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Research Article

Lean Management Intervention In BANI World With Reference To IT Industry (POST COVID)

Dr. Bharti Meghani Mishra[1*], Ms. Eshita Sahu[2], Ms. Kamini Bhuriya[3], Dr. Tripti Dubey[4]

[1*]Medi-Caps University, Indore
[2]Medicaps University, Indore
[3]Medicaps University, Indore
[4]Parul University, Gujarat

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Introduction

Lean management is a method for quality assessment which has been applied worldwide. The concept of lean management is applied in different sectors especially in automobile industry. The concept is related with Toyota Production System (Liker, 2004; Ohno, 1988; Womack et al., 2007). This approach encourages work flow with the help of eliminating waste (Bicheno and Holweg, 2016; Antony et al., 2015). The thinking of lean management helps in differentiating between value and waste inside the organization. (Sony, 2018).
Over the few decades, the world has changed and we live in a society which is connected where the change is fast paced, unpredictable and constant. The major global events the financial crisis in 2008, COVID pandemic and Ukraine conflict recently has increased unpredictability, turbulence and danger. Certainty, familiarity and stability has been replaced by the state of flux. An acronym 'VUCA' is used to describe such type of environment. VUCA stands for volatile, uncertain, complex and ambiguous.
The world is now changing from VUCA to BANI (Brittle, anxious, non-linear and incomprehensible). The framework BANI focusses on continuous consequences of chaos or change which has obsessed the today's world. The meaning of Brittle can be considered as breakable and fragile. It is described as something which is not that much strong as it looks like. It is considered as illusory strength. It is a myth which people themselves tell for getting security and better feeling. Anxious means sense of helplessness. This can be so extreme that one may cut off from everything. Non-linear is a situation where cause and effect relationship is disconnected. The climate change globally and the pandemic are the incidents of non-linearity. Incomprehensible is when the same subject matter is repeated and becomes contradictory. This big data generated with increasing innovation give rise to predictions and answers. Incomprehensibility results in information overload and advancement of technology.
The change from VUCA to BANI is seen in IT industry where the working mode of the employees is changed from offline to online or hybrid mode. The employees have accepted the change and the behaviour of employees is changed towards work. The present paper focusses on this change and its acceptability among the employees post covid-19.

