Impact of Sales Force Automation System on Performance of Salesman: Pakistani Companies' Perspective

Adeel Naqvi[1], Imad ud Din Akbar[2]

Abstract— **Rapid growth in advance technologies has changed the life of sales force. Sales Force Automation (SFA) is marketing tool which provides the functions to sales team and managers to monitor sales, forecast sales and analyze employee performance. Acceptance of the SFA tools such as phone, pagers, wireless devices etc., in sales tasks will remain an issue for sales force. Researcher wants to investigate the impact of SFA system on performance of salesman from Pakistani Fast Moving Consumer Goods (FMCG) perspective. They have selected 162 salespersons from Lahore based companies (who are using automated sales devices), and sample size and MANOVA (Multivariate Analysis of Variance) were utilized to find out the relationship between independent and dependent variables. It has found that SFA system has positive relationship with improvement in performance and sales of salesforce.**

Index Terms— **Improvement in Performance, Improvement in Sales, Sales Force Automation (SFA), Customer Relationship Management (CRM), Salespersons.**

I. INTRODUCTION

A. Role of Technology in Business

Sales force activities have been automated with the help of advancement in technology which saves time of the workers and produce good results. Companies are in a position to create close relationship between salesperson and buyer/seller with the help of advancement in technology [1].

B. Definitions of Sales Force Automation (SFA)

Some definitions by renounced investigators, regarding SFA is presented here under:
"The deployment of technology in the form of portable computers, databases, internet, and electronic data interchanges to convert manual sales activities to electronic processes." [2].
"The use of Information Technology, to enhance and improve, collections, analysis and distribution of information, productivity of the sales force and customer relationships." [3].
"Sales Force Automation (SFA) is an integrated application of customizable Customer Relationship Management (CRM) tools that automate and streamline sales inventory, leads, forecasting, performance and analysis." [4].

C. Fast Moving Consumer Good (FMCG) Sector

Fast Moving Consumer Goods (FMCG) are those goods that are daily consumable items and their consumption is increasing day-by-day like milk, soap, toothpaste, snacks, bottles and bread etc. In Pakistan, there are so many companies who are producing these goods in large quantities. Some Pakistani companies are using SFA system in their sales activities like DHL private limited, Engro (Omore) private limited, Unilever (Walls) private limited, Coca Cola beverages private limited., Pakistan Tobacco Company private limited, and Nestle (Pure Life) private limited, but most of the companies of FMCG sector are far behind such as beverages, toothpastes, beauty soaps, confectionery and snacks companies.

D. Problem Statement

Companies are facing global challenges to increase level of automation in their sales activities and they also want that their salesman should fulfill their daily sales targets and route plans. Researchers observed from professional experience that most of the salesperson don't meet daily sales target because they are taking order on manual writing pad, which causes not only wastage of ample time but also create hurdles in the fulfillment of daily route plan successfully. Whereas SFA system, not only fulfill CRM, analysis and order processing but also promotion of products as well as real time access of record.

E. Research Objectives

The purpose of this study is to investigate the influence of technology usage of SFA system on sales performance of sales force in Pakistani FMCG sector.

F. Research Question

In order to complete the research work the research question of this study is:
What is the relationship between SFA system and improvement in performance of salesperson and improvement in sales?

G. Research Importance

Significance of this study is that FMCG sector companies can get benefit from this research and find out the answer "why their sale is low?" and "why their sales persons are not meeting the daily route plan?".

II. LITERATURE REVIEW

Some theoretical and empirical studies have been emerged on SFA system.

[1]Lecturer, Department of Management Sciences, Virtual University of Pakistan, Lahore, Pakistan. adeelnaqvi@vu.edu.pk
[2]Assistant Professor, Department of Management Sciences, National University of Modern Languages (NUML), Lahore, Pakistan. imad_malik@hotmail.com

A. Adoption of SFA System

The factors which affect the SFA system have been studied. The sample size was 135 salespersons of M/S Unilever and Dalda from Rawalpindi/Islamabad districts but accurate response rate was 70 %. The researchers found that the role perception, aptitude and motivation are the major factors which affect the SFA system [5].

