within customer relationship management in the FS sector:

**Consumer retention and engagement**
- Social media helps in customer acquisition and retention, brand advocacy and customer grievance redressal
- Analytics drives better customer experience by assessing customer lifetime value through demographic and transactional evaluation

**Product design and marketing communications**
- Predictive analytics helps in offering targeted products and effectively carry out cross-selling, up-selling and bundling of products
- Social media helps in maximising outreach while optimising marketing spend
- Analytics helps in ascertaining success rates of marketing campaigns and new products

**Network management**
- **Differentiated branch format:** Analytic-based network management helps maximise outreach across different customers
  - Banks are increasingly adopting differentiated branch formats to better target different customer segments
- **Channel targeting:** Analytics-driven customer segmentation helps offer unique channels to different customer groups
  - Customers are demanding ubiquitous multi-channel experience
  - Omni-channel transactions will become commonplace in future, where the customer can start the transaction in one channel and continue with subsequent steps on another

**Digital business of the future:**

The perfect digital BFSI company will be able to effectively cash in on the benefits of digital technologies to maximise customer experience and leverage this to build on its brand value.

- **A large bank wanted to review multichannel sales to improve conversion rates:** The bank wanted to analyse multi-channel housing loan sales opportunities and convert them in channel or pass through to the call centre. EY evaluated the sales pipeline and reviewed digital and call centre opportunities through to closed sales to understand backend performance and end-to-end customer experience. This helped the client generate incremental revenue of more than US$40mn over the next 4 years.

- **Life insurance client improves profit margin using analytics:** The life insurance division of a large bank had high lapse rates, which put pressure on its margins. EY used analytics to diagnose actual patterns, developed short-term tactical remediation initiatives and designed high-level retention strategies. The client witnessed more than 7% increase in NPAT over the first 6 months and has long-term potential of further 2% reduction.
Risk management and compliance

After the global financial crisis, risk management and regulatory compliance have become exceedingly important for the FS sector. Increasing frequency of requirements, combined with lack of clarity, makes compliance and reporting difficult. Companies are committed to implementing big data analytics to help mitigate risk, optimise capital allocation across different business lines (based on risk assessment) and ensure proper regulatory compliance to successfully ward off any such crisis in future.

Digital transformation is affecting the following business areas within risk management and compliance in the financial services sector:

**Regulatory compliance and reporting**
- Analytics helps drive better compliance by using statistical modelling to predict trends and ascertain consequences of regulations
- It ensures proper data management, and FS companies are better prepared to respond to new regulatory requirements

**Insurance premium underwriting**
- Insurance companies are increasingly using telematics, which enables real-time monitoring and visualisation, and analytics for risk assessment and product pricing
- Analytical modelling will also enable insurers to take note of underinsured emerging risks

**Fraud detection and prevention and anti-money laundering**
- Analytics is playing a key role in fraud detection and deployment of effective monitoring mechanisms to prevent duplicate transactions
- Analytics is playing a key role in combating money laundering by ensuring effective monitoring of transactions easier to identify

**Credit risk assessment and NPA management**
- Analytics helps ascertain credit histories of customers, optimise credit disbursement and benchmark performance of credit portfolios
- Advanced risk analytics capabilities will ensure effective identification of NPA trends and help FIs take appropriate measures in restructuring distressed accounts

Digital business of the future:

The ideal digital BFSI company of the future will use advanced analytics and big data to have a real time and forward-looking view of enterprise-wide risks. These businesses will also be able to respond to changing regulatory requirements with agility.

- **Enhanced data analytics help boost reporting capabilities at a large bank**: The bank wanted to create an automated regulatory reporting tool to better manage increasing requirements imposed by regulators, with focus on transparency and comprehensiveness. It built a consolidated data repository that was capable of country-specific regulatory reporting and generating key analytics for Basel III compliance. This system was able to deliver solutions in a much shorter time frame. The bank was able to reduce duplication, use resources more effectively and avoid manual controls, thus minimising operational risk.

