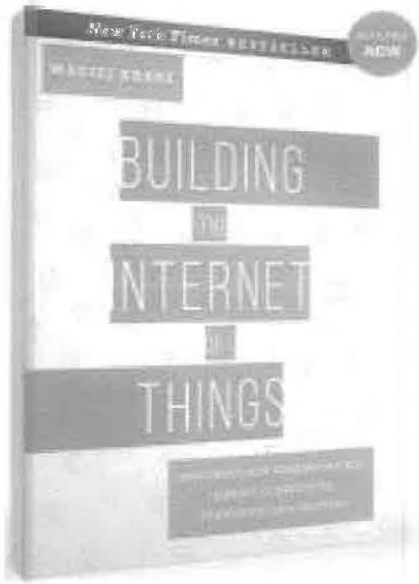
Book Review: Building the Internet of Things, by Maciej Kranz



Maciej Kranz

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Through the book "Building the Internet of Things", Author Maciej Kranz, Vice President of the Strategic Innovations Group at Cisco aims to bring the knowledge of the "Internet of Things" (IoT) in the minds of the Present Business Managers and the potential Managers of the Future. Right from the first Chapter of the Book, Kranz tells us why IoT is essential in today's world, and how it is capable of shaping the future of Business Organizations.

The Internet of Things, from the perspective of Business Organizations, is the interconnection of all devices used in the Business Processes with each other through the use of IP Networks. To be more precise, it is an advancement of the conventional Internet service that we put to use daily. The current stage of the Internet involves the communication of the user with machines and electronic devices through various networks. But at the second stage, these machines themselves are connected to each other and are capable of performing manufacturing tasks at a totally unprecedented pace and accuracy. The IoT essentially brings in a high level of Automation to Business Practices, which not only enables a seamless flow of work but also helps in saving running costs of a Business within a small time period. The scope of IoT is not limited to just that. As Kranz explains; alongside automation, Companies can also use the connectivity obtained through IoT for practices such as Remote Operations (Monitoring and controlling Business assets through network without being physically present at location), Predictive Preventative Maintenance (Detecting and solving errors in Assets such as production vehicles before breakdown), and Predictive Analysis (Processing the massive amounts of data collected through IoT into understandable information). To provide an in-depth understanding of these concepts, Maciej Kranz has cited various examples and cases of companies like Harley Davidson, which used IoT to increase the speed of production and efficiently serve their customers with customization services, and Rio Tinto, a company which used IoT based Preventive Predictive maintenance on their trucks to repair its humungous trucks onsite before they potentially broke down in the middle of isolated mines, where they are mostly put to use.

It is highlighted that the inability to adapt to this change could have drastic consequences on Businesses in the near future. As it has been always known until now, Change and Innovation are survival imperatives for any Business. It is what drives the Capitalist Economy, and it is what makes our Technology and Culture progress ahead. This time, it is the Internet of Things that would become the next big change. Think about how the mass production of automobiles changed the way we see the World Today. Well, IoT has a similar potential.

After explaining the need of IoT, Kranz moves forward and gives his opinion on how Business Managers must try to implement it in their Businesses. First and foremost, IT (Information Technology) and OT (Operational Technology) which are totally different from each other, need to work together, for the purpose of implementing virtual networks through multiple physical assets of an Organization.

It is stressed several times in the book by Maciej Kranz, that IoT is simply impossible to be integrated into an organization by its own methods and processes. A partner or many partners would be needed as its integration is a total overhaul of an organizational landscape, and won't be possible through a lone wolf effort.

For those Business Managers looking forward to the integration of IoT in their business processes. The focus must be on the "low-hanging fruits", i.e., everything that's visible and available to the organization at the moment. The first thing to be understood is the fact that managers don't have to integrate Business with the Technology. Instead, they need to integrate the IoT technology with the Business Process.

The purpose here must be to make the Business Processes easier, and more effective than ever. That is what the Internet of Things is all about! The paybacks of IoT are quite huge if it is done the right way. For that, managers have to look at IoT as not something which is done once and forgot about, but something that would keep changing, and keep transforming from time to time.