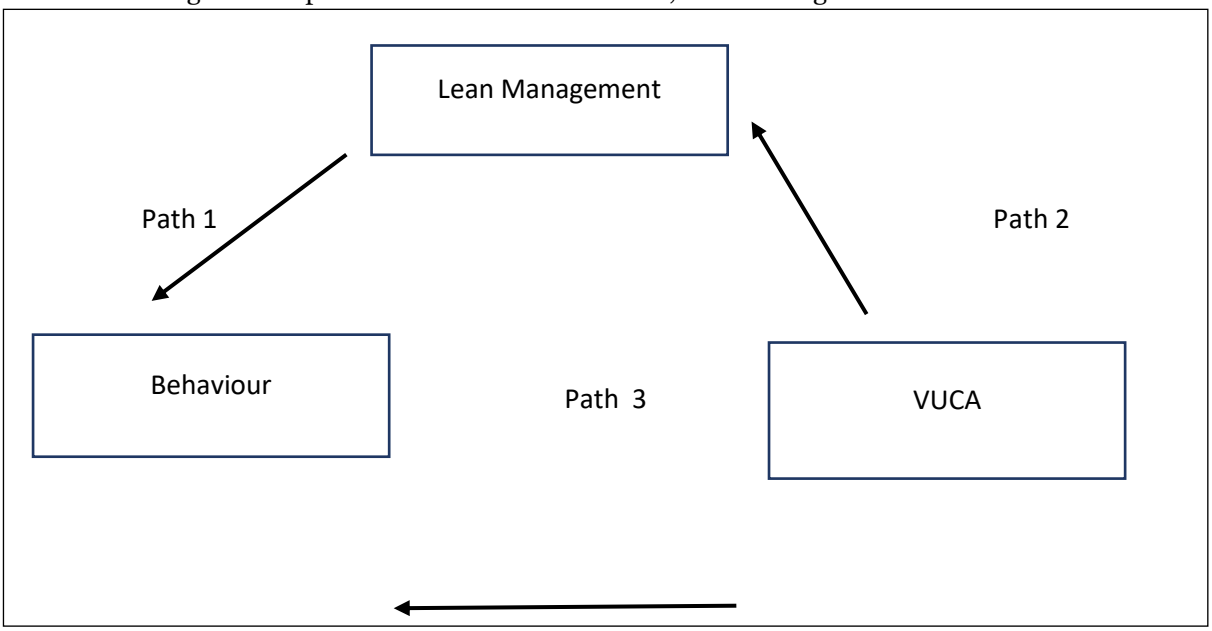
Literature Review

The concept of lean management focuses on continuous improvement to ameliorate quality and efficiency. Its objective is to optimally utilize the available resources to deliver valued customer goods and services, minimizing the waste of time, and identifying the key stages to focus on for creating high value in goods and services. The concept was also known as "Toyota Way" which originated in the 1940s intending to improve its five principles of lean management to enhance productivity, efficiency, and processing time. Lean management concepts adhere to four principles namely 'purpose', 'process', 'people', and 'performance' (Helmold, 2020).
Lead management in IT is an emerging concept in which the original concept was added to the growth and effective management of IT products and services. The concept in IT is also the same as in the original concept which is to remove the waste in the process; simply means the elimination of non-productive services and products. Lean management in IT is a long-term and time-consuming process that requires continuous efforts to make the principles of lean management inherent in the entity's culture. The results of effective lean IT management can be good client services, saved costs, high revenue, proper communication, better productivity, and high employees satisfactions (Saxby, 2020).
In today's globalization world the IT industry is continuously bringing the latest tools and techniques to deliver services for sustainability. Like the manufacturing sector, the IT sector also deals with uncertainties and

challenges like high process costs, incompatible markets, rivalry, and eternal customer demands. Lean management assists the IT industry in optimally utilizing its resources to add more value to its services, and most importantly helps in eliminating non-productive and non-value-added processes. In the latest research, it has been concluded that parallel engineering has a strong correlation ship with lean management practices. This help in better productivity and high value in the existing services rather than new services, as the new services are subject to scarcity of innovation, resistance to change tendency of clients, lack of top management support, non-availability of necessary resources, and service failure. However, lean management in the BANI world enables IT companies to effectively manage the risk of non-productive & non-value-added activities, and ameliorate the company's value (Wenger, 2021).

According to Noor (2018), several major challenges lead to the failure of lean management in the IT industry. First is the lack of support from the top management which is mainly concerned with the lack of control over the business process. Secondly, the lack of adequate training for the employees has a direct impact on the quality & value of services. Thirdly, a lack of focus on the culture leads to a lack of trust & transparency by focusing only on business tools. Another challenge is the myth of top management that lean management is a one-time process, while lean management in every industry is a continuous process and should be strictly complied with to ensure profitability & high-value standard. Being in a digital era everything is changing so rapidly, and lean management operations exhibit real-time lapses in a business process. With the help of digitalization, the lean management process can be automated to boost overall performance. Automation will bring a drastic change in the competing changes, and bring creativity with innovation in business evolution. It can be said that lean management in BANI (VUCA) world in the IT industry is bringing positive results in form of better productivity, adding values, better resources utilizations, and higher profitability (Pearce, 2019).

Fig 1: Conceptual framework for Behaviour, Lean management and VUCA



The paper focuses on three objectives given below:

1. Impact of lean management on behaviour of employees post covid.
2. Impact of VUCA on lean management.
3. Impact of VUCA on behaviour of employees post covid.

India is a service-based economy, and the information technology sector plays a vital role in supporting this model. The information technology industry has a large employee base, and study conducted on employee behaviour covers topics including learning, communication, improving employees' work lives, and the effects of job pressure. In the information technology (IT) sector in India, lean management has had an extremely significant impact on employee behaviour. In the research that was done, it was taken into consideration as a mediating variable, which highlighted the elimination of waste, people's engagement, and a culture shift in the IT business. In the domain of BANI, lean management makes it possible for IT organizations to successfully manage risk, and now that BANI has evolved into VUCA, which covers more ground, Volatility (the increase in changes that modern organizations experience in terms to speed, type, volume, and scale), Uncertainty (the lack of predictability that comes along with such increase in changes) (The inability to Predict future events) The inability to accurately anticipate future problems or events, Complexity (characterized by unclear links within organizations and an inability to visualize and prepare for the relationship between causes and effects of activities), ambiguity (A world where multiple layers and dimensions of meaning exist) The hazy nature of reality and the contradictory interpretations of various conditions.

In total, 38 statements were formulated in order to gain an understanding of these three variables: behaviour, which served as the dependent variable; VUCA, which served as the independent variable; and lean

management, which served as the mediating variable. For the purpose of data collecting, the following three major IT hubs in India were chosen: Gurgaon, Pune, and Bangalore. The total sample size was 306. Accumulation of information. The technique of sampling was a non-probability convenience sampling method, and it was based on a deceptive selection from the population of Baker (1990). In the course of the research, a self-structured questionnaire was developed in order to collect data.

