

Progressive Action on Measuring Innovation in Business

AUGUSTINE. R^{1*} and V. IMAYAVARAMBAN²

¹Consultant, Centre for Innovation and Agripreneurship, MANAGE, Hyderabad, Telangana State

²Professor and Head, Department of Agronomy, Faculty of Agriculture, Annamalai University, Chidambaram, Tamil Nadu

Abstract

Innovation in the context is specifically the application of new knowledge to productive or organizational processes. Innovation processes generally arise in response to different types of triggers, whether from market, technology, society or the environment; regardless of origin, they always require the presence of favorable conditions. A unique model of measuring innovation is proposed and a structured approach was applied to discuss the framework on different approaches. The narrative review shows that specific measuring frameworks differ for innovation, at the customer level both at outcome and opportunistic innovation. The output approaches can be found on all levels, as complemented by potential policy makers on country level, process on company level, returns on team level and output related on individual level. The influences on measuring innovation are extensively discussed as a comprehensive overview of the approaches and identify the effects in a précised manner for the innovation phenomenon at the organizational context.

Key words: Company, country, innovation, market, team, technology

Date of Submission: 12-11-2021

Date of Acceptance: 28-11-2021

I. Introduction

Innovation is collectively viewed because of its higher applications in new needs or existing market desires. To comply with innovation we need to be ready to change the organization to enhanced solutions for brand striking or existing desires. This can be in any form of technology though not innovative in the minimum level, rather applied in associated means of innovation. Innovation is not about developing new technologies, however mutually adopting and re-organizing business work, both in maintaining organization and external relations (Baranano, 2003). Many vital efforts were undertaken to capture and standardize measures associated with innovative activities. These efforts concretize the work on R&D and non R&D activities, which has an effect on economic measuring (Fischer et al., 2015 ; Vahs and Brem, 2015).

There is a growing need to broaden the scope of innovation measurement, which satisfies all intellectuals towards creative activities. Many industrial revolutions have led to the focus on unique technology in changing business system. The underlying theme of revolution remains with consistent approach, as innovation. A company that has developed in the atmosphere of innovation has put forth a strong growth for the future. It becomes mandatory for all firms, to maintain their innovation role and refine them to contribute for the growth history. Many firms use different indicators for measuring innovation, relevant to the investments and its success (Dewangan and Godse, 2014).

Understanding innovation performance by their productivity in using various indicators remains a challenge for the companies. It is often evaluated based on the idea on measuring innovation:

- The specific skills which lead to innovativeness by individual can be relevant for measuring innovation
- Firm is to decide the innovation performance of both work team and project team mutually based on their relevancy
- Most innovations are happening by the entire team or a minimum group, where innovation can be measured at organizational level.

Each and every country has a different culture of innovation. It's necessary to measure the innovation at a regional level, both rural and urban (Evanschitzky et al., 2012; Storey et al., 2016). An innovation framework is used for this review with people creating new value and capturing with a new approach.

II. Methodology

Innovation focus on the need based and keeps changing its forum for its success rate, which remains prevalent and used for measuring innovation. The primary and secondary information regarding innovation need, measure & manage, culture and approaches were collected from various sources.

Innovation: Need

To search opportunities and create value, innovator strives harder for their share in market, which directs them to overcome the challenges in the on-going businesses and leads to sustainable growth. To effectively compete, it's imperative to monitor and measure the innovation progress with the major three lines:-

- Understanding and recognising the market threats, opportunities and related challenges
- Developing, encouraging and refining ideas to focus on challenges and capture opportunities
- Implementation of swift and target based practical applications from idea to market as per the need and growth

Once opportunities have been explored, implementing the idea into value becomes difficult, expensive and risk, if not properly managed it will harm the business.

Innovation: Measure & Manage

To understand how innovation works effectively, we need to determine what to measure and how to manage and consider the necessary aspects of innovation:

- What is the expected outcome for ex., what is innovation to our customers?
- Where to change our innovation process to achieve the end realized innovation?
- How to measure that we are creating a value in innovation?
- What is the level of maturity in our innovation management and how can we develop?

Innovation: Culture

- (a) Inputs for innovation: Intention, infrastructure, influence (market) and implementation.
- (b) Outputs for innovation: Tangible outcomes and performance (Brooke Dobni, 2008).

