THE IMPACT OF LEAN PRACTICES AND AGILE PRACTICES ON PROCESS QUALITY

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ABSTRACT

Finding the best lean and agile practices to enhance the effectiveness of the filling process in the manufacturing companies is the aim of this research. Lean agile seeks to minimize inefficient processes and tasks for increased effectiveness and lower costs never compromising on quality. In reality, lean agile places a high priority on giving the customer value with every decision. Lean agile, a development methodology, helps teams to identify waste and streamline processes to raise the firm's process quality. This research is aiming to provide the investigated evidences to provide the impact of lean and agile practices on process quality.

Keywords: *Lean, Agile, Process Quality*

1. INTRODUCTION

Providing value to the customer with every decision is actually given top importance by lean agile. Teams can expose waste and streamline processes with the use of the lean agile development methodology, which helps to raise the firm's process quality [1], [2]. Agile and lean manufacturing have been proven to be efficient methods for achieving these objectives. Agile manufacturing seeks to adapt to quickly shifting markets, intense global competition, shorter time to market for innovative products, and higher value for information or services [3]–[5]. The agile method has

one of the biggest opportunities to implement in process of business operations that it has quality to give quick response to the team members to get knowledge about the product need, success, and improvement, how it is working and how much it is required in market before it goes late [6]–[8]. It also creates feedbacks on time that are also helping for management to take rapid decision regarding quality control of the organization [9]. There are two main strategies appointed as mandatory for a quality management and cost effective manufacturing. This research is focused on assessing the impact of lean and agile practices on process quality management.

2. THEORETICAL FRAMEWORK

2.1. Impact of Lean Practices

[10] evaluated Agile process and lean processes are two known methods of management sciences and project development sector that helps to company and managers to deliver faster and sustainable outcomes for the businesses [11]–[14]. The both processes are most popular methods especially in software designing and development sector where the process also helping to practices to reviewing data that is previously associated with business lean reporting system [15], [16]. We usually seeing that most of the team members are using both methods at the same time but still they are confused between the differences of agile and lean process method in operational process of management [1], [17]–[19]. The method is simple including with the process of in which agile method of developmental process is usually used for rapid software delivery that is associated with many lean principles [20]. The global business industrial success is depending on its specific operational processes [21], [22] and developments that are implementing by the management of the companies and these managements are keen to organize the ability to deliver fast and rapid result oriented operational tasks for their employees and customers [23], [24]. The agile and lean process of management also given the structure to the organization for its businesses to find better ways to create high quality product services for customers and stability to promote the organizational culture in business settings. There is no success can be seen in business organizational process of management if there is no any process of management is implemented [25], [26]. The traditional corporate structure of the organization only depending on the business structures and its fast -delivering services [27]. Currently business organization are adopting faster, moving and smart efficient methods that are managing the high- growth of the business revenues

and reputation in market [28]. The lean process of method describes the set of knowledge to the project management teams in which they are specifically named Lean Management [29]. It is a less time taking method that eliminating the wastage of time and unnecessary task of the business steams [30]. The lean method of process management is a set of behavior that is helping to team members to eliminate all wastages of the documents, unnecessary meetings and many other activities that are not relevant to the tasks of the business [31]–[33]. Simply, lean method of process eliminate all that process which is not important to add value [34]. Lean methodology of the project and management also helping to team members to create efficient working task to achieve goals through direct method [35]–[37]. The lean method of the management taking decision in which they involved all team members to ensure the optimizing solutions for business [38]–[40]. The lean method of management and process of operations empower the individual and team members to get effective and trusted ways to create solutions for projects and implement strategic planning of the resources in limited period of time without unnecessary tasks of the business operations [41], [42]. Lean method providing rapid decision for production -based solution in which they clear the intention of the customers and demand according to supply and need in the market [43], [44].