- **Transactional banking digital channels study**: EY was engaged to conduct a transactional banking digital channels study to validate the proposition, confirm functions/non-functional requirements, provide a roadmap detailing the priorities and migration approach, articulate the customer journey and provide a robust governance framework.
Cost optimization

Emphasis on cost reduction requires BFSI companies to successfully leverage cost advantages of digital technologies to drive productivity and efficiency. Data is a crucial resource for financial institutions. Good quality data speeds up the decision-making process pertaining to resolving customer issues, risk management, etc. FIs are increasingly reviewing and re-evaluating the efficiency of their core systems and processes. Despite the rise in digital channels, branches are crucial for business growth and revenue generation. Therefore, banks need to carefully formulate network expansion strategy.

Digital transformation is affecting the following business areas within cost optimization in the financial services sector:

**Data management**
- The way FIs use data internally is changing with increasing demand from multiple sources
- Use of data warehouses and cloud computing in managing data at a low cost

**Planning of physical presence of distribution network**
- Analytical systems are helping banks formulate network expansion plans without diluting productivity and profitability
- Such systems help pinpoint the exact location for new branches by evaluating population parameters, quantifying business potential, and mapping competitor presence
- Using a spatial optimization model, potential branch sites can be identified, which are closest to largest population of desired customers
- Cloud computing is emerging as a means to expand operations without adding to costs related to manpower, hardware or software
- FIs are looking to transform their branches - this would help assess new ways to use branch space, provide cross-channel integration, lower costs and generate more business

**Process re-engineering**
- Mobile enablement of workforce is becoming a competitive necessity
- Many banks are replacing their legacy core banking systems with new platforms
- Cloud computing is aiding in optimising critical time-consuming processes and also bring down costs significantly

**Digital business of the future:**
The ideal digital BFSI company of the future will extensively use SMACi tools to identify cost levers, re-engineer processes and take cost-intelligent strategic decisions.

- **A global insurance client improves operating efficiency:** A global insurance and re-insurance client was facing increasing claims costs (year on year). EY undertook an extensive analytical review of the client’s private vehicle portfolio, leading to current state assessment of overall claims cost against industry benchmarks and improved data management framework. This led to millions of dollars of savings in claims costs and improved overall operating efficiency.

- **A leading Australian bank’s branch transformation:** The bank embarked on the process of branch transformation by reviewing branch role with focus on developing customer relationships. This freed staff from basic banking practices and increased the percentage of automated transactions from 15% to 30%. In addition, it transformed traditional face-to-face customer experience and ensured a dedicated business banker for high-growth potential clients. As a result, the bank was able to increase customer face time from 30% to 70% and average product sales by 36%.
## Transaction management and processing

With rise in smartphones and easier access to internet, electronic payments and mobile-based transactions have witnessed a dramatic uptick in recent times. The rise of such payment modes is paving the way for cash-less, economical and instantaneous fund transfers. Both mobile transaction value and volume has seen exponential growth, driven by a rise in smartphone usage and improved mobile applications. Mobile banking can be seen as a cost-saving as well as a revenue-generation avenue. Evolution of digitally enabled peer-to-peer payments is paving the way for cheap, precise and instantaneous fund transfer.

Digital transformation is affecting the following business areas within transaction management and processing in the financial services sector:

<table>
<thead>
<tr>
<th>Digital wallets</th>
<th>Peer-to-peer (P2P) payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Successful mobile banking is expected to bring down cost of transactions and make it easier and more economical for people</td>
<td>► P2P payments have great potential in emerging markets, such as India, where there is lack of financial infrastructure</td>
</tr>
<tr>
<td>► Globally, many FS providers have developed GPS-enabled mobile banking apps offering personalised, real-time offers to customers</td>
<td>► IMPS, which allows customers to make instant interbank payments to individuals or merchants using a mobile phone, has started in India</td>
</tr>
<tr>
<td></td>
<td>► Social media platforms are being used for money transfer between friends</td>
</tr>
<tr>
<td></td>
<td>► Legacy FIs are facing increased competition as large tech companies are also foraying into the P2P domain</td>
</tr>
<tr>
<td></td>
<td>► Development of real-time, high-volume customer payments can be expected</td>
</tr>
</tbody>
</table>

### Digital business of the future:

The ideal digital BFSI company of the future will be better able to withstand competition from non-bank players looking to disintermediate FS companies across various aspects of payments value chain.

