VIEW POINT

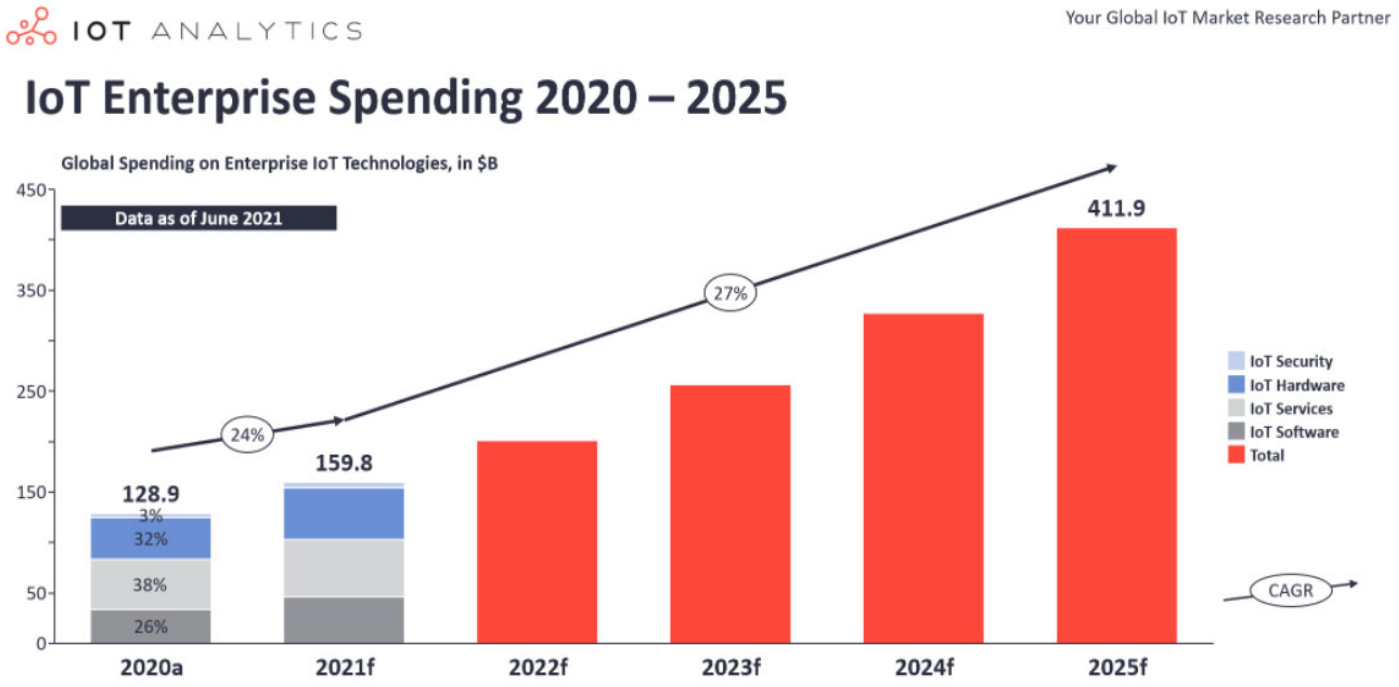
A REAL WORLD PERSPECTIVE TO SUCCEEDING IN YOUR IOT AND ANALYTICS LED INITIATIVES

Infosys®
Navigate your next

1. Context

According to IoT Analytics, spend on IoT is estimated to reach USD 412 billion by 2025. But based on our evaluation of trusted researches, a staggering 74% of the organizations contributing to this spend would go on to fail - which is ~USD 300 Billion of the 2025 IoT spend down the drain.

So, can we learn from real world examples to set ourselves up for success in our IOT and Analytics initiatives? That is the question that we set out to answer. What you see in this brief POV are some practical tips, and ways to structure and execute your IOT and Analytics programs that we gathered through our primary research - mainly customer conversations, and through our secondary research of analyzing trusted reports in the field.



Source: IoT Analytics

IoT has the potential to significantly improve customer experience and provide significant business benefits. With real-time data flowing in from IoT-enabled devices and assets, organizations can better define strategic actions to enhance business opportunities and redesign their service models in line with changing customer preferences. IoT-driven insights can help businesses create personalized experiences for diverse customer groups, thereby boosting customer satisfaction and leading to higher retention and higher Customer Lifetime Value (CLV). Further, analytics can enable unique actions that lead to improvements in the overall quality of an organization's business offerings and brand value.