2.2.Impact of Agile Practices

In the words of [45], the lean method and agile method of process of operations in business almost same in their practices but agile methodology of the process of management refers to a set of values and principles of the business core vision [46]–[49]. The agile methodology of the business practices creating the knowledge- based supervision of the management and team members of the business in which they can easily differentiate the intentions of the future goals and outcomes through developing interaction of individuals and tools that are required in operational process [50]–[52]. The agile method also helping to employees to get clear knowledge about the operational requirement of the business and manufacturing needs of the products in development process via tools and functions [53], [54]. The agile method also can create the efficient collaboration among the customers of the business that are given potential revenues to the products of the companies [55]–[57]. The agile is a strategic form of decision -making process in which it helps to negotiate with the customers and stakeholders of the business in market for certain required limitations [58]. The method also creating the potential information that is related to business process and its future development projects that are needed to implement [59], [60]. Agile

process of operational success has an optimistic method of working and managing the operational stuff of the business on- time when it is need for rapid decisions [61], [62]. The method providing the quick response according to its required change and needs [63]–[65]. The paid action for the planning and development of the project only could be possible with the agile methods. The similarities between lean and agile method of the process is quite same according to its functioning and rapid response but still agile methodology of the process of management focusing on the development rather it is focus on only production [66]–[68]. The agile method creates the designing and development of the software teams because it is less time taking, time focused method and helping to achieve continues success in business operations and value of services [69]–[71]. The aim of development of agile methodology in software practices and information system of business solutions to build far easy practices and avoid huge method of planning and developments of the projects that is very difficult in previous years [72]. The software development teams are preparing the business practices more efficient rather before decades [73]–[75]. The agile methodology creates the flexibility in the operations, customer retention and relationship management through rapid product services and their adaptability in markets [76]. The agile breaking the huge and long process of management into small and easy working process that are more frequent in the operations and giving ultimate results [77], [78].

2.3. Impacts of Agile process on Lean process

In the words of [79] the agile process and lean process in operations, both are important for development of the process of management and business outcomes. Currently the both processes and the methodology of their operations are highly become the need of business in global industries. [80]–[82] identified both methods are the essential demand of the fields and industries due to their flexibility in actions [83], quick responsiveness, end- user- focused method that is helping to team of the management to build effective product quality and services for its customers [84], [85]. This is providing substantial ways for decisions to take for business [86], [87]. The methods also goal oriented philosophy of the business that create the high- quality products quickly [88]. Both methods are almost same in their practices and applying parallel in business industries where the operational tasks required huge planning and development [89]–[91]. Agile method is one of the software developments IS solution for businesses in which business industries applying and managing the agile methodology rapidly and accepting its requirements for business essentials [92], [93]. It is a core invention of the previous decades when the inventories management and

business operational tasks was doing manually and taking months and years to resolve the issues and management of the data [94], [95]. The agile method of operational process is one solution for all. It is providing best software solutions in which management and teams of the businesses create manufacturing methods to production and sales in market [96]–[98]. The agile has ultimately goals to create developing success in business outcomes rather lean process [99]. Agile is flexible, providing rapid actions towards the issues and frequent business solution provider for irritations in business [100]. Agile implementations focusing on features repetition with a specific technique in which every repetition or iteration is clearly defined [101], [102]. It is a working software that is directly helping to achieve business goals through planning and project team intentions [103]. The business organizations Information technology (IT) departments are usually using the agile methodology in their operational processes but still it has confusing among the team members whether they are using and scale the lean or agile for consistent practices of the business organizations. Agile is the process of functioning that is quite effective for team functioning process [104], [105]. There are certain values that prefer the agile methodology on lean process of management, such as [106]:

- Agile has ability to create its customer satisfaction through product availability and its services in market
- It is helping to change new requirements in business operational processes
- It can provide efficient delivery of the software outcomes in business relevance
- Agile methodology helping to business corporations to integrate frequently through one unit of software practices
- Agile also can measure progress of the business operations and its successful outcomes
- It is simple and has sustainable development objectives for businesses
- Agile can provide direct communication and building the commercial relationship management between project development team members and stakeholders
- Agile helping to organize the teams of the organizations and create regular interaction with adaptation [107], [108].