This is because of the possibilities that IoT brings into play. Automation, Remote Monitoring and Predictive Analytics bring so much into the business that the possibilities for growth would be endless. Kranz stresses on implementing IoT in an organization in a standardized and uniform manner so that any required changes could be made easily with time. For that, however, one needs to have networking standards that are approved, recognized and used by the whole industry.

While Proprietary standards of networking can help an Organization to lock-in a base of customers to services. It simply acts as a hindrance to growth, which is only possible through unified standards across all organizations of a business sector. So, through uniform standards, and co-operation of business organizations and vendors; all Companies can make great use of IoT. Add to it the potential of Fog Networking (A networking concept that involves high-speed network communication which would allow business to incorporate changes and provide services at an almost real-time speed), and you've got a huge array of services which could help Business function at a pace and accuracy never seen before.

There is, however, a caveat, which yet again, could be eliminated by IoT itself. The trouble here is of managing data. Data collection is an activity done by all Businesses, small and large. But with the use of IoT, the data arriving at the Organizations would be so much in quantity that it would be nearly impossible for even the best of Data Scientists to interpret it in an understandable manner.

This is where Predictive Data Analytics come in. With the use of machine & deep learning, the power of processing data could be left up to the IoT itself, only up to some extent though. As it is assumed that human involvement would be needed in some way to make use of the processed information.

But that human involvement should consist of highly-skilled workers, who actually understand the importance and the ways that IoT works. Since IoT is a completely new concept to everyone at present. Every worker and every manager is at the same level here. So, proper care needs to be taken so as to ensure that the workers are adequately trained to perform well and thrive in the presence of challenges presented by the organizational transformation.

The connectivity of every asset of a Business Organization to a single network could make monitoring and cost-controlling efficient and effective. But there's yet another problem, which is what scares most of the entrepreneurs and managers from investing into IoT; the problem of data security.

Maciej Kranz has a whole dedicated chapter to this subject in the final parts of the book, where he explains the need and importance of security. Kranz points out that Security isn't supposed to be a final layer or a bolt-on to the IoT integration in an Organization. Instead, Security initiatives should be taken right from the foundation level from where a manager would start the organizational transformation into an IoT heaven.

While there are certain threats to data security of Organization, Kranz implies that if the proper measures are taken, any breaches could be effectively avoided. For this purpose, awareness should be built in within the human resources of the organization. Here also, IoT itself presents a solution. These network of connections could be effectively designed for detecting any attempts of a security breach, and take timely action against it.

Most of the chapters in the book, from the start till the near end, don't dwell on the technical aspects of anything, as Kranz has left most of it in the last chapter. The final chapter of the book deals with the technical concepts of Fog Networking, Blockchain(Underlying Technology of Bitcoin Currency, which facilitates secure transactions between entities and contain data records protected from tampering) and Machine-Learning, which could bring revolutionary changes unimaginable at the present time.

Throughout the book, the focus is first put on how other companies are progressing with IoT practices. Then Kranz turns the emphasis on the reader and asks how he/she perceives the situations, and how the reader, the future Manager would try to integrate IoT into his/her business.

The case examples do reasonably well in making one understand the scope and the ideas about the integration of IoT in Business Organizations. The content could make the readers question themselves regarding their own plans and ideas for making use of IoT.

'ıch like how the Internet and Cloud Computing changed the way we live our lives, and how the World functions around us. This second stage of the Internet, the Internet of Things, which might involve fog computing, real-time maintenance and automation of production lines, factories completely free from human involvement, data analytics done at a pace incomprehensible to the human mind, and most importantly, high margins of profit; would completely change the way Technology, Economy and Cultures function in an environment.

Since the present time is just the dawn of the IoT era, the time is ripe for young startups, emerging and established Business Organizations alike, to step up and embrace this change. For whoever refuses to adjust, might perish the same way how the old Horse Buggies stopped being put into use after the introduction of automobiles.

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