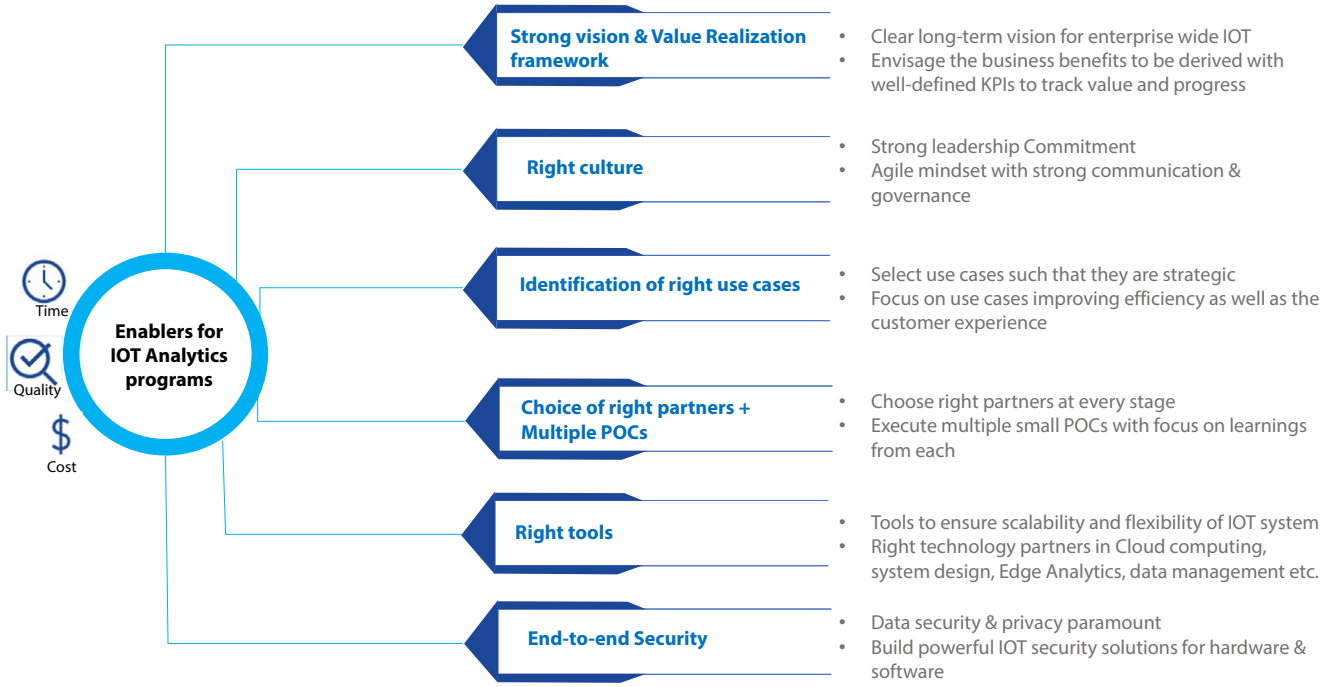
Owing to these reasons, organizations across industries have been increasingly dabbling with IoT, analytics and other digital enablers, to accelerate their mission to understand and serve their customers better and, potentially, identify new revenue opportunities. But the fact is that not all of them succeed in their pursuit of doing so.

A survey conducted by Cisco in 2017 revealed that about 74 percent of organizations undertaking such initiatives fail. According to Microsoft IoT Signals report published in 2020, 30 percent of the initiatives typically fail at the Proof of Concept (POC) stage. This fact is further emphasized in a report published by Beecham Research in 2020. In the study, 58 percent of sample respondents who were surveyed indicated their IoT initiatives to be unsuccessful, while Beecham estimates that the real failure rate may be around 70 percent.

As a part of our secondary research, we have looked at various reports and survey findings published over the years, to identify a pattern for the drivers of success and failure. We have gathered some interesting insights and present them to you in this article, to give you some perspective – not just in terms of learnings, but also to help you steer your initiatives in this area, including a brief view on the execution strategy for IoT- and analytics-led initiatives.

