

DECISION SUPPORT SYSTEM: A TECHNICAL APPROACH TO TAKE BETTER DECISION FOR MAKING BETTER DECISION

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ABSTRACT

The objective of the research paper is to understand the importance of Key parameters which can boost the growth of any FMCG (Fast Moving Consumer Goods) organization by using Decision Support System. The enhanced capabilities of the right decision support system have streamlined data collection and analysis which in turn help any FMCG organization to take better decisions. In today's scenario, the dream of any director of consumer goods organization is to double the sales growth in the shortest available time. In early 1990's, the sales and marketing professionals were facing challenges in understanding the couple of parameters like current market share, targeting high potential markets for their respective portfolio. The organization's had few established products which were facing threat of coming off patent and simultaneously they had a challenge to face fierce competition with the newer product range. So, in this case the organization was looking forward to some sort of technological based approach which may help them to enhance their growth of the products. The marketing department need to align their campaigns and strategy, training needs to ensure right implementation of the same through field executives and production needs to make the products available at right time with desired quantity. So here decision support systems applications comes to rescue such fast growing organization. Although there are lot many DSS solutions available in the market, but they all should be customized so as to fulfill the specific requirements of the said organization.

Keywords: *Decision Support System, Key Element, System Application and Product, Customer Relation Management, Strategic Planning, Technical Advancement, Database Management System.*

Introduction

Role of Decision Support Systems in FMCG Industry

As we move into the 21st century, a lot many technological advancements are occurring which are of a great help in conducting routine business activities. Such advancements in the field of hardware and software like CRM, Business Intelligence, Data mining, web platforms, SAP, Concur have made the tasks very user friendly and decision oriented.

Decision support system is a process which helps in taking decisions rather than automating the process of decision making. For a decision maker in context to problem solving regarding Inventory management, New Product Launch, Customer Satisfaction, DSS applications helps in choosing the best alternative solution

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Research Key Elements

- **DSS as a Strategic Planning**

Companies are now concentrating on strategic planning with the aim of developing long term planning and alterations in their organization and in turn to improve their competitiveness among the FMCG sector. Strategic Planning requires top management involvement taking into account both external and internal factors. Strategic planning of DSS Applications should support the long-term objectives and goals of marketing performance both in terms of flexibility and responsiveness to shifting marketplace demands. Strategic Planning becomes more important in unexpected and unfavorable circumstances like Covid.

- **DSS as a Marketing Strategy**

In order to increase the sales, the organization utilizes this platform (Marketing Strategy) to reach the end users through advertisement in TV, Radio, Print, Secondly Display Campaign through Digital presentation of the various SKU's are freely available online as well as in the market place .Both the above mentioned points directly help an organization to enhance their growth and market share.

- **DSS as Technical Support**

Technical advancement has increased the fierce competition between companies, so advanced technology improves the DSS process as well as and makes the decision better than older versions of technology. To make market decisions accurately, an organization must integrate the right technology at the right time. DSS can offer several benefits to an organization that include enabling effective decision support and business applications (e.g. CRM), facilitating data analytics, ensuring data integrity, accuracy, security, and availability; easing the setting and enforcing of standards, facilitating data sharing, and delivering the right information to the right person at the right time. Some more advanced technologies used by fast growing organizations are artificial intelligence, data science etc

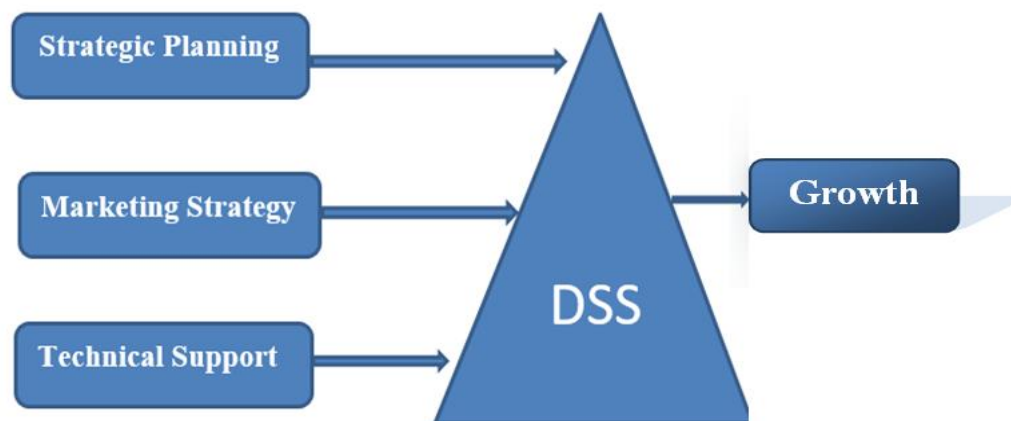


Fig. 1: Research Model

Objectives

The research objectives are basically the details of what is to be achieved by the study. The objective should be precise, descriptive which guides the scholar to carry out the investigations across the variables.

The objective of the research paper are as follows:

- To understand the perspective of each stakeholder with respect to DSS
- To understand the rationale of using DSS in FMCG industry
- To analyze the benefits of time saving and increase in efficiency while using DSS
- To analyze the incremental growth by using DSS as Marketing Strategy
- To analyze the impact of correct and timely decisions while using DSS as Technical Support
- Correlations between Key Elements for each stakeholder

Hypothesis

- H₁:** There is reflective relationship between Strategic planning and DSS.
H₂: There is significant relationship between Marketing Strategy and DSS.
H₃: There is significant relationship between Technical Support and DSS.
H₄: There is significant relationship between DSS and Organizational Growth .

