A STUDY ON THE FACTORS CONTRIBUTING TO LEAN READINESS AND IMPLEMENTATION OF E-GROCERY RETAILERS OF TELANGANA

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ABSTRACT:

While the retail grocery industry in India is one of the fastest-growing, retail businesses in the country compete with one another for the limited consumer base. The E grocery retailers ought to be able to draw in customers and use marketing to interact with them.

The retailers of E-grocery should be able to draw in customers and engage with them through marketing since it focuses on finding multiple organizational variables that impact the notion of lean marketing readiness: Lean awareness, Lean principles, Knowledge on lead deadly wastes .Lean tools and techniques, Perception on lean, implementation benefits, Perception on lean implementation.

The aim of the study was to determine lean awareness and to understand perceptions of retailers on lean thinking. The study helps retailers of e grocery marts to understand and develop ways to adopt the Lean marketing strategies in turn can produce value for the customers through the optimization of the resources and create a steady workflow based on real customers' demands

Key terms: retail businesses, Lean awareness, Perception on lean, lean implementation, variables, factors

INTRODUCTION:

Where the Retail businesses of E Groceries are one of the fast-growing sectors in India, retails have to compete with each other for the small consumer base inside the country. The retailers of the E groceries should be able to attract their consumers and communicate with them using marketing

The retailers of the E groceries should be able to attract their consumers and communicate with them using marketing as it focuses on identifying several main organizational factors affecting lean marketing readiness and their perception: Management and leadership;

Lean tools, techniques, and knowledge about Lean concepts; availability of organizational resources; organizational culture and business processes; employees' involvement and skills; communication management

The aim of the study was to determine lean awareness and to understand perceptions of retailers on lean thinking. The study helps retailers of e grocery marts to understand and develop ways to adopt the Lean marketing strategies in turn can produce value for the customers through the optimization of the resources and create a steady workflow based on real customers' demands.

The main idea of this study is that accurately mapping future lean implementations requires evaluating lean awareness as a critical first step. Determining an acceptable level and proper strategic approach for initiating a complete lean implementation program is made easier by having a thorough understanding of the lean readiness in e grocery retailers in the selected region. This raises the primary research questions that this work will answer.

- What are the potential factors contributing lean awareness, lean readiness in the retail sector of E grocery marts?
- What are the potential factors contributing for lean implementation benefits and challenges in E grocery marts of Telangana region?

The following goals were pursued in order to provide answers to these questions:

(i)   To find and confirm the factors contributing the lean awareness, lean readiness in the retail sector of E grocery marts

(ii)   To assess the authenticity and relation of proposed variables and factors chosen for analysis though statistical techniques of factor analysis.

Proposed independent variables

Lean readiness and implementation

Proposed dependent variables

- Lean awareness

- Lean tools and techniques

- Implementation benefits

- Lean Implementation challenges

Proposed variables

General knowledge of lean
Tools and techniques for waste reduction and operations improvements
Knowledge on lead deadly wastes
Fully integrated management system
Long-term cost cutting strategies
Continuous improvement
Multifunctional teams
Non-value-added activities
Empowered workforce
Improved quality
Improved flexibility
Reduction of waste
Financial benefits not recognized
Lack of know-how to implement
Budget constraint

Literature review

Research on online shopping has been limited since this is a relatively new retail channel. [1] In a study Rupali Rajesh (2019) studied the factors influencing for online shopping for food and evaluated the demographic factors which influence consumers to buy items or grocery online. The survey was taken place in Mumbai for data collection of 117 respondents sample. No. of interviews and questionnaire was prepared to collect the data for determining the demographic factors like age, gender, income, qualification, frequency of shopping and shopping sites used. And Maan Whitney and Kruskal Wallis Test was used to validate the data collected through analysis.

[2] Gabriela Hanus (2016) research found the conditions of consumers' attitude towards buying food online and services and advantages offered in online shopping for food. This study also reflects the disadvantages and risks identified with internet shopping. Hanus study mostly draws the difference between online shopping for food and supermarket's offline shopping and tells the importance of ordering

food and household items online. There was also research conducted on respondents of perhaps the most developed e-commerce in Europe country Sweden

Chaplin and O'Rourke (2017) state that the Lean principle is applied to foster a continuous improvement culture. enhancement across the board for the organization. This idea goes beyond just recognizing many purposes. When creating a lean initiative that involves the entire company. Lean thinking is primarily concerned with determining what the target client wants when it comes to marketing

