

**STAR MODEL OF STRATEGIC PRODUCT INTEGRATION  
AND PERFORMANCE THROUGH MOBILE APPLICATIONS: A  
STUDY OF SELECT SERVICE INDUSTRIES**

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STUDY OF SELECT SERVICE INDUSTRIES**

*by*

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**DEPARTMENT OF MANAGEMENT STUDIES**

*Submitted in fulfillment of the requirements of the degree of*

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## CERTIFICATE

This is to certify that the thesis entitled, “**Star Model of Strategic Product Integration and Performance through Mobile Applications: A Study of Select Service Industries**”, being submitted by Mr. G. V. R. Sastry to the Indian Institute of Technology Delhi for the award of the degree of **Doctor of Philosophy (Ph.D)**, is a record of bona of fide research work carried out by him. He has worked under my guidance and supervision, and has fulfilled all the requirements for the submission of this thesis, which has attained the standard required for a Ph.D degree of this institute. The results presented in this thesis have not been submitted elsewhere for the award of any degree or diploma.

Dated:

**(Prof. Sushil)**  
Professor  
Department of Management Studies  
Indian Institute of Technology Delhi  
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This research is totally dedicated to my late parents, my loving father and mother.

**(G.V.R.SASTRY)**

## **ABSTRACT**

The key issue in empirical literature remains the conceptual definition of what the services sector constitutes. To simply state, services are not what they have been defined as. The same would account towards the usual referring to this services sector as one residual segment, meaning all the activities not involved with mining, agriculture, or manufacturing. Residual defining of this sector in this pattern is found making somewhat negative contributions towards the value perception of the services sector.

Indian services sector has attained a growth rate that is very high. On top of that, the Indian services sector's employment share has also experienced a positive growth. The reference of services economy can be made to economic developments that have happened recently, like the increased importance that service sector experiences in industrialized economies. The list of companies in Fortune 500 has more of services companies than they had in the previous years. The services sector remains the backbone for all kinds of economic and social developments. It has been making substantial contributions towards employment and total output in our world today. This thesis is an attempt to look at the factors that can be achieved by the integration of the services sector using a technology platform; the latest and most dynamically used being the mobile applications. In conducting the research, three main industries of Tourism, Insurance and Banking have been considered, to find the impact that each one makes on the other with its integration and also observing the complete impact the strategic integration of other services can bring.

The introduction provided the background of the research topic, going through the history of the three sectors of Tourism, Banking and Insurance. It also determined the factors that were essentially calling for the need of this research, how technology was already integrating these

services and making a new industry altogether, where the functions of the mentioned industries was merging with one-another. The research objectives, questions and aims were already trying to conceptualize the requirement of strategic as well as product integration, and suggesting a methodology that is required for the research to go ahead.

The literature tried to argue from both the ends, the reasons why the integration should take place and why it was inevitable. Using the concepts in the ICT and their bringing a new picture top the entire services industry, the secondary research is already half-way through in emphasizing the need of services sector integration using the technological framework. Various journals, reviews, books, etc. have been studied thoroughly and included in the literature review, which helps in further application of the research methods to bring the concept valid and standing on its ground.

Just by analyzing some earlier researchers and their view points on the topic was not sufficient. It was required that certain trends and happenings in the sectors of Tourism, Insurance and Banking is studied, so that the present picture is clear and provides more validity to the theories proposed in this study. Hence, the three stages of manual, technology induced, and automation were looked into for all the three sectors in Tourism, Banking, and Insurance. The entire study brought in more light to the fact that technology was serving as a better output resource in the process and in catalyzing the whole process of service offering ultimately.

The research was done using the exploratory research design, using empirical study by surveying more than 1024 respondents on their opinion regarding product integration using the technological applications of mobile. The questionnaire set had been mailed to all the states of India, from where responses were collected. The questionnaire was validated and set only after it went through two more expert level surveys, where the industry experts and specialists were

asked of their opinion on the survey, and they said it was okay to go ahead with the set of questions formulated.