- **A bank looks for new ways to serve 15 million mobile customers:** The bank, with an existing mobile operation (9 million users), wanted an external perspective on its mobile strategy, competitive market and opportunities to reinforce its brand. EY evaluated mobile strategies of leading companies, leveraged deep client insights and provided the bank with an extensive analysis of its mobile strategy along with recommendations. This enabled the bank to dramatically evolve its mobile banking user base.

- **A bank looks for advice on future digital network:** EY was engaged to advise and assist the client in the delivery of its future digital roadmap, new internet banking processes, implementation activities and support for program planning and reporting. EY supported a number of key areas within the program, including internal audit and QA, release management, strategy, roadmap, solution design, business analysis, operating model design, business readiness and implementation, and PMO support.
4. Making the digital strategy work for future businesses
4. Making the digital strategy work for future businesses

4.1 Digital is paving way for seismic shifts in future businesses

In a rapidly changing world, it is crucial for companies to be more able to respond to change.

Digital transformation has created a rapidly changing business environment that offers exponentially expanding opportunities for new capabilities that transcend traditional ways of doing business. Digital is disrupting value chains and compelling companies to rethink nearly everything they do, ranging from product conceptualisation and designing to how they engage and retain smart customers and how they build and secure the necessary IT infrastructure.

Digital technologies create

1. **Smarter customers**
   How are customers changing?
   What is the effect of a new “born digital” generation of consumers on the market?

2. **Globalisation and the ability to scale**
   How to adapt IT landscape to support digital business models?

3. **New business models**
   How can companies in an industry take advantage of emerging business models?
   How to best deploy capital with the rise of digital assets?

4. **New channels and routes to market**
   How have the boundaries of the organisation/value chain changed in the digital world?
   Are there opportunities for adapting new delivery or pricing models for products/services?

5. **New ways of working**
   How can digital technology accelerate business processes?
   How to think about talent and performance in the workplace?

6. **Constant change and innovation**
   How to adapt products and services to a fundamentally digital future?
   What is the new basis of competition in the sector and market?
   How to create a new digital revenue stream?

7. **Lower barriers to entry**
   What will hyper-disintermediation/specialisation mean in the market?
   How to protect market share in this new age of interconnectivity?

8. **Access to resources**
   How to leverage open innovation and crowdsourcing?

9. **Confidence in the digital future**
   How to build greater awareness of cybersecurity risks and assess threats?
   How to keep up with the pace of technological change and have the agility to deal with threats as they arise?

10. **Regulation and tax changes**
    How do we navigate the complexity of changing regulatory and tax environments that can be multi-regulator and multi-jurisdiction?

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**Organisational agility is a critical success factor to win in the digital era**
4.2 Approaching digital agility requires an organisational overhaul

A mindset for change: four steps to building organisational agility

Companies are adopting a new mindset to improve agility, allowing them to anticipate and nimbly respond to business problems and quickly seize emerging opportunities.

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Create</th>
<th>Incubate</th>
<th>Activate</th>
</tr>
</thead>
<tbody>
<tr>
<td>themselves to define the real business problem</td>
<td>digital strategy, define the concept and design the right products, services or experiences</td>
<td>solutions through prototyping; test and validate initiatives through small scale experimentation</td>
<td>the solution on a commercial scale to capture economic value for your business</td>
</tr>
</tbody>
</table>

Holistic approach of building business agility

Business agility is a leading success factor in the digital era. Companies recognize that to achieve the culture of innovation, they must structure their organisation for agility by focusing on the following pillars:

- **People and organisational change**: Organisational culture re-alignment
- **Digital program management**: Enhancing digital capabilities and performance systems
- **Big data and analytics**: Analysing information to support business decision making
Companies embarking on the journey to achieve digital agility should focus on the following parameters:

### Innovation
- Establish an innovation portfolio approach
- Activate and manage innovation
- Gain agility in innovation processes
- Build product, service, experience, and business model innovation

### Digital enterprise strategy
- Develop a digital vision and road map to achieve business objectives
- Build a digital ecosystem
- Identify and capitalise on digital opportunities and mitigate threats
- Build stakeholder consensus on the digital vision
- Design an operating model fit for a digital world