Chaplin and O'Rourke (2014) suggest removing any activity in the manufacturing process that does not provide value to the process (MUDA), aligning the remaining phases, and matching all activity to produce at the pace demanded by the client. Seven process wastes have been discovered under the lean concept. According to Spehler (2015), these include Overproduction, Inventory, Waiting, Motion, Transportation, Defect and Rework, and Overprocessing. Additionally, Dewell (2007) identifies two key components of lean concepts: "have respect for people" and "eliminate waste and non-value-adding activities." "Respect means you hold people accountable to the system, following it and improving it (the notion of 'kaizen' or continuous improvement)," the author continues in explaining the second category. Lean leadership is about giving people the tools and resources they need to succeed both personally and professionally, so they can be proud of the work they do (Dewell 2007). According to Payaro and Papa (2016), lean is an organizational direction rather than a destination that should be reached at a specific moment. As previously stated, compared to other industries, the manufacturing, supply chain, and logistics sectors are where the lean concept is most commonly used.

Payaro and Papa (2016) primarily examined the marketing sector's waste management subset. The marketing mix and lean thinking concepts are contrasted in this essay. Payaro and Papa (2016) matched the lean thinking tenets of pricing, place, marketing, planning, and product. Lean thinking and marketing have a lot in common. For example, both require that activities be organized to provide value to customers and place the client at the heart of the strategy. Price and value identification of the good or service should be in line, and the value stream should be mapped to determine the location of the good or service.

Research Methodology

The current study's main objective is to evaluate the retailers of e grocery marts and their perceptions on lean implementations and awareness of lean practices and the various independent and dependent factors contributing for the lean thinking and readiness were analysed with the help of factor analysis ,as it's a primary task to authenticate the questions raised and grouping of elements ,the success factors of factor analysis will give the path to further analysis for which descriptive analysis ,KMO, Barlet test

DESCRIPTIVE ANALYSIS

Regarding the demographic characteristics of the respondents, frequencies and percentages are computed in the descriptive analysis. The demographic data and the elements of lean awareness, preparation, and execution are computed to get the mean and standard deviation.

Variable	Observations	Obs. with missing data	Obs. without missing data	Min	Max	Mean	Std. deviation
General knowledge of lean	48	0	48	0.000	10.000	6.000	2.674
Tools and techniques for waste reduction and operations improvements	48	0	48	3.000	10.000	7.083	1.966
Knowledge on lead deadly wastes	48	0	48	2.000	10.000	7.083	1.988
Fully integrated management system	48	0	48	0.000	10.000	6.146	2.806
Long-term cost cutting strategies	48	0	48	1.000	10.000	6.938	2.418
Continuous improvement	48	0	48	0.000	10.000	6.313	3.170
Multifunctional teams	48	0	48	0.000	10.000	8.042	2.535
Non-value-added activities	48	0	48	0.000	10.000	4.854	3.439
Empowered workforce	48	0	48	0.000	10.000	4.229	3.309
Improved quality	48	0	48	0.000	10.000	5.313	2.947
Improved flexibility	48	0	48	0.000	10.000	5.979	2.935
Reduction of waste	48	0	48	0.000	10.000	6.250	3.035
Financial benefits not recognized	48	0	48	0.000	10.000	5.688	3.183
Lack of know-how to implement	48	0	48	0.000	10.000	5.563	2.657
Budget constraint General knowledge of lean	48	0	48	0.000	10.000	5.958	3.300

Correlation matrix (Pearson (n)):

