# HOW DIGITAL ENABLES SERVITIZATION

Digital technologies are already disrupting existing business models across every industry. In the manufacturing industry, product design innovation and the demand for after-market services is forcing manufacturers to differentiate themselves to stay relevant. The trend of Servitization has been helping discrete manufacturers deliver products-as-a-service for many years.

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# Introduction

Over the past 4 decades, Servitization has evolved from a novel concept into a popular operational model among manufacturers. It has delivered tremendous value to those who have dared to be the early innovators. The notable examples are firms like Xerox and Rolls Royce. In the 1960s, Xerox shifted its focus from selling copiers to providing document solutions. This model involved leasing copiers to small shops and charging only for the actual service of photocopying. During the late 1990's, Rolls Royce pioneered a 'power by the hour' program that leased flying power instead of selling aircraft engines. In 2011, 50 years since it began, revenue from the power-by-the-hour program accounted for more than half of Rolls Royce's annual revenues of US $14.41 billion[1].

The need to shift from a traditional manufacturing model in order to stay competitive is what powers the move to Servitization. A study examining its early drivers revealed various contributing factors. Some of these included the supposition that providing services enhanced value to the customers, forged long-term relationships and improved margins. Another driver was the fact that, as products age, there is greater revenue potential from the service lifecycle to maintain and repair these products[2].

Today, however, the journeys enabled by Servitization have become increasingly complex owing to the emergence of disruptive and pervasive technologies. Players like Uber, AirBnB and Netflix have transformed traditional products like automobiles, hotels and cable TV into services that offer on-demand transport, stay experiences and subscription TV. Many consumers in today's economy are no longer excited by the idea of owning or using a product. Rather, their interest lies in how the product can serve their needs and desired outcomes.

## Challenges for Servitization

While many manufacturers have adopted some degree of Servitization – whether in pre-sales, supply chain, or aftermarket support – there are mixed findings about the actual outcomes of Servitization. One of the reasons may be the different parameters used to measure progress. For instance, while some reports focus on financial outcomes such as revenue growth, market share and service sales, others focus on factors related to customers, internal processes and scope for innovation[3].

Apart from the difficulties involved in measuring Servitization outcomes, its real-world implementation is another challenge. The scope of Servitization goes beyond merely providing basic services like product support to offering advanced services such as deep integration, product customization and contracts for maintenance. Enabling this requires a large amount of coordination and high investments into innovative R&D programs. For example, between 2010 and 2018, Rolls Royce invested nearly US $14 billion to enhance its R&D, factories and facilities[4]. Moreover, catering to different global markets raises compliance challenges as manufacturers must adhere to various local laws and regulations, some of which may include green manufacturing practices. Finally, customer demand for sustainable manufacturing and personalized products and services puts added pressure on firms to re-imagine their production processes.

## How digital enables Servitization

The changing consumer mind set coupled with technology-driven disruption provides new opportunities for manufacturers looking to truly differentiate themselves. But first, they must understand how technology is changing the Servitization game. Armed with this understanding, they will be better positioned to transform Servitization from a mere strategy into an innovative business model that puts the spotlight on the customer. Let us take a closer look at key digital technologies and how they are impacting Servitization.

## Cloud and data analytics

According to a study by IDC, by 2018 the discrete manufacturing industry was estimated to have the highest expenditure of US $19.7 billion on public cloud services. Process manufacturers were expected to spend US $10 billion on the same[5]. With cloud becoming a mature technology, manufacturers are already reaping its benefits by modernizing legacy ERP systems. This is allowing them to use large volumes of historic data to discover new opportunities. As data gets unified on cloud, it also supports advanced analytics capabilities that give manufacturers insights into internal asset performance.

Developments like these confirm earlier predictions about the value of technology in Servitization. A 2015 study by Cambridge Alliance surveyed 13 capital equipment manufacturers to determine the top 5 technologies that would benefit Servitization. A whopping 100% of them rated predictive analytics as the top technology, followed by data analytics[6].

## Mobility and IoT

The app-based economy puts convenience and timeliness at the fingertips of consumers. Manufacturers are now taking advantage of this to create alternate services that supplement their product-based sales and mitigate the risk of commoditization. A recent example is of German carmaker Mercedes-Benz that has developed an app called 'Collection'. The app allows customers to lease out different models ranging from SUVs to AMGs on demand for a monthly subscription fee.