### Digital transactions
- Conduct an in-depth analysis of key digital topics within an organisation, including social, mobile and web environments
- Understand the issues and trends affecting the industry and the organisation through traditional analytics, big data and advanced analytics, and other embedded services

### Experience design
- Design and deliver customer, employee and supplier experiences that span both physical and digital worlds, creating competitive differentiation and building trusted relationships, one interaction and experience at a time

### Digital law
- Navigate data privacy, IP laws and e-commerce trading laws
- Access a strong network of professionals with broad legal experience in interdisciplinary projects

### Digital risk and cyber security
- Assess new and existing digital initiatives to identify the enterprise-wide digital risks and develop methods of managing those risks
- Protect against a wide range of cyber risks, threats and vulnerabilities, such as theft of IP or financial data, or attempts to disrupt or deface the organisation, caused by the actions of careless or unaware employees, criminal syndicates or lone wolf attackers

### Digital accounting
- Implement new processes across the accounting life cycle, including: identifying digitisation opportunities, selecting the right vendor, designing new processes, creating and implementing a digitisation plan, updating procedures and operating instructions, and helping with change management activities
Digital technology
► Build a digital technology strategy, architecture and roadmap for covering application strategy, commercial/IT procurement strategy, and data and architecture
► Run large digital technology implementation programs with multiple agencies, SIs and technology vendors

Digital operations
► Improve the efficiency, flexibility and differentiation in their supply chain management and operations
► Use digital capabilities to become leaders in cost-to-serve, customer service, Omni channel management and product/market innovation
► Understand the impacts of e-commerce and other disruptors to existing supply chains
► Define new strategies and develop new business models that take advantage of new technologies and new devices to improve efficiency and accelerate profitable growth

Digital supply chain
► Manage and optimise the lifecycle of your digital assets for content marketing and digital media

Digital tax
► Assess tax implications of new digital business models and supply chain
► Identify and implement tax-efficient digital operating models
► Optimise transfer pricing and compliance for digital distribution channels.
► Manage risk of indirect tax (VAT) exposure
► Evaluate pre-controversy exposure
4.3 Building a digital transformation roadmap

The fundamental themes that need to be kept in mind by the enterprises while designing their digital transformation roadmap are:

**Design a well-defined digital strategy**

Successful digital transformation is not possible unless it is led from, or vigorously supported by, the top. Business leaders should take active ownership of digital vision, which calls for creating a culture of innovation and agility. Creating impactful digital strategies requires intervention from both inside and outside the organisation. Multiple functions including sales, marketing, supply chain, as well as external partner ecosystem play an equally critical role in laying out digital aspirations of a company. Businesses can initiate the process by first undertaking a diagnostic study to do the following:

- Assess enterprise-wide digital maturity and the enterprise’s readiness to adopt digital technologies
- Assess the position and industry maturity of competitors
- Develop capability heat maps to uncover potential growth opportunities based on an organisation’s aspirations

The most common mistake made by enterprises while adopting digitisation is to directly develop applications and implement related initiatives. However, a lack of robust and well thought through digital strategy will only lead to another “me-too” initiative and will fail to generate the desired outcomes.

**Formulate business case**

It is imperative for businesses to understand that the first step in an investment in digital transformation is to establish a detailed business case. Enterprises must align digital investments with evolving business requirements to derive maximum ROI. The challenges faced by businesses willing to invest in digital transformation are similar to those encountered in implementing any other technology. The following need to be kept in mind in this context:

- Digital investments should focus on improving a company’s performance across various measurable KPIs
- KPIs must be set at individual and collective levels to cater to multiple stakeholders across business functions
- Continuous monitoring and feedback mechanisms enable the realisation of goals during and after the implementation of the digital initiative

**Use a flexible digital approach**

Businesses should incubate relevant ideas by taking calculated steps after obtaining proof of concepts. Digital strategies also need to be refreshed from time to time on the basis of market conditions and customer responses. In addition, an “exit-strategy” should be put in place in the likely event of failure of any digital initiative.
4.4 Concern areas in the pursuit of digital transformation

Digital transformation offers a new set of value creation and growth opportunities. However, efforts to seize those opportunities will not be without challenges. As digital technologies are getting incorporated in the IT fabric, organisations need to shift focus away from driving adoption to balancing benefits realisation with security and governance concerns.

