



unvired
Digital Delivered

White Paper

THE DIGITAL ADVANTAGE

**Learn How Organizations
across Industries are
Going Digital to Gain
Competitive Edge**

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1. Executive Summary

This paper is produced to help business leaders understand the implications of digital transformation, current status, and how companies are going digital to shape better opportunities for business. In addition to market research, we have also provided several real-world Customer success stories of how digital transformation has enabled businesses to change their business models and evolve with innovative offerings to disrupt the industry.

The pace of digital innovation is accelerating across companies and industries. Companies are using digital technologies such as artificial intelligence, machine learning, chatbots, augmented and virtual reality (AR/VR), big data analytics, mobility, Internet of Things (IoT), cloud, and voice to build new business models, enhance customer experience, and drive efficiencies.

In the last few years, there have been significant breakthroughs in technology. Self-driving cars from Tesla can now be seen on the road, Uber is testing autopilot taxis, Dominos is testing drones for Pizza delivery, and augmented reality (AR) hit the mainstream with the success of the game Pokémon Go.

"Over the past few years, companies that have embraced digital technologies have been rewarded by investors with higher valuations."

**World Economic Forum
Report**

According to IDG Spending Guide, Worldwide Digital Transformation (DX) investments are expected to total more than \$6 trillion over the next four years with \$1.2 Trillion spend in FY 2019. Strong DX technology investment growth is forecast across all sectors, ranging between 15% to 20%.

While every organization understands that digital is the future of business, many do not see a clear path to success. Data indicates that a large percentage of companies are either struggling to get started or are stuck in endless pilot exercises.

Driving cultural change, bridging the digital skills gap across workforce levels, lack of clarity, changing customer expectations, system integrations, data privacy, and security are the major barriers in undertaking digital transformation. Our study finds that businesses need to adopt a holistic transformation approach which empowers employees, engage customers, streamline operations, and transform business models. A clear business direction, vision, and roadmap can turn these business challenges into exciting revenue opportunities.

The future is arriving, act now to create your own digital advantage.

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2. Introduction

The era of digital transformation is here. We have been hearing the buzz about 'Digital Transformation' from customers, analysts, vendors, and industry experts with increasing frequency in recent years but now it's a reality. Customers are transforming themselves to streamline business operations, enhance customer experience, and increase employee productivity with innovative products, services, and business models.

"CEOs expect digital revenues to increase 80% by 2020."

Gartner

Businesses across industries are looking for digital transformation as a way to thrive and remain competitive. Digital technologies like augmented and virtual reality (AR/VR), big data analytics, artificial intelligence, machine learning, chatbots, mobility, Internet of Things (IoT), cloud, and voice are advancing rapidly and companies across industries want to leverage these technologies to disrupt the modern industry.

Digital transformation provides companies with untapped opportunities for creating new revenue models, exceptional customer experiences, and enabling unprecedented access to global markets. For example, earlier it used to take an average of 25 to 30 years for a company to reach a billion-dollar valuation, but today's successful digital start-ups (like Flipkart, Paytm, Ola) are getting there in just about 5 to 8 years. How well individual companies can capitalize on the opportunity, will depend on how effectively they can achieve digital transformation.

Companies that have embraced digital technologies have been rewarded by investors with higher valuations. The WEF projects the potential value growth that Digital Transformation will create to be as much as \$400 billion in new value for the mining and metals industry, up to \$550 billion in new value for the chemicals industry, and \$1.3 trillion of new value in the electricity sector.

World Economic Forum

Customers across the B2B and B2C industries have high expectations for speed, convenience, and personalization. Companies like Uber, Amazon, Airbnb have made hailing a ride, shopping, and hospitality rentals so easy that customers have become accustomed to getting anything, anytime, anywhere, from any device. As a result, customers expect this kind of experience from every company and if they don't deliver, consumers look out for a plethora of alternative providers.

Organizations that want to stay competitive in business can no longer afford to wait. They need to make digital transformation a top priority.

3. Methodology



The methodology used for this whitepaper employs both primary and secondary research. We have used data to get insights on how companies across every industry, are going digital to transform their business operations, enhance customer experience, and improve employee productivity.

Primary Research: We interviewed leaders from various industries like Oil & Gas, Chemicals, Utility, Waste Management, Healthcare, Real Estate, and others to know about their digital transformation initiatives, technologies implemented, benefits achieved, and lessons learned.