The service fee includes liability insurance, maintenance, roadside assistance, and even a personal concierge to deliver the next upgrade[7]. Mobility also plays an important role in service delivery, particularly for asset maintenance.

Today, sensors enabled by the Internet of Things (IoT) are giving manufacturers access to real-time data across every stage of the product and operational lifecycle. With IoT and data analytics, manufacturers can track the performance of sold assets on the field and gain insights into possible failures. By offering timely support, manufacturers prolong the life of assets and gain customer loyalty[8]. Such support is also enabled by field technicians who can respond instantly to customer requests thanks to integrated mobility solutions.

## Augmented and Virtual Reality

The business model of world-leading furniture retailer IKEA highlights how extreme customization can enable outstanding differentiation. Customers can design their own furniture and even visualize it within their house thanks to the augmented reality (AR) capability available on IKEA's mobile app and website. While it is true that IKEA does not manufacture its own products, it serves as a fitting example to understand how technologies like AR and virtual reality (VR) can enable product customization. This way, customers can co-create value even in early design stages of the manufacturing lifecycle. These technologies could even enable next-gen digital stores or showrooms where customers can truly experience and view products before making a purchase.

Beyond product customization, AR and VR also have significant applications in the installation, repair and maintenance services offered by manufacturers. For instance, Airbus equips its engineers with Microsoft HoloLens AR glasses that allow electricians to view cables superimposed on the aircraft, leading to 25% faster installations. Airbus is now testing applications to enable design of virtual cabins. These applications will leverage VR to customize the cabin space and interiors according to the airline specifications[9]. In future, this capability could help airlines save costs and even support extreme personalization of the in-flight experience. Companies like Acro Aircraft Seating, a UK-based manufacturer, are already evaluating how to integrate customer preferences for seat design, features and materials used[10].

## Blockchain

Today, information about product provenance and carbon footprint is already driving consumer buying decisions. Providing customers with such information represents one of the ecological benefits of Servitization, which will further drive its adoption[11]. In fact, by monetizing services rather than products, Servitization gives momentum to the circular-based economy. The circular-based economy upholds the principles of low waste and optimized resource usage through recycling and reuse for a sustainable world. The example of Phillips, the world's largest manufacturer of lighting products, illustrates how Servitization supports the circular economy. Phillips has developed the Pacific LED, that is made available through a managed lighting-as-a-service model. Customers only pay for the light they use while Philips handles installation, repair, maintenance, and end-of-life management[12].

The challenge, though, lies in complex reverse supply chains with multiple players across geographies, leading to issues of accountability and trust. Blockchain can play a vital role in closing the loop for a circular-based economy. It can provide a simple and auditable process for the return of products from the customer to the manufacturer for reuse or disposal. Netherlands-based company Circularise is already collaborating with manufacturers and recycling plants in the European Union to achieve this goal. Circularise uses Blockchain to create a resource-efficient circular economy using the above principles[13]. Blockchain can also showcase green procurement by organizations, allowing customers to make green purchasing decisions as well. According to a 2019 study, the convergence of Blockchain, RFID, IoT sensors, and GPS can enable greater levels of verifiability, reliability, transparency, and immutability of data across complex supply chain networks, thereby driving provenance and sustainability[14]. Blockchain's distributed ledger system can capture accurate and verifiable information about the origin of products and conditions of production,