Variables	nowled	eduction	lead d	d manag	st cutti	us impr	nctiona	e-added	ered w	oved qu	oved fle	ction of	efits n	~how t	et const
General knowledge of lean	1	0.261	-0.009	0.358	0.129	0.248	-0.090	0.320	0.513	0.375	0.323	0.372	0.400	0.531	0.558
Tools and techniques for waste reduction and operations improvements	0.261	1	0.126	0.385	0.431	0.372	0.343	0.498	0.098	0.343	0.560	0.494	0.496	0.283	0.358
Knowledge on lead deadly wastes	-0.009	0.126	1	0.028	0.019	0.084	-0.040	0.082	0.264	0.129	0.078	0.220	0.325	-0.305	0.146
Fully integrated management system	0.358	0.385	0.028	1	0.304	0.486	0.622	0.360	0.162	0.398	0.314	0.509	0.613	0.650	0.359
Long-term cost cutting strategies	0.129	0.431	0.019	0.304	1	0.821	0.368	0.797	0.016	0.706	0.827	0.743	0.673	0.468	0.274
Continuous improvement	0.248	0.372	0.084	0.486	0.821	1	0.346	0.799	0.109	0.705	0.740	0.885	0.764	0.507	0.397
Multifunctional teams	-0.090	0.343	-0.040	0.622	0.368	0.346	1	0.203	-0.149	0.255	0.175	0.363	0.380	0.428	-0.002
Non-value-added activities	0.320	0.498	0.082	0.360	0.797	0.799	0.203	1	0.238	0.831	0.856	0.785	0.754	0.556	0.575
Empowered workforce	0.513	0.098	0.264	0.162	0.016	0.109	-0.149	0.238	1	0.355	0.173	0.263	0.338	0.241	0.665
Improved quality	0.375	0.343	0.129	0.398	0.706	0.705	0.255	0.831	0.355	1	0.777	0.732	0.799	0.613	0.649
Improved flexibility	0.323	0.560	0.078	0.314	0.827	0.740	0.175	0.856	0.173	0.777	1	0.778	0.749	0.515	0.449
Reduction of waste	0.372	0.494	0.220	0.509	0.743	0.885	0.363	0.785	0.263	0.732	0.778	1	0.866	0.538	0.511
Financial benefits not recognized	0.400	0.496	0.325	0.613	0.673	0.764	0.380	0.754	0.338	0.799	0.749	0.866	1	0.529	0.563
Lack of know-how to implement	0.531	0.283	-0.305	0.650	0.468	0.507	0.428	0.556	0.241	0.613	0.515	0.538	0.529	1	0.406
Budget constraint	0.558	0.358	0.146	0.359	0.274	0.397	-0.002	0.575	0.665	0.649	0.449	0.511	0.563	0.406	1

Kaiser-Meyer-Olkin measure of sampling adequacy:

Data appropriateness for factor analysis is assessed using the Kaiser-Meyer-Oklin (KMO) and Bartlett's Tests. Bartlett's Test of Sphericity gained statistical significance, and the KMO value was 0.803, above the suggested threshold of 0.70, which can be regarded as sufficient (Kaiser and Rice, 1974).
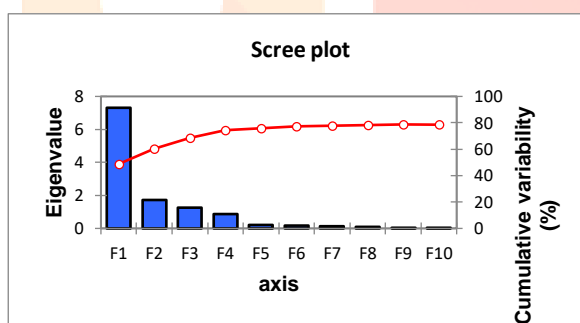
General knowledge of lean	0.792
Tools and techniques for waste reduction and operations improvements	0.769
Knowledge on lead deadly wastes	0.412
Fully integrated management system	0.676
Long-term cost cutting strategies	0.869
Continuous improvement	0.806
Multifunctional teams	0.603
Non-value-added activities	0.917
Empowered workforce	0.744
Improved quality	0.831
Improved flexibility	0.867
Reduction of waste	0.830
Financial benefits not recognized	0.869
Lack of know-how to implement	0.724
Budget constraint	0.755
KMO	0.803

RELIABILITY TESTS

Cronbach's' alpha (Cronbach, 1951). The reliability alpha value is **0.914.** If Cronbach alpha reliability coefficient is exceeding the suggested level of 0.70 (Nunnally, 1978) It suggests that the questionnaire is having reliability and can be used for further analysis.

The 15 items were subjected to Principal Component Analysis (PCA) with Varimax Rotation Method Kaiser Normalization is used for factor analysis. The items having factor loading less than 0.50 should be eliminated (Hair et al, 1996). All the items are having factor loading of more than 0.50 so they are no items excluded from the analysis. So, all 15 items are accepted and PCA revealed that these 15 items are grouped into 3 components with Eigen values exceeding 1. The total percentage of variance is 78.574. The individual dimensions of the proposed instrument explained a total variance exceeding 60 percent,

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
Eigenvalue	7.304	1.633	1.279	0.896	0.238	0.212	0.118	0.074	0.002	0.001
Variability (%)	48.691	10.887	8.524	5.974	1.589	1.412	0.784	0.494	0.015	0.007
Cumulative %	48.691	59.578	68.102	74.076	75.665	77.077	77.861	78.356	78.371	78.378

Correlations between variables and factors:

	F1	F2	F3	F4
General knowledge of lean	0.467	0.533	-0.296	-0.159
Tools and techniques for waste reduction and operations improvements	0.539	-0.073	0.002	0.139
Knowledge on lead deadly wastes	0.129	0.273	0.382	0.655
Fully integrated management system	0.616	0.140	-0.606	0.354
Long-term cost cutting strategies	0.804	-0.392	0.293	-0.168
Continuous improvement	0.851	-0.240	-0.159	-0.016
Multifunctional teams	0.391	0.566	-0.403	0.356
Non-value-added activities	0.897	-0.029	0.244	-0.200
Empowered workforce	0.344	0.783	-0.084	0.089
Improved quality	0.870	0.105	0.106	-0.114

Improved flexibility	0.864	-0.096	0.292	-0.207
Reduction of waste	0.911	-0.068	0.129	0.130
Financial benefits not recognized	0.918	0.041	0.061	0.296
Lack of know-how to implement	0.709	0.053	-0.588	-0.350
Budget constraint	0.641	0.611	-0.067	-0.012

Variables (axes F1 and F2: 59.58 %)
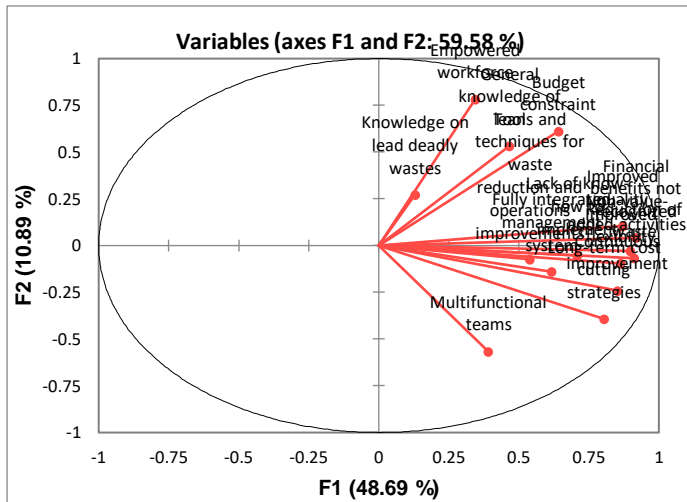
Results after the Varimax rotation:

Rotation matrix:

	D1	D2
D1	0.927	0.374
D2	-0.374	0.927

Percentage of variance after Varimax rotation:

	D1	D2
Variability (%)	43.407	16.171
Cumulative %	43.407	59.578

Factor pattern after Varimax rotation:

	D1	D2
General knowledge of lean	0.246	**0.627**
Tools and techniques for waste reduction and operations improvements	**0.520**	0.137
Knowledge on lead deadly wastes	0.025	**0.280**
Fully integrated management system	**0.614**	0.109
Long-term cost cutting strategies	**0.874**	-0.037
Continuous improvement	**0.865**	0.110
Multifunctional teams	**0.554**	-0.338
Non-value-added activities	**0.834**	0.308
Empowered workforce	0.047	**0.795**
Improved quality	**0.763**	0.412

Improved flexibility	**0.827**	0.238
Reduction of waste	**0.861**	0.280
Financial benefits not recognized	**0.829**	0.375
Lack of know-how to implement	**0.670**	0.218
Budget constraint	0.379	**0.759**

Values in bold correspond for each variable to the factor for which the squared cosine is the largest

Correlations between variables and factors after Varimax rotation:

	D1	D2
General knowledge of lean	0.250	0.677
Tools and techniques for waste reduction and operations improvements	0.529	0.148
Knowledge on lead deadly wastes	0.026	0.302
Fully integrated management system	0.625	0.118
Long-term cost cutting strategies	0.888	-0.040
Continuous improvement	0.879	0.119
Multifunctional teams	0.563	-0.365
Non-value-added activities	0.848	0.332
Empowered workforce	0.048	0.858
Improved quality	0.775	0.445
Improved flexibility	0.840	0.257
Reduction of waste	0.875	0.302
Financial benefits not recognized	0.843	0.405
Lack of know-how to implement	0.681	0.235
Budget constraint	0.385	0.819

Conclusion

The degree of relation among the variables and factors of lean awareness and the possibility of lean implementations have been covered in this study. Data gathered for the discussion came from research reviews an questionnaire created just for this to analyze the factors and their impact and efficiency in generating the statistical results and fitness on data collected from questionnaire under pilot study

The study's concludes that the variables selected for the study are relevant and correlated to each other, where statistically proved to be fitted to the study where KMO, Cronbach alpha and rotated matrix etc. was used, Independent and dependent factor evaluation is yet to confirm in further research in the current paper only proposed category was mentioned.

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