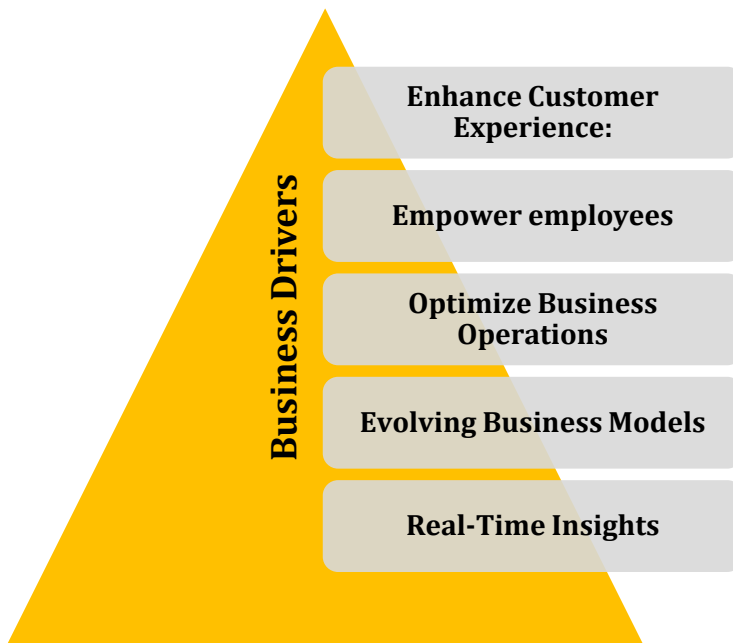
Secondary Research: We have used data from several trustworthy resources available on the Internet. We have also collected secondary data from analysts' reports like Gartner, IDG, and Forrester to know about the trends, transformational challenges, and recommendations.

Acknowledgments:

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4. Digital Transformation- Business Drivers

Digital Transformation is not new. It is ongoing from decades, starting with minicomputers and progressing through desktop, internet, mobile, cloud, and more but the growing commitment among businesses to undertake digital transformation is mainly due to the following business drivers:



- **Enhance Customer Experience:** Many pieces of research have shown that successful companies will be the ones who deliver exceptional customer experience in the whole cycle of the customer buying journey. Therefore, organizations in all industries are undertaking digital initiatives, using analytics from consumer data to understand their customers, and deliver them a personalized experience to gain a competitive edge and build brand loyalty.
- **Empower employees:** Digital tools empower employees and give them autonomy to perform their work from remote locations. They enable employees with easy access to data and analytics to make quick decisions in real-time. Adopting new technologies like Virtual Assistants/Chatbots can free employees from tedious and repetitive tasks and enable them to perform critical tasks which improve their productivity.
- **Optimize Business Operations:** Digital tools can streamline the business processes and enable better collaboration between cross-functional teams (Manufacturing, procurement, sales, marketing, finance, and HR) to improve efficiencies and cut down operational cost. Today organizations have a variety of solutions (like Chatbots, artificial intelligence, machine learning, mobility, IoT, cloud, blockchain, and big data analytics) which can increase operational efficiency and generate a quick return on investment.

- **Evolving Business Models:** In today's digital business, market dynamics are changing at an unprecedented pace. Businesses need to continually evolve, innovate, and respond quickly to survive and grow in this environment. New technologies enable businesses to change their business models and evolve with innovative offerings to differentiate themselves from the competition.
- **Real-Time Insights:** We live in a world where tons of data points are shared every minute. Businesses now want to capitalize these data points and evolve their business offerings based on these insights but success no longer depends on how much data you collect but how quickly you can analyze that data. Digital tools like big data analytics, automation, and AI-powered tools can help turn data into insights quickly to make informed decisions.

5. Current State of Digital Transformation

Digital transformation is well underway but it is only the beginning. Leading research companies like Gartner, IDG have surveyed several IT leaders and business decision-makers to find out the current state of digital transformation. Here are their key findings:

Majority of the companies are in the early stages of becoming a digital business. Transition to a digital business has been more cautious and methodical. According to [Gartner](#) almost 75% of executives admit to being dissatisfied with the current progress of digital transformation. Lack of sufficient budget, skilled resources, clarity, and cultural issues are the biggest obstacles in achieving digital transformation.