storage and transport. This data can then be made available to all stakeholders to drive sustainable purchasing decisions. For instance, information about the carbon footprint of raw materials can help purchasing departments adhere to green procurement practices. For end-customers, information about conditions of testing can be valuable in knowing whether products are actually cruelty-free before they are purchased in-store.
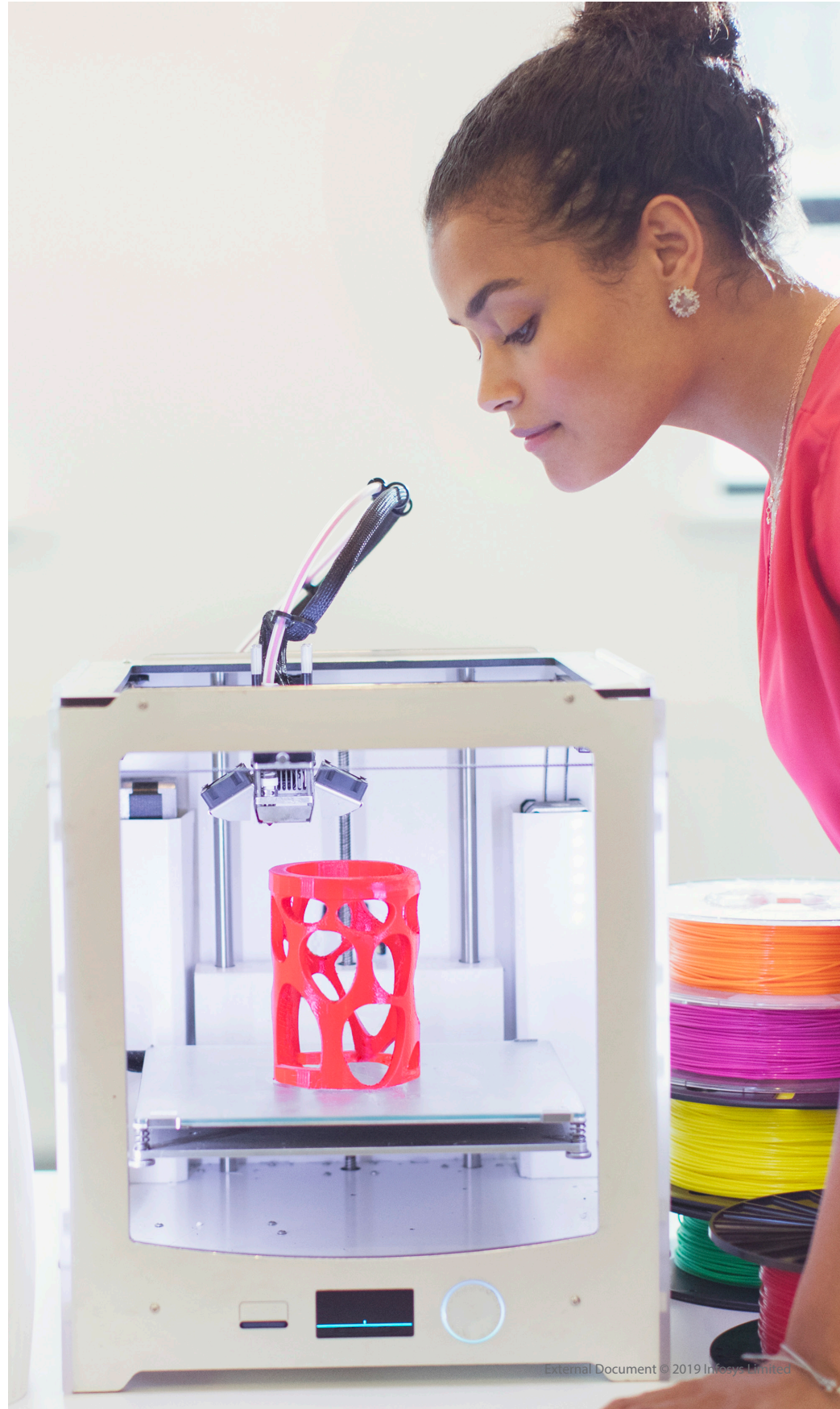
## Infosys framework

New technologies are changing the way Servitization models operate, creating greater scope for a variety of services. Today's manufacturers have a wide canvas of technologies to choose from to drive their Servitization efforts – and making the right choice is critical if they are to see returns. To do this, they need a framework that considers their unique challenges, customer demographic and global state of operations, etc., when designing Servitization strategies. The right partner is one that understands these technologies and how to implement and integrate them seamlessly. It is also critical to know how each new technology investment can deliver more value in terms of customer loyalty, new product innovation and better service delivery. All of this translates to greater profitability. Infosys has developed a 16-point readiness framework that helps manufacturers identify their Servitization pain points and roll out programs that realize actual business value.