Innovation: Approaches

Conceptually, it's specified that different approaches exist within the innovation theoretical framework. There is a diverse classification, which hampers indicators comparison to some extent. For better growth in measuring innovation, following approaches were used at various levels by using business tools (Philipp ter Haar, 2018). They are;

- (a) Regional or country level
- (b) Business unit or company level
- (c) Project or team level
- (d) Individual level

III. Results And Discussion

Innovation: Need

For better success under market pressure, organisations need to continually involve in innovation to ensure better customer satisfaction and also paves a way for business growth. Innovation by itself changes business value when created timely (Damanpour et al., 2009). Businesses need to innovate continuously to grow, by understanding how it works and assure success and learn to repeat it, which is essential. Based on the problems we try to solve and approach as a first step. Once some process is in place we need to refine it, improve and continue to make a difference in ourselves against our competitors. This we need to measure ourselves against the customers, market, competitors and feed back into the process of innovation (Bates and Khasawneh, 2005).

Innovation itself must evolve for a sustainable success, by ways of measuring and refining and these needs to be continuously calibrated to ensure that we take forward the business in the right path, despite the competition taking into account the present market trends and technology (Prajogo, 2006). Innovative technologies are produced every time, despite not being completely active. The organisations experiment done in public and learn from trial and error by using tested technologies and ideas to the customers. This has the advantage of experiencing when it comes to fully exploiting the next generation technology.

Innovation: Measure & Manage

Two types of innovation were broadly used to measure and manage effectively at the customer levels.

Outcome driven Innovation:

To be successful in businesses we need to provide value to customers. To be effectively in the market, we should create a better value than our competitors or there should be a differentiated way to project our uniqueness. People thoughts vary with difference in innovation approach. Some people look for brand, some for quality, some for quick service and this need to be achieved with time conscious and cost effective. In general, customers look for products and services that adapt and evolve their changing needs. Defining the innovation may not be easy and specific. If the outcome is defined with too specific note, then it curtails creativity and prevents innovation potential in people and assets (Eling et al., 2016; Van Oorschot et al., 2018).

Opportunistic Innovation:

Outcome driven innovation is not too specific and needs diversification to achieve innovation. Different approach and indicators are tried to solve the outcome of innovation. The end results by using indicators need to be rightly chosen for better solution of the problem existing in innovation. This key performance indicator (KPI) helps in rise in revenue and makes better innovative initiatives (Phyllus Drucker, 2018). KPIs should be combined with specific facts to specific business decisions on how to improve. Innovation is all about balancing tensions and conversion of idea to a tangible value (Borrás and Edquist, 2013).

I. Many KPIs are expressed in ratios, which provide the pace for innovation for ex. new product revenue: old product revenue. If this ratio decreases, innovation becomes outmoded, new revenue decreases and cost increases. Ex., compatibility ratios for each step in innovation process;

- (a) Ideas: Ideation campaign/exhibits
- (b) Ideas to concept stage: ideas to concept designs
- (c) Executed designs: model designs
- (d) Ideas to market: Executed ideas
- (e) Ideas that makes margin: Ideas that market
- (f) Sale: Sale Leads
- (g) Sale leads: Customer base

II. Similarly, few unique (holistic) KPIs are used for measuring innovation for the benefit of organisation renewal. i.e.

- (a) Sale from innovation: Sale from existing produce
- (b) Profit from innovation: Profit from existing produce
- (c) Customers of introduction: customers of previous % of transfer of investment to potential innovation (Cornell University, 2017).

III. Likewise for development and profitable measures following are the KPIs adopted: They are,

- (a) Revenue from innovation: Positive gain from innovation
- (b) Improved rate of customers success or reduced in buying your products
- (c) Sustainability of innovation
- (d) Growth of market shares from innovation
- (e) People who prefer innovative product: those don't prefer
- (f) Intellectual property rights (IPR) initiated or done per year: Contribution of share by IPR at market level
- (g) Income gain by IPR: Income generated by licensing IP.

Everyone has a different view about innovation and their focus towards innovation to improve the company performance with a better customer centric. Designing clear KPIs is a better way of leadership quality of the company to pull all in the same direction i.e., make them understand what and how they are trying to achieve it. More sales can be achieved by reduced pricing, improved quality, brand awareness and other many ways.

