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# Innovative Engagement Models to Increase Industry 4.0 Adoption





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The manufacturing sector has been adept at incorporating exponential technologies that are not just immediately impactful, but also sustainable in the future. While, Industry 4.0 adoption has its benefits, showing business value and Return on Investment (ROI) on these initiatives is a key challenge faced by plant managers. They would like to convert the CAPEX spend to OPEX, to reduce the upfront outflow involved in Industry 4.0 solution implementation.

Servitization is helping change the paradigm for product manufacturer, but this is more in terms of bringing new efficiencies on the shop floor. For economic efficiencies however, the approach for value realization and monetization of solution need to be different for smart manufacturing initiatives.

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## Innovative pricing models

Catering to this industry need for smart product and in consumer IoT domain, new monetization models are emerging for tagging the revenue of product sale or services consumed, to final value delivered to the customer. Some of the pricing models that are gaining momentum are:

- **Subscription model:** Here, payment is decided based on the subscription of the product/ service(s). While in use, the product/ service provides insights as well as end-customer usage pattern. This enables customized and personalized services to the end customer, thereby creating a new revenue stream. For example, Automotive OEMs are providing telematics services, and consumers can subscribe to the services of their choice and are charged based on that. This helps in establishing a constant connection and relationship with the end customer.
- **Outcome-based model:** Pay for the benefit realized by the product. This customer-centric approach improves the adoption of the product in the market. For example, a product used for energy efficiency in a facility, a percentage of product cost will be tagged to energy-saving achieved for set duration.
- **Data-as-a-Service model:** This model helps in providing benefits to the customer by utilizing the data generated by the product. For example, data collected from the vehicle related to the driver's driving behavior is analyzed, and the insurance premium is decided accordingly.
- **Usage based pay model:** This is another variant of the subscription model. In this case, payment depends on the usage of the product. For example, a monthly fee may be calculated based on features opted for in a product, or the duration of usage.



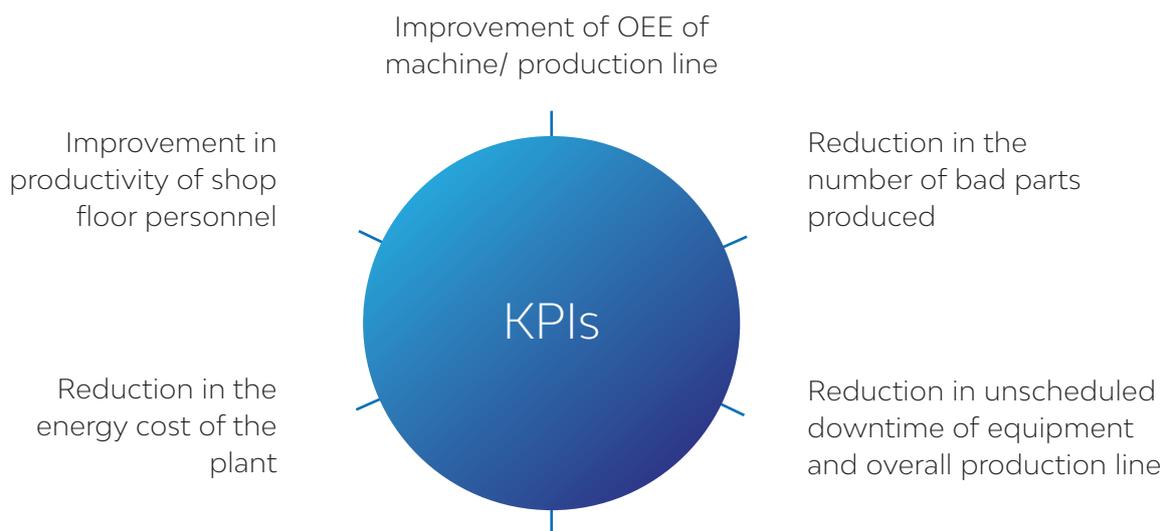
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Pricing models in consumer IoT space have evolved because it is relatively easier to compute the ROI and tag it back to the revenue generated. Learnings from this domain can be taken to Industry 4.0 space for coming up with new pricing models

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## Establishing mandates for KPIs

In any typical smart manufacturing initiative, plant managers would seek visibility, assurance on business value, and business KPI improvement on the production line. KPIs used to track success of these initiatives are -



## Smart Manufacturing pricing models

Similar to consumer IoT, new engagement models have also emerged in smart manufacturing space. Some pricing models gaining momentum here are:

- **Connectivity-as-a-Service:** This pricing model takes into account the number of assets getting connected to an IoT platform. As legacy shop floor equipment gets connected, it unveils many use cases and their potential benefits. This also helps take the plant up the Industry 4.0 maturity index. For brownfield setups, the connectivity of equipment is a critical step for collecting equipment parameters like start time, stop time, a number of parts produced, etc.



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- **Plant-as-a-Service:** This pricing model accounts for the number of use cases implementation and the number of plants that undergo the digital transformation. The digital transformation of the manufacturing plant involves taking the plant through the IoT maturity curve from connectivity, visibility, transparency, predictability to adaptability (refer Industry 4.0 Maturity Index). As more and more manufacturing plants undergo the digital transformation journey, the cost of solution deployment drops because of the vertical and horizontal scaling of an IoT solution. The pricing model can be structured to incentivize the manufacturing organization to scale the IoT solution both vertically and horizontally.
- **Use-case-as-a-Service:** A subset of "Plant-as-a-service", here a specific use case is implemented leveraging the smart manufacturing framework. As more and more use cases get deployed over a period, the pay-out will be received by the solution provider. With increase in adoption, price per use case will also drop, since the base framework is already in place.
- **Business-outcome based pricing:** The cost of solution is based on the extent of impact to business KPIs. As the benefits increase, the percentage of pay-out increases proportionally. For example, improved quality, reduced wastage, increased automation leading to higher productivity, reduction in energy consumption per plant or per machine, resulting in not only reduced cost of operations but sustainability.

The challenges around non-availability of benchmark data for quantifying the benefit of Industry 4.0 implementation is something that needs to be discussed and worked out before implementing the solution.

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## The road ahead

Industry 4.0 solution providers and system integrators also need to up their game to move towards an engagement model that helps impact the business KPI and leads to a win-win proposition for both the manufacturing organization and the solution provider.



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Kartik heads the global delivery for IoT Practice across industry verticals. In this role, he is responsible for delivery of IoT transformation program for global customers. He has over 20 years of experience and has played sales, program and delivery management roles in different geographies. His areas of expertise include product design, industrial automation and Industry 4.0. He has helped multiple customers define and navigate their digital transformation journey by bringing in solutions on IT-OT convergence, factory visibility, condition monitoring, predictive maintenance, digital twins for process & asset, and digital thread.

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