## Conclusion

In today's digital age of dynamic customer expectations, Servitization has taken on a new dimension with just-in-time manufacturing, timely deliveries, product tracking, omni-channel services, and more. Companies seeking to delight consumers in this complex landscape must reconsider what Servitization means in a digital context so that they are better equipped to handle the challenges and realize value while mitigating financial risk. Technologies such as cloud, big data, analytics, Blockchain, Internet of Things, and AR/VR can help manufacturers re-imagine their Servitization business model. However, it is important to partner with the right technology solution provider to ensure these programs deliver the expected value.
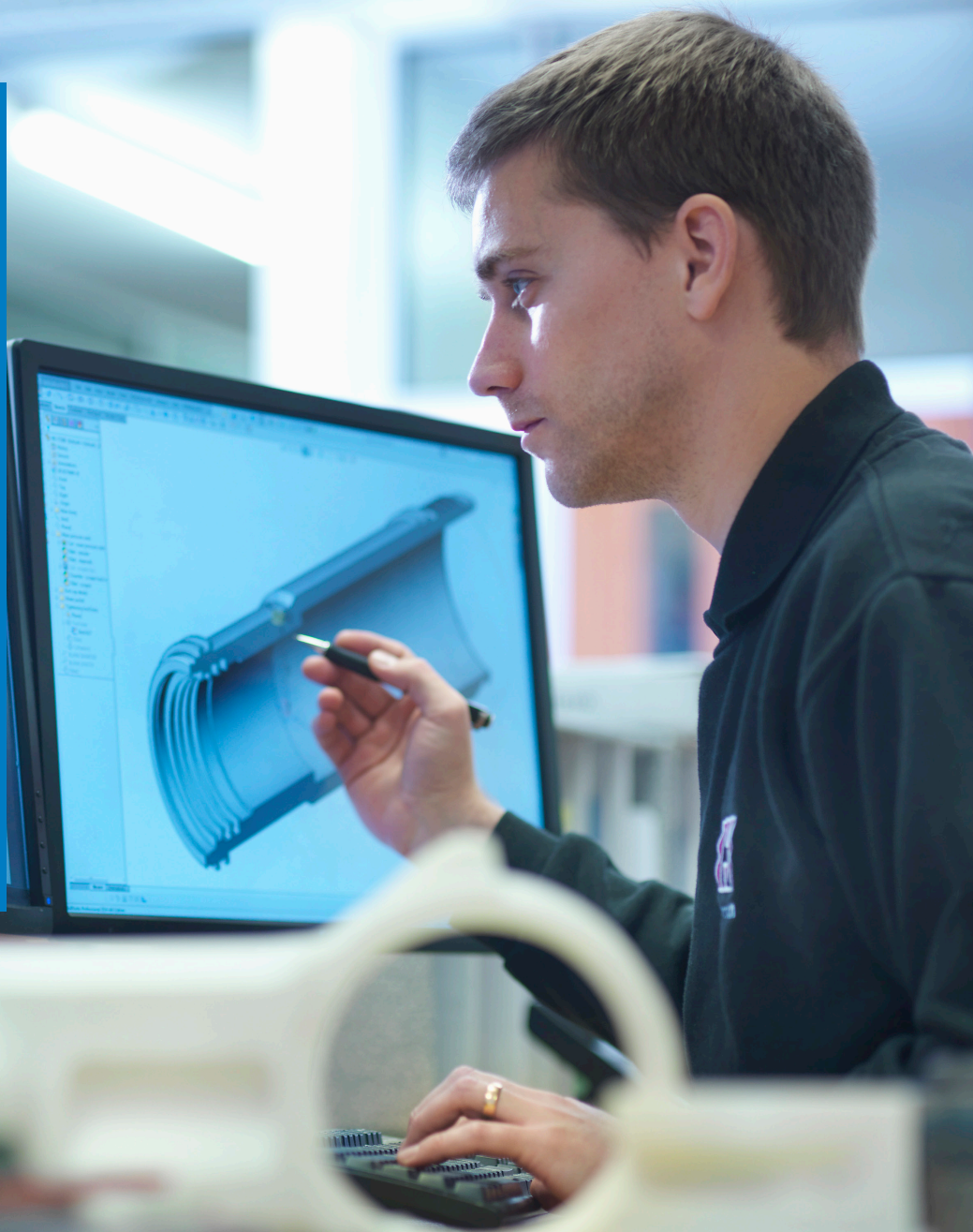
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