Innovation: Culture

On a best note, various cultures was formed for a better business environment like, intention for innovation, infrastructure for innovation, market for innovation and implementation for innovation which relates to the potential of innovation culture with performance based outcomes during the period. Innovation is mainly viewed through behaviour linked to a tangible outcome. It includes implementation of ideas (new product/services), cost savings, new technologies, and new process for success based on the outcome itself and evaluated against changes in performance.

It is an important means to integrate innovation into the company culture to foster innovation capabilities and achieve success (Bullinger, 2007). The beliefs and values of a company enhances to motivate, develop and implement new ideas thus influences the risk tolerance, personality development and employees innovation activities or capabilities (Menzel, 2007). The percentage of leaders trained in creativity techniques

and the amount of time managers spent with the management as compared with the usual tasks in innovation when compared to others are the major indicators to measure the innovation culture (Hittmar, 2015).

Innovation: Approaches

Country level

Many approaches remain focussed at country level due to their common agenda in support of policy makers and business founders to choose their own investment and innovation (Cornell University, 2017). Two types of measures will be undertaken for quick policy decision:

1. Approaches target key indicators only
2. Approaches covers relevant input/output factors in innovation

The *first type* is mainly drawn under consideration against R&D expenditure as share value, production, Technology as founders share value, Research personnel, Patents filed or granted (Coy, 2015). The *second type* is primarily developed to foster business stability and quality, Existence of human capital, easy to do business under present legal framework, R&D infrastructure and Output of innovation, etc.

Company level

The approaches undertaken remain high for measuring innovation on company or business level. In general based on their focus, they will be grouped into teams:

- Linked to the innovation method
- Indicators clustered into dimensions
- Relevant innovation

Effective integration of R&D, Product development and Marketing is the focus for innovation success (Janssen, 2001). It was also viewed that technical R&D and marketing is crucial for new product success (Cooper and Hleinschmidt, 1987). The performance was solely not looked as an output measure but collectively as a process measure too. This is been evaluated with a different dimensions like strategy, market, product and technology, etc. (Goffin and Mitchell, 2010). It has confirmed that the technology and organization put together have an effect on the demand for skills required for new innovations which provides proof of success synergies.

Team level

Innovative performance of projects by their time and development cost, etc., is compared to market turnover or return of investments of innovative projects (Fuschs, 2014). It's not collectively declared as the sole success of innovation alone, but the company measures this as team work for success of innovation. Advance concentration of team is required to measure the innovation and keep the project dominant.

Individual level

Individual can be differentiated based on the information and the indicators used. Common strategies followed to rate individual innovation are self-assessment, knowledge assessment or capturing knowledge from scientific publications, etc. Mainly either output related or behavioural targeted indicators are used. Thus a varied dimension is followed like creativity, essential thinking, initiative, teamwork or networking or three stages of innovations (idea generation, promotion and implementation), (Jansen, 2001). To conclude, a quality framework exists to evaluate innovation on individual level. Output measures are the major tool used for measuring innovation for individual.

IV. Conclusions

Innovation results may be either visible or invisible owing to different indicators which make more complex. Every innovation poses the risk of operational failure due to economical or emotional reasons. The person initiates the innovation has to prove that the idea will have to benefit the company. Thus measuring innovation gives a clear learning where innovations doesn't work effectively in today's market and also provides an alternate use of innovation for the business to grow. Innovation need not necessarily be a new technology, but can be just often a new approach in doing business. A review of current business process should be performed to transform new technology which can improve the market/area. Preparing a list of new technologies which is considered innovative and that to be transformed to the areas to be given a top priority in the business.

V. Future Scope

The scope of measuring innovation in business plays a significant role in company's growth and which helps to identify and create a sustainable business models at all levels. This is essential for the company's competitive advantages. This approaches need to be reviewed continuously to measure innovation, which needs a continuous levels of approaches by an external evaluator or the management.