2. Study of Successes and Failures

Only a fraction of the organizations investing in IoT and analytics succeed. Having seen organizations on either side of the result, we have observed an emerging pattern that significantly influences the results. Here are some of the strongest factors that decide the success or failure of such programs:



- **A strong integrated vision with the right value-realization framework**

For successful enterprise-wide IoT implementation, organizations should have a clear vision of what business benefits are envisaged. Furthermore, it is critical for organizations to have a holistic view of where IoT and analytics capabilities fit in, in their larger digital framework. Without this clarity, organizations end up with very limited business benefits or no benefit at all in the long term.

According to a Principal Research Analyst at Gartner, most of the IoT projects start with a "me too" mindset without relevant, differentiated business goals, i.e., IoT programs might try to force fit themselves into solving some assumed business problems, which may not be real challenges at all. To avoid this mismatch, organizations must put in substantial preparation efforts on short-term and long-term goals, target capabilities, technology, architecture, KPIs, etc. Having specific, well-defined KPIs is necessary not only to analyze data and processes, but also to evaluate the progress and take prompt corrective actions.

An organization that acted on this and achieved great success with its overall sustainability targets is Whirlpool Corporation. It crafted out a well-structured strategy along with clearly-defined targets and KPIs for its data management initiatives across manufacturing facilities worldwide and could track its milestones across the globe via an IoT and analytics platform.

- **Right culture**

Since IoT programs involve considerable effort, money, and collaboration among different internal and external teams, lack of leadership commitment is a major hindrance to the success of IoT programs.

What many organizations lack is an agile governance mindset, which can drive a cultural change among the workforce, thus driving broader adoption. Communication and governance with business leadership to define, track, and course correct program tenets on the go are crucial. Organizations should be prepared for new ways of working through an easily adoptable change management framework.

- **Identification of right use cases for IoT implementation**

Organizations must select use cases intelligently, such that they are strategic. Along with ones that result in resource optimization and increased efficiencies in areas that are otherwise heavily resource constrained and inefficient, identifying avenues to deliver delightful customer experiences is essential to gain a competitive advantage. Royal Dutch Shell, a large oil & gas company, has strategically chosen some of its highly profitable but difficult-to-reach oil fields, to connect remote sensors for monitoring. This eliminates manual monitoring and accessibility issues. Other industries like retail are using IoT and analytics to create personalized experiences for their customers and gain better insights into customer behavior and preferences.

- **Choice of right partners while investing time and effort in executing multiple, small POCs**

HIROTEC, an automotive company, is a good example of this driver. HIROTEC conducted multiple POCS to implement Edge Analytics within its IoT platform. Though the first POC did not yield expected results, it was a valuable learning opportunity for the company, as it helped identify potential areas of improvement and potential partners. These learnings eventually made subsequent POCs successful. A leading elevator company, one of our clients, was facing challenges related to scalability and flexibility with their first technology partner for an IoT platform. However, they were able to succeed through a collaboration with AWS. While it is important to recover from failures, it is worth concentrating on some low-hanging fruits and quick wins in the initial stages, to overcome the inertia and fear of failure.

Additionally, over-reliance on internal IT to power through without a right partner ecosystem in place is not a good idea. According to a survey by Cisco, organizations which collaborate with the right SI or solution provider at every stage of the IoT program – from planning and implementation to on-going maintenance – have very high success rates along with accelerated completion times, compared to those which do not.

- **Identification and use of right tools**

Two of the most important aspects of IoT platforms are scalability and flexibility. A scalable architecture that supports multiple components, devices, and technologies, along with a flexible architecture that makes way for necessary customization to support region-specific regulatory, legal, and compliance requirements, while ensuring high availability and reliability in all key regions and technology areas are must haves. Other key considerations for IoT platforms include their ability to -

- *Handle technical complexities/challenges*
- *Support large, wireless system capacities*
- *Support scalable software infrastructure*
- *Handle multiple vendors and services without vendor lock-in constraints*

Data is the new oil. That is why businesses also require the right tools for data management and data monetization. What makes the humungous amount of data that IoT systems collect useful, is the ability to transform the data into meaningful information and extract actionable insights. Having the right tools in place for data ingestion (particularly for systems like SAP), data governance (tools that can provide metadata, lineage, and catalogue features), self-service Business Intelligence (BI), and visualization (tools like Qlik Sense, Power BI, Tableau), combined with an integrated DataOps framework, ensures data integrity and quality throughout the data pipeline, from source to consumption layer.