A study, explored the organizational variables (information orientation and organization slack and control), strategic variables (strategic importance and integration) and linked with sophistication of SFA UK financial services firms. Authors found a positive correlation between Information Technology (IT) and marketing [6].

B. Salesperson's Perception/Attitude towards SFA

In a study that explored the relationship between SFA system and sales efforts found that SFA relates to ensuring accountability in sales efforts by tracking a salesman's CRM via location records [7].

To explore the role of personality traits in the adoption of SFA system, a study was conducted in Taiwan pharmaceutical industry. They researchers ended with a note that attitude towards new system and ease of use will be appropriate for adoption of SFA system at individual level [8].

An investigation was carried out to show the SFA acceptance on the basis of user's job experience. The researchers selected 1657 salespeople of United States Army Recruiting Command (USAREC) and they concluded that more experienced employees think negatively about SFA, whereas less experienced employees think positively about SFA [9].

Another investigation was carried out to show the relationship between salesperson's perception and satisfaction with SFA tools. Authors administrated a questionnaire and distributed it among 400 salespersons of B2B companies in India. It was found out that low cost, selling effectiveness and customer relationship is the task-related performance benefits from SFA [10].

C. SFA Usage and Salesperson's Performance

In Palestine a study was conducted to found out the benefits of using SFA technology in the Palestinian commercial firms. Authors analyzed the data through SPSS and found out that sales managers considers SFA system as value added tool, salespersons felt more competent in work and customers received quality service from salespersons [11].

The relationship between salesperson product knowledge, competitive intelligence behaviors and their performance has been explored in details. Authors collected the data through online survey from salespersons of US based biotechnological industry. Authors found out salespersons product knowledge positively contributes and enhance the salespersons' competitive intelligence. They concluded positive link between salesperson product knowledge, competitive intelligence behaviors and their performance [12].

A group of researchers investigated the relationship between SFA, customer satisfaction and sales force performance. Authors selected four companies of Pakistan for data gathering namely, M/S Nestle, M/S Nurpur, M/S Haleeb and M/S Engro. They found out that SFA affects customer satisfaction and sales force performance, whereas customer satisfaction plays a mediating role between SFA and sales force performance [13].

D. Efficiently Monitor Sales Productivity

A research study found that acceptance and use of mobile Sales Force Automation (m-SFA) for life insurance agents can increase sales productivity, assist in responding to customers' requests promptly and correctly and also effect on efficiencies of sales-supporting functions in companies in positive ways. [14].

Some researchers explored that SFA system enables sales force to do their work more efficiently, more effectively, or more satisfyingly [15].

A research was conducted by a group of researchers who want to examine the basis on which marketing companies adapting ethical policies to integrate uses of sales technology. They conducted qualitative interviews from sales and marketing managers of 333 different marketing organizations. They found that monitoring the ethical use of sales technology varies and time consuming issue for the marketing organization. They also found that such use of sales technologies will enable sales executives to more efficiently monitor sales productivity and CRM activities [16].

Two researchers investigated the impact of SFA on the organization efficiency and performance. The authors filled questionnaire form total of 135 employees of M/S Unilever (65 employees) and M/S Dalda (70 employees) of Rawalpindi/Islamabad region. They found out that factors affecting the sales performance in an organization are motivation of employees, aptitude of salespersons, automation and role perception [17].

III. RESEARH METHODOLOGY

The unit of analysis is salesperson i.e., a persons who are using automated sales devices and their opinions were collected. Cross-sectional (04th May, 2015 to 28th May, 2015) study was conducted and questionnaire having 5 point Likert scale is used for data collection, as shown in Table I.