According to [IDC Digital Business Survey 2018](#),

- 28% of respondents said they are in the development stages of creating strategies, evaluating technology and the organizational changes.
- 17% are still gathering information and planning before they develop a strategy.
- 19% of respondents said they are in the integration process of making operational and technology changes throughout the enterprise
- 18% said they are executing their digital plans and making the process, operational and technology changes on a department and business unit level.
- Top 5 technologies already implemented- Big Data Analytics, Mobile technology, Private Cloud, Public Cloud, and APIs.
- Top 5 technologies in the works (piloting/researching/considering/implementing)- Artificial Intelligence, Machine Learning, Internet of Things, Software-defined networking, and Software-defined storage.

"44% of respondents said their organization has already started implementing digital initiatives to business processes, operations, and customer engagement."

IDC Digital Business Survey 2018

6. How Organizations are Going Digital

6.1 Digital in Oil & Gas



Oil and Gas companies focus on minimizing risk, increasing safety for resources, optimizing the workforce, and enhancing operational excellence. In order to achieve these objectives here is what O&G companies are deploying:

- **Digital Forms:** O&G firms have a great number of paper-based forms they have to fill. These are related to Environmental, Health, and Safety (ESH). They are now converting these forms to Digital, collecting data on mobile devices, and integrating that data with back end systems directly. These forms work offline and are dynamic. From a User perspective, filling a complex multi-page form is far easier on a tablet than on paper. It leads to better data quality also.
- **Mobile Apps:** Customers are also deploying mobile apps in the Field for Data Collection. Both smartphones and tablets are being used for this. Again, these apps work offline and can send data to backend systems directly. Readings for Meters, Inspections, and Work Orders can all be managed via mobile apps instead of filling paper.
- **Internet of Things (IoT):** Companies are deploying smart sensors, smart meters, and cameras on assets to collect data more frequently and accurately. For example, Utility data is being captured by Smart/Digital meters that can help analyze utility usage. The data from the

smart meters is fed into an IoT Gateway that consolidates all the information in a backend Utility Management System. This allows for better chargeback of utility consumption to customers, thus increasing revenues. It also enhances Customer Service at the same time. Also, through Smart Cameras, clients are looking at ways to reduce the risk that can identify leaks in real-time by analytics assisted image analysis. This can increase safety significantly.

- **Machine Learning/Artificial Intelligence:** With advancements in data science, computing, and data integration platforms, customers can now leverage these digital transformation toolkits to optimize their business. For example, a customer in Texas is collecting vibration analysis data from sensors on equipment, sending the data to the cloud, applying machine learning analysis, and creating a Maintenance Work Order in IBM Maximo. This enhances Plant uptime leading to both greater revenues and improved operational excellence.



Increase in Revenues, Reduced Costs, Enhanced Safety, and Superior Customer Service are business benefits experienced by customers who have gone Digital in O&G.

Lessons Learned:

There are various points that need to be kept in mind:

- **Data Quality:** At the beginning, one should define how the data should look. Various departments like Operations, Maintenance, and Customer Service have their own views of the data. Your data governance models should be able to support these varying views even if the data sources are the same
- **Understand Your End User:** The focus should be on answering the business question and truly understanding the stakeholder(s) process.
- **Quick Wins:** Projects with a Quick Win should be selected initially to generate momentum.
- **High Priority:** Tackle the Business Problem that is the most important.

6.2 Digital in Manufacturing



Manufacturing companies focus on reducing asset downtime, enhancing preventive maintenance, optimizing workers' productivity, minimizing risks, and increasing safety. In order to achieve these objectives, here is what manufacturing companies are deploying:

- **Mobile Apps:** Plant production can be maximized by replacing paper-based maintenance processes with mobile apps for Operator Rounds (Inspections) and Work Orders. Spare parts inventory levels can be checked before workers are dispatched to repair equipment. Environment, Safety, and Health (ESH) forms can be filled out on tablets or smartphones instead of on paper. This allows for data analytics that can lead to better preventive maintenance and reporting for audits. Production orders in backend systems like SAP can be created from the shop floor as well as quality notifications using mobile devices.
- **Internet of Things (IoT):** Manufacturing companies are leading IoT investments because of the recent industrial revolution '**Industry 4.0**' which focuses on integrated supply and interconnected systems. IoT can provide real-time data and alerts the companies about defects or damaged goods for preventive maintenance to avoid unexpected downtime.
- **Predictive Analytics:** Manufacturers are using predictive analytics from the real-time IoT data for preventive maintenance, increased productivity, and compliance with EHS regulations.