- **End-to-end security**

Almost all IoT devices are connected to the core network and deal with high volumes of sensitive data. The risk associated with the misuse of this data is huge and irrevocable. Hence, cybersecurity, device security, and user and access controls play a pivotal role. While data security and privacy are not considered by many as the major reasons for IoT failure, they are still a concern for others, thus impacting the technology adoption. It is important for organizations to build and use powerful IoT security solutions which help monitor and secure both hardware and software.

3. Laying a Roadmap for Successful Execution

- **Run relevant prototypes covering top capabilities**

Paper boats cannot be the right prototype to build a naval ship! Identify not one but a few use cases that best represent your organization's target capabilities, complex functions, and problems and build a prototype to test out. Ensure that you onboard a few customers to try these prototypes out.

- **Spend enough time to get the "who" part right**

This part is probably the most important step. While building a massive setup around IoT- and analytics-led services, our customers who have been successful have spent an enormous amount of time to get the ecosystem of service providers right. If one partner or supplier is selling themselves as a silver bullet, then they are most likely wrong! Increasingly, we are executing IoT and analytics programs where we proactively identify partners (sometimes including our peers in the industry) because we believe that is the best way to set ourselves up for success. With multiple stints and learnings, we have been evolving a guidebook on how organizations can identify the right partners for IoT and analytics initiatives.

- **Adopt phased execution with a clear, contractual exit strategy**

Based on how your business functions are structured, evolve an execution plan that best fits your priorities. An industrial manufacturing firm in the Nordics focused on manufacturing excellence and leveraged IoT and analytics to the fullest, in getting the product manufacturing part right first. With the focus shifting to business pivots and enhanced consumer experiences, the company is now in the process of executing IoT platform build and rollout for the services side of the business. Here too, it is broken into sub-functions in the order of importance of what capabilities are the most critical in the short term, and so on.

Secondly (and we won't be surprised if you are nodding along), it is important to get your implementation and support partners put their skin in the game and share risks, not just in terms of committing to an aggressive financial proposition, A team, and governance, but also to provide contractual flexibilities for customers to fine tune their partner ecosystem. As difficult as it sounds for partners, nothing provides freedom to organizations more than this aspect, when they are embarking on such programs with quite a few uncertainties, many learnings to uncover along the way, and even more evolving priorities that will continually reshape the program throughout the journey.

Conclusion

IoT paves the way for smart, connected products and innovative solutions and services. By leveraging IoT-enabled devices and assets, in combination with analytics platforms, organizations can not only deliver superior customer experiences and augment their revenue streams but also create new competitive advantages. However, reaping these benefits is easier said than done. To successfully execute IoT implementation projects, businesses must envision a clear roadmap with well-defined KPIs. They must also adopt the right tools and embrace the right culture, to become agile, resilient enterprises. Choosing the right partner for this digital transformation journey is another crucial step, as strategic and cultural alignment with the partner goes a long way in realizing organizational objectives

About the author

Manpreet Singh Paul , *Head of UK, France and Nordics, Manufacturing, Infosys*

Manpreet bring forth a solid understanding on the key issues / opportunities facing manufacturing companies, with superior solutioning skills and an obsessive focus on forging lasting partnerships. Currently he and his team, manage global strategic engagements with Manufacturing customers across UK, Ireland, France and the Nordics regions