The Pilot Questionnaire prepared had to go through certain stages of scrutinizing and validating them, before they could be sent to the concerned subjects. The process of selection and elimination of the questions was done through factor analysis, in which some of the unnecessary questions were deleted. Only after validating the questions, the final questionnaire to be sent to more than 1300 respondents across the country was finalized.

Based on the demographic and other socio-cultural features of the respondents, using the Step-wise regression analysis, the available data was analyzed. The analysis and the interpretation of this data was then tabulated and represented diagrammatically. The factors for macro variables and micro variables were further analysed and finding the beta values to identify the relationship of one macro variable with its components as well as other macro- and micro- variables was done. The process of statistical analysis was done using the platform of AMOS (Analysis of Moment Structures), a statistical analysis mode. The results obtained were tabulated and diagrammatically represented.

The entire study, apart from having a quantitative analysis, also supported its concepts and hypotheses on the basis of qualitative studies done with the help of case studies. Thronging corporate organizations from each sector of Tourism, Banking, and Insurance were taken and their services carefully studied and the instances that cite the validation of the use of mobile technology in the product and strategic integration were further advocated. Four corporates HSBC, Expedia, TATA AIG, and IRCTC were used in the case study to conduct the qualitative research.

Based on the number of both primary and secondary researches done in the study, the objectives were compared with the findings of the mixed research analysis and identified, if the theory proposed stood a chance of being valid or not. Based on the findings, in the objects, recommendations were made, along with the scope for further research in the related areas was suggested.

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## **Nomenclature**

3G	Third Generation
A	Agree
AML	Anti Money Laundering
AMOS	Analytical of Moment Structures
ANOVA	Analysis of Variance
ATM	Automatic Teller Machine
B2B	Business to Business
BMI	Basic Mobile Integration
BPO	Business Process Outsourcing
CAGR	Compound Annual Growth Rate
CFI	Comparative Fit Index
CMI	Suggested Minimum Discrepancy Function
CRM	Customer Relationship Management
CRS	Computer Reservation System
D	Disagree
EDI	Electronic Data Interchange
EDT	Electronic Data Transfer
EFT	Electronic Fund Transfer
FD	Fixed Deposit
FY	Financial Year
GDP	Gross Domestic Product
GDS	Global Distribution System
GFI	Goodness of Fit Index

GPS	Global Positioning System
IAMAI	Internet and Mobile Association of India
IBEF	India Brand Equity Foundation
IBM	Industrial Business Machine
ICT	Information and Communication Technology
IFSC	Indian Financial System Code
IMRB	Indian Market Research Bureau
iOS	Internet Operating System
IT	Information Technology
ITES	Information Technology Enterprise Solution
IVR	Interactive Voice Response
J2ME	Java 2 Mobile Enterprise
LTE	Long Term Evaluation
MNO	Mobile Network Optimization
MS	Microsoft
N	Neutral
NASSCOM	National Association of Software and Services Company
NFI	Normed Fit Index
PNR	Passenger Name Record
POS	Point of Sale
RD	Recurring Deposit
RFQ	Request for Quote
RMSEA	Root Mean Square Error of Approximation
ROI	Return on Investment

SA	Strongly Agree
SAP	Systems Applications and Products
SBI	State Bank of India
SD	Strongly Disagree
SEM	Structural Equation Modelling
SMS	Short Messaging Service
SOA	Service Oriented Architecture
SPSS	Statistical Package for Social Science
SQL	Search and Query Language
SST	Self-Service Technology
STK	System Tool Kit
U. S.	United States
USSD	Unstructured Supplementary Service Data
WAP	Wireless Application Protocol
WEX	Wireless Exit Kit
WTO	World Trade Organization
WTTC	World Travel and Tourism Council
WWW	World Wide Web