Techniques of reliability and validity are utilized in order to guarantee the questionnaire's high level of quality. The questionnaire was developed through a process of refining the 38-item instrument that was collected. Behavior was used as the dependent variable, VUCA was used as the independent variable, and lean management was used as the mediating variable with a pilot sample of 36 workers. Reliability for behavior with a Cronbach alpha of 0.71 at 8 items, reliability for Lean management with a Cronbach alpha of 0.78 at 11 items, and reliability for VUCA at 0.94.

Descriptive statistics

Descriptive Statistics

	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BehaviourQ1	4.0327	.91557	.838	-.787	.139	.008	.278
BehaviourQ2	4.0490	.93083	.866	-.957	.139	.636	.278
BehaviourQ3	4.1765	.97589	.952	-1.276	.139	1.244	.278
BehaviourQ4	4.1569	.86170	.743	-.958	.139	.566	.278
BehaviourQ5	4.0261	1.00130	1.003	-.980	.139	.443	.278
BehaviourQ6	3.9575	.96572	.933	-.728	.139	-.092	.278
BehaviourQ7	4.1765	.83070	.690	-.928	.139	.468	.278
BehaviourQ8	4.2092	.76953	.592	-.855	.139	.792	.278
LMQ1.1	4.1732	.84119	.708	-1.002	.139	1.131	.278
LMQ1.2	4.2026	.70928	.503	-.646	.139	.673	.278
LMQ1.3	4.1013	.89050	.793	-1.097	.139	1.125	.278
LMQ2.1	4.0261	.94051	.885	-1.123	.139	1.066	.278
LMQ2.2	4.0327	.96440	.930	-1.169	.139	1.098	.278
LMQ2.3	3.9739	1.08006	1.167	-1.017	.139	.101	.278
LMQ2.4	3.9706	1.06315	1.130	-1.029	.139	.203	.278
LMQ3.1	3.8791	1.13733	1.294	-1.012	.139	.212	.278
LMQ3.2	2.7876	1.26127	1.591	.219	.139	-1.048	.278
LMQ3.3	3.0294	1.25546	1.576	-.126	.139	-1.033	.278
LMQ3.4	4.2157	.84109	.707	-1.357	.139	2.397	.278
VolatileQ1	4.1503	.97692	.954	-1.325	.139	1.476	.278
VolatileQ2	4.0229	1.00953	1.019	-1.047	.139	.460	.278
VolatileQ3	4.0000	1.01465	1.030	-.872	.139	-.298	.278
VolatileQ4	3.8758	1.22445	1.499	-.915	.139	-.336	.278
UncertaintyQ1	3.6699	1.32029	1.743	-.622	.139	-.955	.278
UncertaintyQ2	3.8627	1.20414	1.450	-.970	.139	-.116	.278
UncertaintyQ3	3.8987	1.23853	1.534	-.901	.139	-.398	.278
UncertaintyQ4	4.0359	1.14606	1.313	-1.189	.139	.474	.278
UncertaintyQ5	3.7353	1.27467	1.625	-.812	.139	-.558	.278
UncertaintyQ6	3.7810	1.29353	1.673	-.794	.139	-.658	.278
ComplexityQ1	3.8366	1.26728	1.606	-1.003	.139	-.194	.278
ComplexityQ2	3.6601	1.28886	1.661	-.742	.139	-.732	.278
ComplexityQ3	3.6275	1.40436	1.972	-.660	.139	-1.022	.278
ComplexityQ4	3.6667	1.39084	1.934	-.698	.139	-.952	.278
ComplexityQ5	3.6111	1.33885	1.793	-.631	.139	-.957	.278
AmbiguityQ1	3.4510	1.40463	1.973	-.410	.139	-1.310	.278
AmbiguityQ2	3.3105	1.45028	2.103	-.261	.139	-1.463	.278
AmbiguityQ3	3.3595	1.39138	1.936	-.347	.139	-1.329	.278
AmbiguityQ4	3.5196	1.31122	1.719	-.517	.139	-1.032	.278

There was a 0.609 correlation between Behaviour and Lean management, a 0.819 correlation between Behaviour and VUCA, and a 0.636 correlation between Lean management and VUCA. There was a substantial link between behaviour and VUCA when taken as a whole. Lean management and VUCA and significant impact on Behaviour (R = 0.827, R square= 0.683, adjusted R square = 0.681, F change value is 327.05 and p value = 0.00)

Conclusion

VUCA describes volatile, uncertain, complex and ambiguous. The scenario is changing from VUCA to BANI which implies Brittle, anxious, non-linear and incomprehensible. With the present result we can conclude that there is positive impact of lean management on behaviour of employees post covid and there is positive impact of VUCA on behaviour of employees post covid. These results can be expected for BANI which can be incorporated after the suggestions.

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