**Leverage ecosystem support**

There are numerous ecosystem-driven digital initiatives undertaken by government and various industry bodies. Enterprises should derive maximum benefits from joining such initiatives by evaluating their strategic fit and RoI.

**Inability to anticipate and prepare for the future**

- Digital technologies are very dynamic in nature – new trends are emerging quickly and reshaping competition and blurring industry boundaries.
- If a company fails to have a forward-looking approach to digital transformation, it can be left behind by competitors.

**Balancing legacy and innovative IT is an arduous task**

- Companies need to optimise and industrialise traditional legacy systems.
- Companies must also focus on supporting the deployment of new disruptive technologies to ensure seamless integration with existing systems.

**Significant cyber security and mobility challenges exist**

- According to EY’s Global Information Security Survey 2014, 58% of organisations do not have a role or department focused on emerging technologies and their impact on information security.
- Many companies are yet to develop a comprehensive corporate mobility framework to govern the use of mobile devices in the work place.

**Explosion of social media presents unique challenges**

- Negative feedback and customer complaints on public platforms can have major ramifications on the reputation of the company.
- In 2014, the deployment of enterprise social networks (ESNs) was up to 85%, but within that number, 30% were looking for alternatives. This can be attributed to factors including lack of adoption, inability to quantify RoI and not linking the ESN to any other business processes.

**Harnessing business insights effectively continues to be a risky terrain**

- According to an EY survey, 49% of consumers will be less willing to share their personal data, over the next 5 years. This emphasises the fact that enterprises need to serve their customers better.
- Other risks, including the legal and regulatory hazards relating to issues such as data privacy can result in breach of trust.
- Shortage of talent, difficulty in building the business case and lack of a holistic approach are other major challenges hindering big data adoption.
5. Appendix
5. **Appendix**

**Demystifying SMACi**

**Social** technologies-based platforms and various other mediums including social bookmarking and geo-location sites are becoming an integral part of companies’ marketing and communication strategies due to their ubiquitous reach. Few of the many opportunities provided by social media channels are:

- Strengthening customer engagement by embedding collaborative tools in business processes
- Promoting a company’s brand and generating leads by building communities to directly/indirectly help in creating positive word of mouth
- Embracing social media for co-innovation through crowdsourcing for generating new product ideas and efficient services.

Businesses are rapidly deploying strategies to monetise their social media presence and achieve measurable results. Enterprises now track metrics such as leads, website traffic, conversions and revenue generated to keep a tab on their social media performance.

**Mobility** technologies have become the focal point of our personal and professional lives by enabling anytime/anywhere access and sharing of information:

- Enterprises are embracing Bring Your Own Device (BYOD) or Corporate-Owned Personally Enabled (COPE) for creating a more responsive workforce and enabling a clear view on their business operations. This has a cascading effect on boosting employee productivity and enabling real-time business decisions.
- The “mobile-first” approach towards application development is creating a rich consumer and business app ecosystem.
- Mobile has become the medium to reckon with for advertising, due to rapid proliferation of mobile devices with high-quality display features.

Enterprises from diverse industries are jumping on the mobility bandwagon. Financial institutions are leveraging mobile technologies to innovate (mobile banking) and achieve their business objectives (financial inclusion). Retailers are investing in improving mobile user experience, as shoppers are increasingly using their mobile devices for all purposes, ranging from browsing to comparing to buying products. Governments are reaching out to their citizens using mobile devices as an efficient channel.

**Analytics** is providing meaningful and contextual insights on a “real time” basis to drive strategic decision making and innovation in enterprises. Factors that are leading to increased awareness and adoption of analytics are:

- Exponential increase in the volume and variety of data generated
- Development of in-application dashboards and Business Intelligence (BI) tools that help to simplify analytics and extract maximum business value from data
- Need for businesses of today to innovate in a dynamic consumer environment and competitive landscape
- Desire to optimise business decisions, increase operational efficiency and gain a better understanding of customer

Enterprises all around the world are racing to exploit opportunities presented by big data. Analytics can help retailers predict the buying decisions of shoppers; it can also help banks weed out fraudulent transactions. Meanwhile automotive sector is using big data to improve production quality and resolve supply chain issues.