Sample size was 162 and conducted with the help of formula i.e., {s = X2NP (1-P) / d2 (N-1) + X2P (1-P)} [18].

Convenience sampling is used and data collected from those salespersons that are conveniently available.

Table I: 5 Point Likert Scale

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

A. Reliability of Instrument

The Cronbach's Alpha Coefficient is an appropriate measurement for reliability of the instrument.The Cronbach's Alpha is kept in acceptable range that showed the high internal consistency and overall research instrument was reliable [19], see Table II.

Table II: Reliability Statistics

Variables	Cronbach's Alpha	No. of Items
SFA	0.726	6
Performance	0.718	7
Sales	0.752	7
Cumulative	0.706	20

B. Questionnaire Distribution

Out of 162, 158 questionnaires were received and 4 were not received. The analyses were applied on the 158 received questionnaires and response rate was 97.5%, as shown in Table III.

Table III: Questionnaire Distribution

No. of Questionnaire	No. of Excluded Questionnaire	No. of Valid Questionnaire	Response Rate
162	4	158	97.5%

IV. DATA ANALYSIS

SPSS is used for data analysis and interpretation.

A. Personal Profile

Profile of respondents has been described in the form of a table, given as Table IV.

Table IV: Personal Profile

Demographic Factors	Dimensions	Frequency	Percentage
Age	Below 20 years	6	3.80%
	20 - 30 years	99	62.60%
	30 to 40 years	49	31%
	Above 40 years	4	2.50%
Qualification	Intermediate	13	8.20%
	Bachelor	103	65.20%
	Master	42	27%
Experience	Less than 3 years	19	12%
	More than 3 - 5 years	113	71.50%
	More than 5 years	26	16.40%
Income	15000 – 20000	42	26.60%
	20000 – 25000	116	73.40%
Designation	Salesman	52	32.90%
	Reseller	48	30.40%
	CSR	42	26.60%
	RSO	16	10%

B. MANOVA (Multivariate Analysis of Variance)

Multivariate Analysis of Variance (MANOVA) is a multivariate test which means that the study has more than one dependent variable. This research study has two dependent variables, that are improvement in performance and improvement in sales; and one independent variable that is SFA. The purpose of MANOVA is to explore how the independent variable has an impact on the combination of dependent variables [20].

On the basis of this frame work, research hypotheses of this research are:

H1: SFA has significant relationship with improvement in performance.

H2: SFA has significant relationship with improvement in sales.

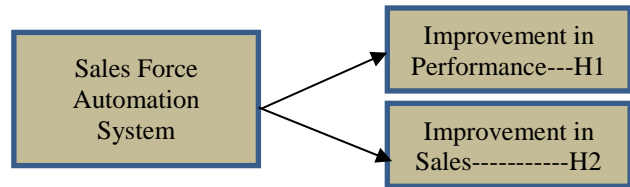The research hypothesis is elaborated in Fig. 1, for better understanding.

Fig. 1: Hypothesis Development

Researcher used MANOVA because dependent variables are more than one, if study has one independent and more than one dependent variables, then MANOVA will apply.

Mean is used as a measure of central tendency and it is commonly called the average. Standard deviation is the square root of the variance which tells how much value is deviate from its mean. The larger the standard deviation is, the more spread out the observations are, see Table V.

Table V: Descriptive Statistics

Variables	Mean	Std. Deviation	N (Respondents)
SFA	4.0823	.34417	158
Improvement in Performance	4.0148	.21725	158
Improvement in Sales	4.0823	.55253	158

In this study, mean value of SFA is 4.083 it means mostly respondents agree with the questions asked and on basis of standard deviation SFA is 0.34417 deviate from its mean. Mean value of improvement in performance is 4.0148, it means mostly respondents agree with the questions asked and on basis of standard deviation improvement in performance is 0.21725 deviate from its mean. Mean value of improvement in sales is 4.0823, it means mostly respondents agree with the questions asked and on basis of standard deviation improvement in sales is 0.55253 deviate from its mean.