6.3 Digital in Utilities



Customer experience, field service, and process improvement are the key drives for Digital transformation in the Utility industry. Utilities companies are deploying the following solutions to optimize business operations and improve worker efficiency while reducing cost:

- **Mobile Apps:** Utility companies are greatly benefiting from mobile apps in the area of Asset Management. Utilities have far-flung assets in areas with no Internet connectivity in many cases. It is very important to keep these assets up and running as they provide vital services. When an outage does occur, services need to be restored as quickly as possible. Assets like sub-stations, transformers, lines, or poles need to be Inspected and Repaired on a routine basis. Spare parts inventory levels need to be checked before workers are dispatched to repair equipment. Mobile apps can enable all these Inspection and Repair processes to be completed using mobile devices instead of on paper while offline. Map views of the assets can be provided on tablets enabling route optimization using GPS that enables greater efficiencies.
- **Digital Forms:** Environment, Health and Safety, and (EHS) forms can also be filled out on tablets or smartphones instead of paper forms. This allows for data analytics that can lead to better preventive maintenance and reporting for audits.
- **Chatbots:** Chatbots are cost-effective solutions for customer service and field service management. They can perform simple tasks like answering FAQs, updating customers on the service requests, enabling the field engineers to report issues, and many more.

6.4 Digital in Healthcare



Healthcare companies have been slow in digital adoption but they are picking up the pace now. Evolution of digital technologies such as mobility, Internet of Things (IoT), big data, chatbots, and cloud has disrupted the healthcare industry. Improved patient engagement, streamlined operations, and reduced operating cost are the key drivers for the digital push in healthcare. In order to achieve these objectives, here is what they are deploying:

- **Mobile Apps** for Patient Care and Care Coordination for healthcare providers: Shift Handover, Dashboards/analytics, reminders/alerts, medication schedule, medication adherence, and assessments etc. Here the major requirements for healthcare apps:
 - **Medical Internet of Things (IoT):** Medical IoT with its connected medical devices is beginning to help monitor, inform and notify not only caregivers but provide healthcare providers with actual data to identify issues before they become critical. Mobile devices can now be used in conjunction with blood pressure, heart rate, and other sensors to monitor patients.
 - **Integration with EHR/EMR/ERP:** Healthcare organizations are deploying apps that integrate with electronic health records (EHR/EMR) like Epic/Cerner and ERP systems for the free flow of data.
 - **HIPAA Compliance:** Consumers demand that their health records are secure and private. Any Health IT solution has to ensure Data Privacy and keep Protected Health

Information (PHI) safe under the Health Insurance Portability and Accountability Act (HIPAA) privacy rule.

- **Chatbots:** Chatbots have become trust-worthy virtual assistants who can handle Patient questions and administrative tasks and offer a personalized experience to patients while saving time and reducing cost. Chatbots can help patients to get quick answers to their health-related questions among many other use cases.

6.5 Digital in Waste Management



Case Study- Trash Pick-Up Company gets a Digital Makeover at a Leading Waste Management Company

Customer service, asset management, and revenue maximization are the key challenges in waste management. Customer Service is very important as a missed pickup of trash really upsets people. Asset Management in terms of ensuring that the 'drive time' fleet of trucks is high is crucial. Finally, Revenue Maximization is critical as it is for any business. In order to achieve these objectives, here is what they have deployed:

- **Internet of Things (IoT):** RFID tags were put on the trash cans to enhance the trash pick-up process. Data from the scanned RFID tags goes into ERP system. This enables them to track driver performance and any missed pick-ups. The trucks are also equipped with sensors that give them access to telematics data enabling them to both improve Preventive Maintenance and optimize Routing. They were able to track Engine Performance that led to fewer breakdowns. All this led to better customer service.

This also helps them increase their revenues. In many of the communities that they serve, there is a rapid growth of households, but increased numbers do not reflect in their contracts. As a result, drivers usually pick up trash for free. Once they put RFID tags, they can track the number of pick-ups, and re-negotiate pricing with the house owner associations.

- **Artificial Intelligence (AI)/Machine Learning (ML):** They did ML modelling on their customer complaints data and their analysis revealed a very important insight. Their initial conclusion was that most of the complaints were related to the pricing. However, their ML analysis made them realize that the main issue of customer complaints was missed pick-ups and not the pricing. So, they reduced the complaints with better operations rather than financial considerations.
- **Voice:** They did a pilot using Voice (Amazon Alexa) in the Boardroom to ask questions like how many routes were completed or what are the revenues.

