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Enhancing New Product Development Effectiveness With Internet of Things Origin Real Time Data

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ABSTRACT

The purpose of this article is twofold. First is to ascertain and establish the collaboration required between different stakeholders in the fundamental process of New Product Development (NPD). Augmentation of the process with the IoT origin real time data to enrich the efficacy of the New Product Development process forms the second part of the study. The primary data is collated from over 100 plus professionals while the qualitative data required for the second part is collated with the help of focused group interviews. The Likert scale with five points was deployed to record the opinions. The empirical analysis supports the theory that an effective collaboration is required between the different entities such as Sales, Marketing, R&D and going beyond the organizational boundaries Suppliers & Customers for the new product to be fruitful and successful in the market. The impact of using the IoT origin real time data on the effectiveness of the New Product Development is evaluated. In the current scenario for an organization to lead the market, it is essential that it has a descent product roadmap and an effective NPD. The current study reveals the importance of the NPD and contributes towards making it more effective with the IoT origin real time data.

KEYWORDS

Internet of Things, New Product Development, Product Development, Supply Chain Management

INTRODUCTION

New Product Development (NPD)

Market competition is getting fierce day by day. In this intense and vigorous competition new product development is the key to survive for the organizations. Firms that go to the market with agility and products that match the customer expectations create a substantial lead for themselves in the market and are called the Market leaders. They enjoy the momentum and get the early advantage to create the market pull (Wheelwright & Clark, 1992). The possibility of ending the search of customers can end with a novel product or an idea changing the existing product to suit the customization expected. The importance of New Product Development in helping to ensure a firm's competitiveness is well recognized (Brun & Saetre, 2008).For becoming the nexus of competition, Product development is critical. Rational planning and execution result into a good product development (Brown & Eisenhardt, 1995).

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Customer

Customer is any person or organization who is backed up with the buying power and has intention or has already purchased products or services from an organization. Sometimes in marketing, there lies confusion between the terms customer and consumer. While customer is the person or organization involved in buying of the products or services, on the other hand the consumer consumes the product or services. You can be a customer as well as a consumer (Joseph, 2017).

Real Time Data

Data that is collected at source, and consumed into business model is defined as real time data, which enables quick decision-making. The benefits of quick decision-making are accrued only when the needs of the parameters based on which decision is taken dynamically are spelt out in advance. The data gathered for the variables determines the decisions, which are required in business. The internet of things ecosystem, which supports the data collation, consists of sensors that are self-sufficient to collect and transmit the data over the internet. (Yerpude & Singhal, 2017)

Internet of Things

Internet turns out to be topping the charts when it comes to data transfer at a more than rapid pace. It has undergone a lot of technology innovations and emerges as the most trusted means of information sharing (Lou et al., 2011). Because of the ubiquitous presence of the internet and its impact on business processes and technology landscapes warrants Internet an undisputable place in our lives (Yerpude & Singhal, 2017). The internet has now transitioned into a global network because of the conversion of the micro network to a macro network. (Yerpude & Singhal, 2017). Internet seamlessly transfers the information packets over the net connecting billion of things globally (Kopetz, 2011).

Background of Study

Kevin Ashton a British technology pioneer in the year 1999 coined the term Internet of Things. It soon picked up around the world, where the physical world got connected to the virtual world vide internet with a huge transfer of real time data for conducting analytics (Yerpude & Singhal, 2017). IoT has a unique capability of connecting devices, people and goods over a global network. Need was felt to validate the various emerging ideas on IoT (Nolin & Olson, 2016). Application of IoT is becoming a niche area of research. The growth of devices which will get connected over the internet is envisaged to grow from about 22.9 billion in 2016 to 50.1 billion in the year 2020 (Wellers, 2015).

Motivation for Research

For a corporate, new product is the way of survival that is enabled as well as governed by the new product development process. In order to come up with a market acceptable product in the shortest possible time, the organization need to integrate the essential stakeholders those basically are beyond the boundaries of the organization i.e. the Customers and suppliers. To remain competitive, the organization needs to shorten the time taken for a new product to hit the market since currently the Product life cycles are seen shrinking (Yerpude & Singhal, 2017). Concept mapping was carried out between IoT and supply chain constructs. Even though there were evidences sighted where researchers could established the IoT framework applicability in the Product development area, but there are not enough cases to prove the adequacy of the research done in this domain. Hence, the researchers pursued this study.

RELEVANCE OF STUDY

Profoundly if we study the product life cycle there are four basic stages of the same, namely – Introduction of the product, its rise in the market, its sustenance in the market in terms of sale