Table VI: Multivariate Tests

Effect		Value	F-Test	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.992	8842.619[a]	2.000	149.000	.000	.992
	Wilks' Lambda	.008	8842.619[a]	2.000	149.000	.000	.992
	Hotelling's Trace	118.693	8842.619[a]	2.000	149.000	.000	.992
	Roy's Largest Root	118.693	8842.619[a]	2.000	149.000	.000	.992
SFA	Pillai's Trace	.265	3.275	14.000	300.000	.000	.133
	Wilks' Lambda	.747	3.341[a]	14.000	298.000	.000	.136
	Hotelling's Trace	.322	3.406	14.000	296.000	.000	.139
	Roy's Largest Root	.259	5.548[b]	7.000	150.000	.000	.206

Where:

a. Exact statistic

b. Computed using alpha = .05

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

d. Design: Intercept + SFA

To determine whether the MANOVA is significant or model is significant the above table i.e., Table VI, is used. If p-value < alpha value, then MANOVA or model will be significant, so in this study, MANOVA used Wilk's Lambda test and here alpha level is .05, and it shows that this test is significant, Wilk's Λ = .747, F(14, 298) = 8.118, p- value (0.000) < alpha (0.05, multivariate $\eta 2$ = .136. This F indicates that there are significant differences among the SFA on a linear combination of the two dependent variables i.e., improvement in performance and improvement in sales. The multivariate $\eta 2$ = .136 indicates that approximately 14% of multivariate variance of the dependent variables is associated with the independent variable, see Table VII.

Table VII: Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F-Test	Sig.	Partial Eta Squared
Corrected Model	Sales	3.096[a]	7	.442	3.363	.002	.136
	Performance	1.992[b]	7	.285	3.710	.001	.148
Intercept	Sales	874.715	1	874.715	6651.804	.000	.978
	Performance	908.350	1	908.350	11841.823	.000	.987
SFA	Sales	3.096	7	.442	3.363	.002	.136
	Performance	1.992	7	.285	3.710	.001	.148
Error	Sales	19.725	150	.132			
	Performance	11.506	150	.077			
Total	Sales	2370.719	158				
	Performance	2447.531	158				
Corrected Total	Sales	22.821	157				
	Performance	13.498	157				

Where:

a. R Squared = .136 (Adjusted R Squared = .095)

b. Computed using alpha = .05

c. R Squared = .148 (Adjusted R Squared = .108)

V. RESULT AND DISCUSSION

With the help of "Test of Between-Subjects Effects" researcher has found SFA system has significant relationship with improvement in performance because it has P-value (0.001) < α (0.05), so H1 is accepted i.e., SFA system has significant relationship with improvement in performance. The result also supports previous finding i.e., SFA increased salesperson effectiveness and job satisfaction [21].

With the help of "Test of Between-Subjects Effects" researcher has found SFA has significant relationship with improvement in sales because it has P-value (0.002) < α (0.05), so H2 is accepted i.e., SFA has significant relationship with improvement in sales. The result also supports previous finding because they found salesperson can improve productivity by focusing SFA applications [22].

VI. CONCLUSION

Conclusion of the whole discussion is that, the SFA system helps salespeople to work efficiently. This research study will also help business executives to improve their learning because adoption of SFA system is beneficial to achieve the overall goals of organization. Last but not the least, with the help of SFA techniques/tools, performance of salesman and productivity of the organization will be improved.

VII. FUTURE RESEARCH

This research study provides different important opportunities for future researches such as:

- To check consequences of SFA system.
- To investigate the impact of top management on the adoption of SFA system.

VIII. LIMITATIONS

Some limitations of this research study are given below:

- Sample size is relatively small, it should be large.
- Respondent are from one city, data should be gathered from other cities of Pakistan.
- Researchers have conducted quantitative research, which is done with close ended questions, while there is a need to conduct qualitative research which can be done with open ended questions.

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