**Cloud** technologies have enabled the distribution of all technology offerings “as-a-service” including infrastructure, platforms, software, storage and security. Enterprises are leveraging cloud computing to reduce upfront IT investments, adopt a scalable model for IT and ensure business continuity and data protection in the event of an outage or other catastrophic events.

Cloud computing is relevant for SMEs and large enterprises alike. Cloud adoption in SMEs is triggered by limited IT budgets and the need to enhance operational efficiency, large enterprises, on the other hand, are transitioning to cloud to achieve business agility, lower cost of ownership and replace on premise legacy technology that cannot be scaled up.
Internet of Everything (IoE) is poised for massive growth in coming years as an increasing number of devices get connected to internet, driven by breakthroughs in cost of sensors, processing capabilities and bandwidth connectivity. IoE will have major implications for both business-to-business (B2B) and business-to-consumer (B2C) enterprises, as follows:

► Diverse industries such as manufacturing, aviation, healthcare, automotive and utilities are at the forefront of IoE boom to capture new growth opportunities such as smart meters, connected cars, home automation and wearables.

► Machine-to-Machine (M2M), which refers to the connecting of remote sensing, monitoring and actuating devices, is a vital sub-set of IoE. Machina Research forecasts worldwide M2M connections to increase from 2 billion in 2013 to 18 billion in 2022, up 22% annually. This vindicates the business potential of M2M in the areas of professional support and service management.

Data created by built-in sensors in industrial equipment such as jet engines, manufacturing machines and medical equipment is assisting enterprises in predicting a malfunction before it occurs and preventing a negative impact on profits. By proactively measuring and monitoring health-related data, providers can improve care management and address risk factors and symptoms of chronic disease early, as well as provide positive reinforcement in new and more effective ways.

The following data points provide relevant details of increased adoption of SMACi technologies and the renewed focus on digital transformation by enterprises:

### Social Media is fuelling the digital revolution and transforming customer landscape
- 93% of marketers use social media for business.
- Spending on digital marketing is expected to increase 11% year-on-year (YoY) in 2015, while traditional advertising budgets are expected to contract 3.6%.
- The number of marketplaces that support business networks by connecting suppliers, partners, and customers are expected to increase by 100% by 2017.

### Mobile is the device of choice for sharing, communicating and transacting
- Mobile devices are expected to account for 30-40% of online sales by 2015.
- Spending on mobile enterprise business apps will more than double from US$26 billion in 2012 to US$53 billion in 2017.
- Augmented-reality is gaining traction in mobile advertising and is expected to grow at a CAGR of 95.35% from 2011 to 2016.

### Analytics is becoming a strategic focus area in a dynamic business environment
- The big data industry is expected to grow to US$20 billion by 2019.
- Lack of understanding the data is cited as the top most reason for overrunning project budget and can cost businesses 20%-35% of their operating revenue.
- Improved use of data has the potential to generate US$3 trillion in additional value each year in seven industries*.

### Cloud is evolving as a key enabler of digital transformation
- 80% of the new apps will be distributed or deployed via the cloud by 2015.
- 55% of the companies consider the cloud ready for mission-critical workloads, which makes the cloud a cost effective medium to store huge volumes of data generated over mobile and social media.
- 48% of the US government agencies have moved at least one workflow to the cloud following the new "cloud-first" policy adopted by the US federal agencies.

### Internet of Everything (IoE) is becoming pervasive with the mainstream adoption of IoE devices and solutions
- IoE technologies are expected to be worth US$6.2 trillion by 2025; manufacturing and healthcare will account for majority of the market at 40.2% and 30.3%, respectively.
- 69% of consumers are planning to buy an in-home IoE device (thermostat, security camera) in the next 5 years.
- Within 5 years, 40% of wearables are expected to evolve into a viable consumer mass-market alternative to smartphones.
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The EY Team

Samiron Ghoshal
Partner, Advisory Services
Member, Global IT Advisory Leadership
Member, Global Emerging Markets Advisory Core Group
+91 124 464 4652
Samiron.Ghoshal@in.ey.com
Ernst & Young LLP

Asheesh Malhotra
Partner, IT Advisory Practice, Advisory Services
+91 80 6727 5743
asheesh.malhotra@in.ey.com
Ernst & Young LLP

