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BUSINESS PROCESS SERVICES

Industry 4.0 and the Role Of BPS!



Industry 1.0 was marked by the invention of steam engine and 2.0 by commercialization of electricity. Invention of personal computers marked Industry 3.0 era and computing became an essential part of office routines. IT is now an integral part of all industries and manufacturing is no exception. After the industrial revolution many operational methodologies and best practices were introduced for shop monitoring, batch monitoring, inventory management, and many other processes. When technology was infused in these processes it was called operational technology – OT. OT traditionally is associated with manufacturing and industrial engineering. Systems such as ICS and SCADA are typical examples of OT. IT in its information scope covers communication over networks, OT has never been associated with any technology which would support networks. Many monitoring devices were not computerized and the ones that were, used PLC (programmable logic controller). Hence, here these industrial tools, although generate lot of data, there was no computerized system to store it.

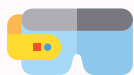
With the world moving towards connected devices, IT and OT have finally found their confluence, giving rise to industry 4.0. With this, industries have become smart and can now collect data in a more sophisticated and structured way. Sensors and actuators play a major role in gathering data and making an actionable plan for shop floors. On a larger picture, industry 4.0 is the industrial transformation with automation, data exchange, mobility, analytics, artificial intelligence, robots, big data, IoT and other digital enablers. There are many other terms and contributing components to Industry 4.0, but there still remains a vast stretch beyond the technology enablers. While botification of shop floors has changed the way industries are operating, industrial relations have become more sensitive due to reduction of manual labour on the floor. It is imperative to understand factors that have shaped the birth of industry 4.0.



Advance Robotics: Autonomous and cooperating industrial robots with plenty of integrated sensors and homogenize smart interfaces



Augmented Reality: In the maintenance, logistics, and display of supporting information



Smart Simulations: Real-time data from intelligent systems to optimize machine throughput



Industrial Internet: Connected machines and products with multi-directional information sharing over network



Big Data and Analytics: Real-time analysis of data from connected devices in factories, supporting decision making and optimization



Cloud: Minimal on-premise data server storage space and ability to manage huge volume of data from any system and anywhere



Additive Manufacutring: 3D printing for spare parts and for designing prototypes

McKinsey's Digital Compass maps Industry 4.0 levers to the 8 Main value drivers



This compass clearly states that assets and labour are the two major areas which will benefit the most through botification and augmentation of manual processes. While the go-to market will be reduced due to predictive analysis by rightly capturing the demand and supply mechanism, this will impact the consumer's consumption pattern as well. Reducing inventory with next level just in time will complement the partners in the supply chain. Shop floors routing time will be reduced, quality checks will become more reliable and will be backed by strong and robust statistical control. While there will be still human assisted bots but the dependency on human thinking will reduce due to strong analytics algorithms. These algorithms can also be used for metering, giving meaningful insights on the consumption of various non-human resources of the shop floor. Mostly, when used for energy consumption, metering can help in gauging the carbon footprints process wise and thus will help in taking action to mitigate green gas effect and raise the environment sustainability index. This will certainly make the industries not just smart but also futuristic in nature, keeping environment clean and helping businesses to maintain the balance between green quotient and their bottom line without much upheavals.

BPS teams across industries are no exception, they are expanding their horizon and moving towards digital channels. Let's see how BPS has a role to play in the making Industry 4.0 a success:

Analytics: Powerful analytics tools will enable BPM to deliver next-gen processes of industries, which will allow businesses to be more proactive, adaptable, and agile. This will enable them to deliver contemporary business processes with new regulatory frameworks and well-tuned shop floors.

Humanoid Support: Industry 4.0 will have many humanoids on its shop floor. These humanoids powered by AI and NLP will come with maintenance cost and will also be require regular servicing. While BPM can help calculate the value of these humanoids to every mapped process, the humanoid provider can handover the humanoid help desk service to BPS.

Process Intelligence: Businesses will enjoy real-time information by supporting live dashboards. Process modelling will happen as per real-time data and back office agents will be able to make better decisions. These decisions will be powered by predictive and proactive analytics helping agents to make decision quicker.

E2E Order Management: BPS will cater E2E order management from procurement to after sales services, catering to all blocks of the value chain of the business using data captured by connected devices. Gathering the order management intelligence will help in designing smart and futuristic processes, to meet business KPIs.

Embedding Platforms: Platforms have a major role to play in Industry 4.0. Many smart devices will take over traditional machines on the shop floor; various solution platforms will be very well embedded in the Industry 4.0 architecture. Some platforms suitable only for B2C businesses may not have direct impact but can be very well implemented at the tail end of supply chain to understand market response, post Industry 4.0 actualization.

Source Link - <https://www.mckinsey.com/business-functions/operations/our-insights/manufacturings-next-act>



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