Conflict of Interest: The authors declare that they have no conflict of interest

References

- [1]. Baranano, A. M. (2003). The non-technological side of technological innovation: State-of-the-art and guidelines for further empirical research. *International Journal of Entrepreneurship and Innovation Management*, 3, pp.107–125.
- [2]. Bates, R and Khasawneh, S. (2005). Organizational learning culture, learning transfer climate and perceived innovation in Jordanian organizations. *International Journal of Training and Development*, Vol 9, Issue 2, pp. 96–109.
- [3]. Borrás, S and Edquist, C. (2013). The choice of innovation policy instruments. *Technological Forecasting and Social Change*, Vol 80, Issue 8, pp.1513–1522.
- [4]. Brooke Dobni (2008). Measuring innovation culture in organizations. *European Journal of Innovation Management*, Vol 11, Issue 4, pp. 539-559.
- [5]. Bullinger, H.-J., Bannert, M and Brunswicker, S. (2007). Managing innovation capability in SMEs - The Fraunhofer three-stage approach. *Tech Monitor* (May-Jun, 17–27).
- [6]. Cooper, R and Kleinschmidt, E. (1987). New products: What separates winners from losers? *Journal of Product Innovation Management*. Issue 4, pp.169–184.
- [7]. Cornell University, INSEAD & WIPO. (2017). *The Global Innovation Index 2017: Innovation Feeding the World*. Ithaca, Fontainebleau, Geneva.
- [8]. Coy, P. (2015). The Bloomberg Innovation Index. Retrieved from: <http://www.Bloomberg.com / graphics / 2015/innovative-countries/> (Last access date: June 30th, 2015).
- [9]. Damanpour, F., Walker, R. M and Avellaneda, C. N. (2009). Combative effects of innovation types and organizational performance: A longitudinal study of service organizations. *Journal of Management Studies*, Vol 46, Issue 4, pp. 650–675.
- [10]. Dewangan, V and Godse, M. (2014). Towards a holistic enterprise innovation performance measurement system. *Technovation*, Vol 34, Issue 9, pp. 536–545.
- [11]. Eling, K., Griffin, A and Langerak, F. (2016). Consistency matters in formally selecting incremental and radical new product ideas for advancement. *Journal of Product Innovation Management*, 33 (1), 20–33. <http://dx.doi.org/10.1111/jpim.12320>.
- [12]. Fischer, T.M., Möller, K and Schultze, W. (2015). *Controlling: Grundlagen, Instrumente und Entwicklungsperspektiven* (2., überarbeitete Auflage). Stuttgart (Germany): Schäffer-Poeschel Verlag.
- [13]. Fuchs, W (2014). *Innovation und Motivation - das Gewinner-Tandem: Ideenfindung als Unternehmensphilosophie*. München: mi-Wirtschaftsbuch.
- [14]. Goffin, K and Mitchell, R. (2010). *Innovation management: Strategy and implementation using the pentathlon framework* (2nd ed.). Basingstoke: Palgrave Macmillan. <https://doi.org/10.1007/978-1-137-04752-6>.
- [15]. Janssen, O. (2001). Fairness perceptions as a moderator in the curvilinear relationships between job demands, and job performance and job satisfactions. *Academy of Management Journal*, Vol 44, Issue 5, pp.1039-1050.
- [16]. Menzel, H., Aaltio, I and Ulijn, J. (2007). On the way to creativity: engineers as intrapreneurs in organizations. *Technovation*, Vol 27, Issue 12, pp. 732–743.
- [17]. Phillip ter Haar (2018). Measuring innovation: A state of the science review of existing approaches. *Intangible Capital*, Vol 14, Issue 3, pp 409-428. <https://doi.org/10.3926/ic.1254>
- [18]. Phyllis Drucker, HDI (2018). *Management: Creating a Successful Service Request Catalogue* (International Best Practice). April 19.
- [19]. Prajogo, D. I. (2006). The relationship between innovation and businessperformance – A comparative study between manufacturing and service. firms. *Knowledge and Process Management*, Vol 13, Issue 3, pp. 218–225.
- [20]. Vahs, D and Brem, A. (2015). *Innovations management: Von der Idee zur erfolgreichen Vermarktung* (5., überarbeitete Auflage). Stuttgart: Schäffer-Poeschel.
- [21]. Van Oorschot, K., Eling, K and Langerak, F. (2018). Measuring the knowns to manage the unknown. How to choose the gate timing strategy in NPD projects. *Journal of Product Innovation Management*, Vol 35, Issue 2, pp. 164–183. <http://dx.doi.org/10.1111/jpim.12383>.

AUGUSTINE. R, et. al. "Progressive Action on Measuring Innovation in Business." *IOSR Journal of Business and Management (IOSR-JBM)*, 23(11), 2021, pp. 06-10.