

CIO INSIGHTS

BARRIERS & BREAKERS IN THE INDUSTRIAL IoT JOURNEY

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Holding a PG Diploma from IIM-Lucknow, Mudit, in his career spanning over two decades, has worked across an array of multinational companies such as HCL, Hindustan Unilever, Bharti Airtel and TATA Teleservices, to name a few.

Industrial IoT (Internet of Things) has caught the fancy of every organization, given its potential and applications across various business situations. As practitioners and evangelists of this promising technology, it might be a good idea to be vigilant and mindful of the hurdles that one may come across.

1. Value: Just like any other initiative it is extremely important to define the problem statement and enumerate the business benefits that are likely to accrue as a result of the IoT initiative. Question to be asked is whether the executive management of the organization considers this initiative integral to the overall strategy of the organization.

2. Who's driving: Is IT function championing the cause or is the directly impacted business function taking the lead? Such disruptive initiatives have a better chance of success if they are driven by the business function. Cisco revealed the findings of a study in IoT World Forum 2017 which highlighted the gaps in the perceptions about success. While 35 percent of the IT executives felt that the initiative was successful, only 15 percent business executives felt the same.

3. Human elements: Once again, while culture plays a very important role in the adoption of IoT within the organization, the importance of requisite skill sets cannot be undermined. People need to be trained and made aware of the new ways of working. The Cisco study cites 74 percent of the initiatives as being considered unsuccessful and the number one reason was the lack of collaboration between IT and business.

4. Interoperability: McKinsey's analysts feel that 40 percent to 60 percent of the value lies in the interoperability of different IoT systems. Reality is that the multitude of OEMs, vendors and service providers lead to interoperability challenges. Sensors and controllers inbuilt in the legacy machines may not be capable of communicating and sharing data. While external sensors come to the rescue, a sound understanding of existing physical systems is a must. One may come across vendors and service providers who may not be very willing to provide open solutions.

5. Integration: Need for integrating various IoT connected products with the right IoT platform and applications thereafter cannot be undermined, the lack of which can lead to abnormalities in functions and efficiency to deliver value to the customers. It's only with deep integration that the companies will be able to mine through the huge data and generate insights to predict outcomes.

6. Communications: One of the most important elements as this is what transports data from the physical devices to the IoT platforms. Challenges come in the form of multiple protocols and it becomes pertinent to define the right combination of protocols that will be used during the deployment

7. Security: According to an estimate 25 percent of the cyber attacks will be targeted at IoT devices by the year 2020. Vulnerabilities crop up due to the convergence of multiple technologies and due to the lack of comprehensive security solutions. Hence, it is extremely important to be mindful of the security challenges that would come in the way of an IoT implementation.

8. Partners and the Eco System: Since this is an evolving technology, the choice of vendors and partners is critical to the success. A good partner should be able to go beyond the engineering design and should be able to work on all components that integrate the physical and the cyber world. The eco system of sensor providers, gateway providers, IoT platform providers, application providers and integrators is yet to mature.

9. Data Quality: In case of device malfunctions, data quality could be compromised and multiple platforms and devices could lead to data definition challenges. The analytics platform needs to be intelligent enough to weed out anomalies in the data on real time basis. Any architectural gap can have a negative impact on the user experience with the IoT platform.

10. Contracts and Regulations: Since the existing plant and machinery is likely to have legacy controllers and instrumentation, the contracts with the OEMs may limit access to data. Additionally, these contracts may also restrict connectivity with the IoT platforms. Hence it becomes imperative to revisit such contracts and the relationships with the existing OEMs. Since most of the IoT

offerings are on cloud, it is important to validate against the data residency and retention regulations. Exit clauses are often not given enough importance but have the potential of becoming sore points in future.

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In summary, if the organization is aware of the roadblocks that can come in the way from the start of the journey, then it can be prepared to handle those situations and be a real beneficiary of the IIoT technology. [In](#)

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