contributors

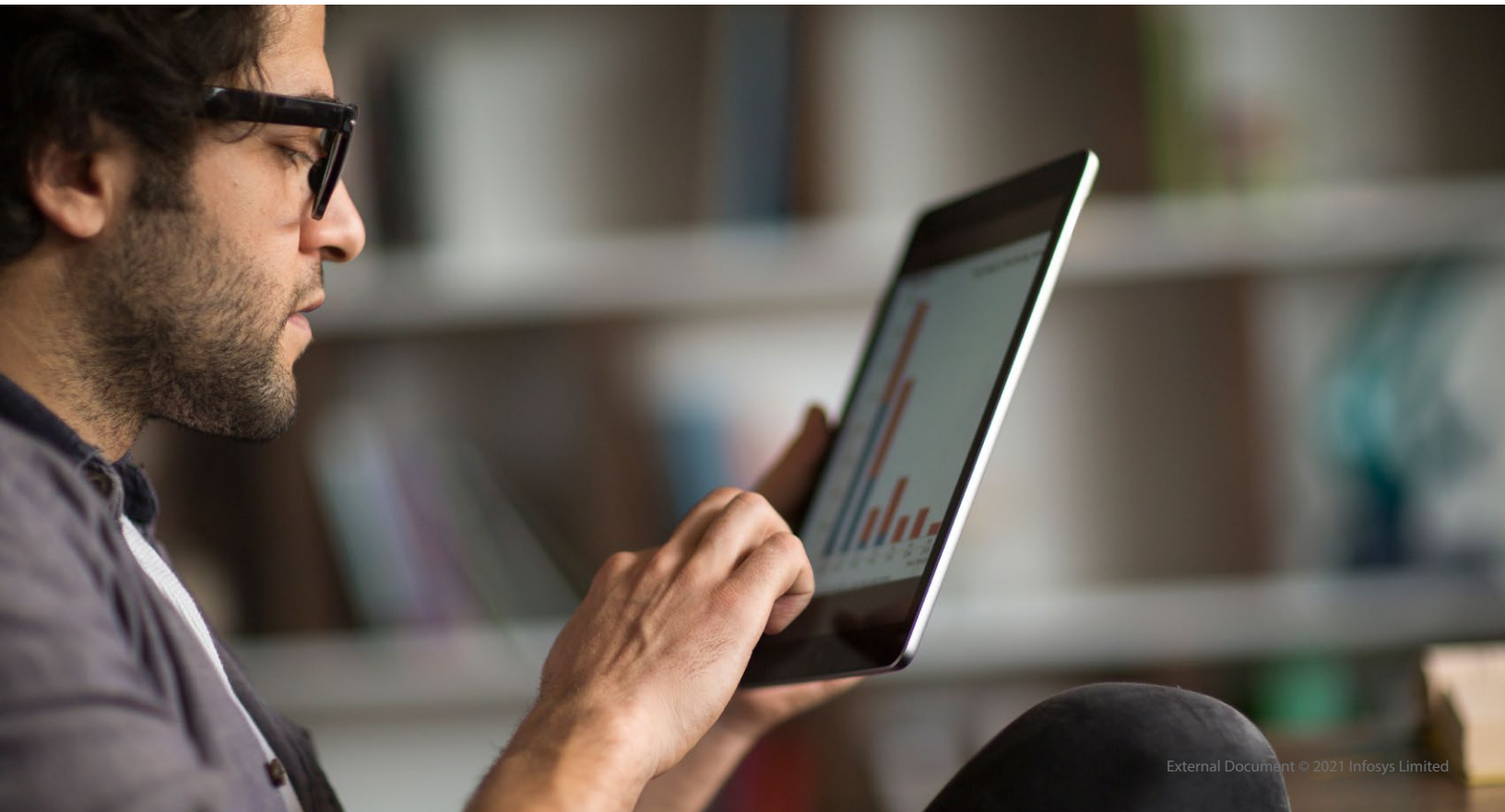
Chandrashekar Subramanian,
Senior Director - MFG & Country Manager - Finland, Infosys

Rishi Malhotra,
Client Partner, Infosys

Manjusha Vegesna,
Business Consultant, Infosys Consulting, Infosys

Rithun Regi,
Client Solution Manager, MFG Value Design, Infosys

Rajsaurabh Chheda,
Client Solution Lead, MFG Value Design, Infosys



References

1. Global IoT Spending to Grow 24% in 2021, Philip Wegner, Jun 2021, IoT Analytics
2. Case Study: Whirlpool Corporation, Sustainability From Factory to Home, Dec 2017, AltEnergy Magazine
3. Hirotec: From Smart Manufacturing to Smart Factory to Smart Enterprise, PTC
4. 5 Big IoT Initiative Successes for Business Leaders, The Silver Logic
5. Why IoT Projects Fail, 2020, Beecham Research
6. 8 out of 10 IoT Projects Fail Even Before They Are Launched, 2016, Economic Times
7. The Journey to IoT Value, May 2017, Cisco
8. IoT Signals Report, Oct 2020, Microsoft Azure

For more information, contact askus@infosys.com

Infosys®
Navigate your next