Lessons Learned:

- **Data Standardization:** They had grown by acquisitions and so had different systems. The first step they took was to make sure that everyone spoke the same language when it came to types of services, products, and contracts. They fixed the process first. This was also very important when they applied ML models on the data.
- **Change Management:** They got the people along with them to embrace the changes that technology brings.
- **Technology:** Choose the right architecture, technologies, and vendors that will support in the long term.

Business Benefits:

- *Increased Revenues*
- *Better Customer Service*
- *Maintenance costs decreased and truck uptime was higher.*

6.6 Digital in Property & Casualty (P&C) Insurance



P & C Insurance companies are embracing digital transformation to enhance customer experience, enable hassle free claims, and increase efficiency while reducing the cost. Here are the digital solutions they are deploying:

- **Chatbots:** Chatbots offer a great way to redefine consumer engagement for insurance companies in several areas. They enable a 24/7 Virtual Assistant that can provide customer service round the clock. Using Chatbots, customers can notify about the loss/damage (FNOL), take photos, upload documents, and select their respective policies to request claims. Insurance providers can scan and verify documents to settle the claims seamlessly.
- **Mobile Apps:** Customers can greatly benefit from mobile apps to view policies, performance, premium details, maturity, and payment dates etc. They can also compare policies and make an instant purchase via mobile.
- **Artificial Intelligence:** Due to advancement in AI, insurance companies are using artificial intelligence to suggest customized policies based on past purchases and future requirements.
- **Big data analytics:** With a huge amount of data available with the companies, they are leveraging big data analytics to understand customer requirements and come up with customized offerings.

6.7 Digital in Consumer Products



It is great to see that pets are also riding the Digital wave. **A leading pet care company in the US** is leveraging Digital technologies to give enhanced care:

- **Chatbots:** They have deployed a Q&A chatbot for HR. The chatbot enables employees to check their leave balance, HR information, and has built-in AI.
- **Mobile App:** They have deployed iOS and Android mobile apps that pet parents (consumers) can use to track their visits, schedule visits, and receive notifications.
- **Data on Demand:** They create data on demand and store documents like statements using the BLOB (Binary Large Object) format.
- **Go Green:** They have launched the Go Green Initiative under which they do not print documents at the hospital. Instead, they email documents to the pet parents.

6.8 Digital in Real Estate



There is a growing demand for business transformation in real estate. Enhanced customer experience, empowered sales agents, and personalized experiences are the main driving forces behind adoption of digital. In order to achieve these objects, here is what real estate companies are deploying:

- **Mobile App** for buyers and sales agents.
- **Chatbots** to enhance Customer Service.
- **Leveraging AI** to better engage with home buyers by suggesting homes based on lifestyle.
- **Drones:** Pilot projects are being conducted to use drones to take pictures and videos of the home for listing purposes. Note that there are FAA regulations that need to be kept in mind.

7. Key Takeaways

- While the majority of organizations are making slow and steady progress, successful companies are taking the lead, and have already deployed digital solutions to gain a competitive advantage.
- Organizations across industries are actively working on adopting digital technologies like AI, chatbots, big data analytics, mobility, Internet of Things (IoT), cloud, voice, blockchain, and augmented/virtual reality (AR/VR).
- Driving cultural change, bridging the digital skills gap, lack of clarity, changing customer expectations, system integrations, data privacy, and security are the major barriers in undertaking digital transformation.
- Successful business transformation enables the organizations to take advantage of new possibilities, change the business model and evolve with the offerings.
- **Approach:** Define your Digital Strategy first. Work with the Business. Identify Key Digital Initiatives. Prioritize. Select Key Technology Platforms. Go small. Scale as business and volume increases.

8. About Unvired

Unvired Enables Digital Transformation resulting in Enhanced Competitive Advantage for Enterprises both large and small globally.

Unvired is a Digital Solutions provider of mobile/web applications, digital forms, and artificial intelligence-enabled chatbots for Enterprises. Unvired has developed a Bots platform called Chyme, on top of which, virtual/digital assistants for IT help desk, customer service, FAQs, sales, marketing, and procurement have been built. Chyme powered bots are omni-channel and can be invoked from Slack, Skype for Business, Facebook Messenger, Facebook Workplace, Google Assistants, and others.

Headquartered in Houston, TX, and with customers in N. America, Europe, South Africa, and APAC, Unvired is committed to helping its clients realize the benefits of digital transformation at a disruptively low cost and time to implement, and continues to innovate in providing digital solutions.

For more information, please visit: www.unvired.com.

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