Research Design

In this study we used a descriptive and explanatory method to describe the impact of DSS in sales growth and to fulfill the research objectives. Purposive and simple random Sampling was used for data collection. A structured questionnaire and interview questions were used to collect the responses from the targeted respondents for data collection. Out of a sample size of 150 employees of different FMCG companies, 104 responded to the questionnaire which was used for analysis.

Results

In this research 104 samples were collected and 96 questionnaires were considered valid and used for data analysis. Results from different SPSS test were analyzed with hypothesis and compared with research questions.

- Reliability Check and Demographical Analysis**

For this research the Chronbach's Alpha test for the questionnaire was calculated to 0.912 on all 35 items. 91.2 % reliability shows that the instrument was enough reliable for analysis. The reliability analysis for the research were as under:

Table 1: Reliability Statistics

Reliability Statistics	
Chronbach's Alpha	No. of Items
0.912	35

Table 2: Gender Frequency

Gender of Respondent				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	52	54.2	54.2	54.2
Valid Female	44	45.8	45.8	100.0
Total	96	100.0	100.0	

- Correlation**

Table 2: Correlations between Research Elements

	S.planning	Marketing Strategy	Technical Support	DSS	Growth
S.planning	1	.980**	.954**	.963**	.954**
Marketing Strategy	.980**	1	.946**	.967**	.985**
Technical Support	.954**	.946**	1	.969**	.953**
DSS	.963**	.967**	.969**	1	.945**
Growth	.954**	.985**	.953**	.945**	1

In this study we were used Pearson Correlation test to analyze the relation between the different variables. All the variables are highly correlative, so we does not shows their significant value because it was less than 0.05 of all the related variables. The result of the correlation shows the strong positive relation between all the variables. Result is shown in the above table.

Research Questions

Research Question#1

Has the strategic planning(S.Planning)highly impacted through DSS ?

Table 3: Relationship between S Planning and DSS System

	Coefficient (B)	Standard Error	T-Ratio	P value	Adjusted R Square
Constant Value	-.214	.056	-3.813	.000	.928
S.planning	1.027	.029	34.872	.000	

Independent Variable=Strategic planning , Dependent variable= DSS

Above table shows there is a significant relationship between S planning and DSS system.

In this result the P value indicate the relationship is highly strong between these two variables. Coefficient value shows that one unit increase in strategic planning. DSS got increased by 1.027 points and adjusted R Square value is 0.928 which indicates that a 92.8 percent change comes in by the Decision support system of the FMCG organization.

Hypothesis

H₁: In this study there is no significant relationship between Strategic planning and DSS(Decision Support System).

H₁: There is significant relationship between Strategic planning and DSS regarding above test analysis so accepted the H1.

Research Question#2

Has the Marketing Strategy impacted through DSS?

Table 4: Relationship between Marketing Strategy and DSS System

	Coefficient value (B)	St. Error	T- value Ratio	P (value)	R Square
Constant Value	.358	.038	9.311	.000	.935
Marketing Strategy	.707	.019	36.692	.000	

Independent Variable= Marketing Strategy, Dependent variable=DSS

Above table shows there is a significance relationship between Marketing Strategy and DSS. P value shows that Relationship is highly strong between these two variables. Coefficient value show that one unit increase in Marketing Strategy, so it was increase by .707 points of DSS system. The adjusted R Square value is 0.935 which reflects that a 93.5 percent change comes in Decision support system of the FMCG organization.

Hypothesis

H₂: There is no significant relationship(association) between Marketing Strategy and DSS

H₂: It shows that there is significant association between marketing strategy and DSS regarding above analysis test so it is accepted the H2.

Research Question # 3

Has the Technical Support impacted through DSS ?

Table 5: Relationship between Technical Support and DSS System

	Coefficient Value (B)	Std. Error	T value- Ratio	P (value)	Adj R Square
Constant Value	.292	.039	7.545	.000	.938
Technical support	.685	.018	38.155	.000	

Independent Variable= Technical Support, Dependent variable= DSS

Above table shows that there is a consequence relationship between technical support and DSS system. P value shows that relationship is extremely high between these two variables. Coefficient value indicate that one unit increase in technical support, it was increase .685 points of DSS system. The adjusted R Square value is 0.938 which shows that a 93.8 percent change comes due to the Decision support system of the FMCG organization.

Hypothesis

H₃: In this study there is no significant relationship between technical support and DSS.

H₃: There is significant association between technical support and DSS through above analysis test so it is accepted the H3.

Research Question# 4

Has the information system (DSS) increased or decreased the growth?

Table 5: Relationship between Information System (DSS) and Growth

	Coefficient value (B)	Std Error	T- Value Ratio	P (value)	Adj. R Square
Constant Value	-.557	.086	-6.435	.000	.894
Information System (DSS)	1.389	.049	28.152	.000	

Independent Variable= Information system (DSS) Dependent variable= Growth

Above table shows there is a implication relationship between Information system (DSS) and growth. P value shows that relationship is very strong between these two variables. Coefficient value show that one unit increase in decision support system (DSS),so it was increase by 1.389 points growth in FMCG industry. Its adjusted R Square value is 0.894 which indicates that impact of decision support system on the growth which is 89.4% means that according to respondents perception 89.4% change in growth occurred due to DSS and the remaining may be due to any other factors.

Conclusion

This research shows the direct correlation between the three Key indicators and the business impact on the Organizational growth. In other words the Key Indicators has helped the organization to make right decisions which in turn will increase the company's growth & market share.

The vast no of studies and data is available across the globe, DSS has arranged all these relevant data to an appropriate format with lot many customized filters for easy usage, With the help of DSS, the marketing campaign will be designed in a way to get maximum ROI(Return Of Investment).Clubbed with Strategic planning utilizing the latest technical advancement, any organization in FMCG sector may look forward for multifold growth.

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