3. LITERATURE REVIEW

3.1.Impact of Lean practices and Agile Practices on Process Quality

[109], [110] stated agile process and lean project both are most popular methods of project management industry in business organizations around the world. the methodologies of the both processes helping to organizations and project development teams to create faster, rapid growing, and sustainable outcomes development in short period of time [111]–[113]. The similarities are often not clear between both methods but both processes are helping to managing the industries at small to large scale [114]. Both processes and methodologies have essential benefits on process quality management of business such as lean method effectively differentiate the need and demand of the market and always prefer production on the basis of demand rather not on supply [115]–[117]. The lean method of process is highly keen to develop and interest of the customers. The method only focusing on the demand of the objects and then ready the manufacture outcomes [118], [119]. The lean method of process is one of the essential planning and strategy of the project management team that is seeing on future policies of the business and design products only the basis of demands [120], [121]. The lean method never insisting the teams to create products that has not sufficient intention to get in market [122], [123].

The lean method has concern with performances of the small lots and avoid economic of scales [124]. It is little time taking process of management in which the production takes time to create the efficient products of the services for better quality management. Employers are responsible to take decisions for all implementations and managers and other team members are not answerable for any decision [125], [126]. The lean process helping to workers to create efficiency in their tasks for better process of quality in business through improvement of the performances [127], [128]. While agile has another way of business and its operational management as compare o little similarities of the lean process [129]. The agile practices creates the interaction between employees and their operational tasks management in which all essentials are included from operations to functions [130]–[132]. The process has great opportunity to define the rapid change in the plan and collaborations with potential outcomes through negotiations [133], [134]. Agility create the highest priority of the customers of the business and taking as a potential benefit for successful outcomes and directly working on software development of the IS solutions for business in which the system frequently helping to upgrade the process of management and its quality assurance

[135]. The method always encourages the change and adaptability of the global business standards and its requirements [136]. It helps to create effective communication system among organizations and stakeholders in market. It has capacity to build sustainable business results through excellent and simple ways of working [137], [138]. The agile process of method in business firms focusing on continues variances in software operations and their iteration with technical assistance and excellence [139]. The business organizations understand the need of development of the agile methodology in business that is less time taking and providing ultimate goals of the businesses.

3.2. General Research Model

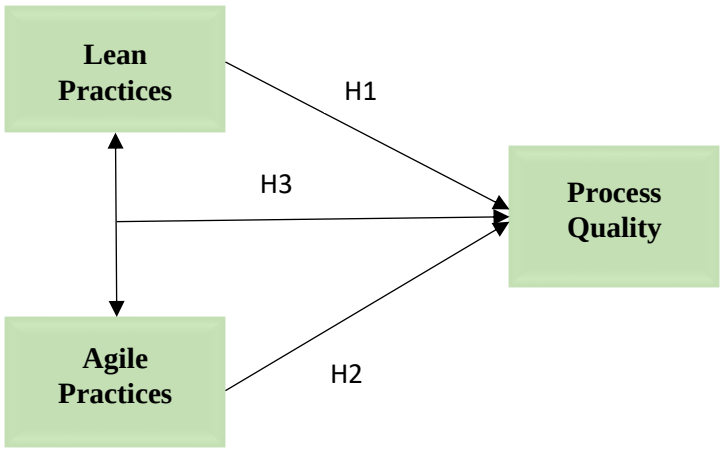

Figure 1: Conceptual Research Model

4. DISCUSSION

The above evidences from prior literature and research sources enabled to justify this research and conceptual model mentioned in figure 1. It can be said that, adding resources and buffers, outsourcing, and extending the use of the current machine are all examples of agile techniques. Whereas, lean manufacturing, uses the benefits of mass production in conjunction with the concepts of just-in-time and waste removal (non-value added activities) in order to lower overall production costs. Lean procedures, which include buying new machines and doing rework, put a focus on cost reduction by improving quality. Leagile, often known as a combination of agile and lean principles, may be appropriate in practice. Lean and agile strategies are combined in the

leagile idea, which enables quick reaction to fluctuating demand and maximizes cost, time, profitability, and improve the process quality.

5. CONCLUSION

The agile and lean practices in business operations is one of the procedures that are helping to business organizations to create their working efficiency is quicker as compare to previous decades. This approach always promotes modification and flexibility of the requirements and international business standards. Leagile aids in the development of a successful communication system between businesses and market participants. It has the ability to create lasting corporate results through effective and straightforward working methods with high quality production. The use of leagile practices by business organizations to focus on ongoing variations in software operations and their repetition with excellence and technical support.

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