Manoj Jha
Director, IT Advisory Practice, Advisory Services
+91 22 6192 0623
manoj.jha@in.ey.com
Ernst & Young LLP

Rahul Rishi
Partner, Advisory Services
+91 11 4363 3000
Rahul.Rishi@in.ey.com
Ernst & Young LLP

Nilesh R Naker
Partner, Financial Services, IT Advisory
+91 22 6192 1265
nilesh.naker@in.ey.com
Ernst & Young LLP

Joydeep Dutta
Senior Manager, Digital Advisory
+91 80 6727 5110
joydeep.dutta@in.ey.com
Ernst & Young LLP

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Special thanks for conducting research, analysis and compilation of the study.

Swati Goenka  Kadhambari Suresh  Nishant Bansal

Imagining the Digital future
Notes
Our offices

Ahmedabad
2nd floor, Shivalik Ishaan
Near C.N Vidhyalaya Ambwadi,
Ahmedabad - 380 015
Tel:  +91 79 6608 3800
Fax:  +91 79 6608 3900

Bengaluru
12th & 13th floor
“U B City” Canberra Block
No.24, Vittal Mallya Road
Bengaluru - 560 001
Tel:  +91 80 4027 5000
Tel:  +91 80 6727 5000
Fax:  +91 80 2210 6000 (12th floor)
Fax:  +91 80 2224 0695 (13th floor)

1st Floor, Prestige Emerald
No.4, Madras Bank Road
Lavelle Road Junction
Bengaluru-560 001 India
Tel:  +91 80 6727 5000
Fax:  +91 80 2222 4112

6th floor
“U B City” Canberra Block
No.24, Vittal Mallya Road
Bengaluru-560 001
Tel:  +91 80 4027 5000
Tel:  +91 80 6727 5000
Fax:  +91 80 2210 6000
Fax:  +91 80 2224 0695

Chandigarh
1st Floor
SCO: 166-167
Sector 9-C, Madhya Marg
Chandigarh - 160 009
Tel:  +91 172 671 7800
Fax:  +91 172 671 7888

Chennai
Tidel Park,
6th & 7th Floor
A Block (Module 601,701-702)
No.4, Rajiv Gandhi Salai
Taramani
Chennai - 600 113
Tel:  +91 44 6654 8100
Fax:  +91 44 2254 0120

Hyderabad
Oval Office
18, iLabs Centre,
Hitech City, Madhapur,
Hyderabad - 500 081
Tel:  +91 40 6736 2000
Fax:  +91 40 6736 2200

Kochi
9th Floor “ABAD Nucleus”
NH-49, Maradu PO,
Kochi - 682 304
Tel:  +91 484 304 4000
Fax:  +91 484 270 5393

Kolkata
22, Camac Street
3rd Floor, Block C"
Kolkata - 700 016
Tel:  +91 33 6615 3400
Fax:  +91 33 2281 7750

Mumbai
14th Floor, The Ruby
29 Senapati Bapat Marg
Dadar (west)
Mumbai - 400 028
Tel  +91 22 6192 0000
Fax + 91 22 6192 1000

5th Floor Block B-2,
Nirlon Knowledge Park
Off. Western Express Highway
Goregaon (E)
Mumbai - 400 063
Tel:  +91 22 6192 0000
Fax:  +91 22 6192 3000

NCR
Golf View Corporate
Tower - 8
Near DLF Golf Course,
Sector 42
Gurgaon - 122 002
Tel:  +91 124 464 4000
Fax:  +91 124 464 4050

6th floor, HT House
18-20 Kasturba Gandhi Marg
New Delhi - 110 001
Tel:  +91 11 4363 3000
Fax: + 91 11 4363 3200

4th & 5th Floor, Plot No 2B,
Tower 2, Sector 126,
Noida - 201 304
Gautam Budh Nagar, U.P. India
Tel:  +91 120 671 7000
Fax:  +91 120 671 7171

Pune
C-401, 4th floor
Panchshil Tech Park
Yewada (Near Don Bosco School)
Pune - 411 006
Tel:  +91 20 6603 6000
Fax:  +91 20 6601 5900
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