Examining the relationship between business analytics and supply chain management performance: Evidence from Pakistan

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DECLARATION

I certify that this works contains no material which has been accepted for award of any other degree or diploma in my name, in any university, or any other institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in submission in my name, for any other degree or diploma in any university or without the prior approval of the university of Management and Technology, Lahore where applicable.

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Abstract

In spite of continual investments in supply chain operational channels, organizations in developing countries could not win desired competitive advantage in terms of enhanced business value. There exists no framework that could evaluate the acquisition of business value through SCM system. The current scenario is indicative of wide gap between rhetoric and actual performance of SCM channels. Pakistani organizations are too struggling to narrow this gap. The extant research aims to contract this gap by applying the operational tool box offered by a famous SCOR model (reference SC operations model) to acquire productive and wholesome SC performance. Hypotheses pertaining to gauge the magnitude of BA were to try in SC industry in the scenario of Pakistan. 250 personnel were selected as study sample from Lahore, Gujranwala and Faisalabad based SC companies. Study type was quantitative and survey based. In order to appreciate the response from the selected industries for required data, a questionnaire was adapted which comprised of forty eight questions. Pearson correlation was SPSS version 20 was used and multiple regression of variables involved. The research study envisaged a framework suggesting monitoring operation of supply chain performance for SC managers and suppliers. It is based on an inter-linked order of dimensions of business analytics. IISS, and IPO emerged as dimensions of business analytics reflected positive linkage between consumer responses and supply chain performance. The projected framework presented empirical results with sound implications for supply chain future performance in Pakistan. Information obtained so provided useful theoretical additive in augmenting performance of supply chain management.

The study faced limitations in terms of limited sample and model dimensions using people perceptions in contextual conditions of Pakistan. Market un-representativeness is another limitation of sample. Future research should take into account the effects posed by BA on SC performance deliberated for SC managers in the whole province of Punjab.Theoretical research will expand understanding of enhancement in supply chain performance by operationalizing the formulations of supply chain operation reference model and bring maturity in the chain mechanism ultimately adding value to the organizations. A model was proposed by the study for testing on the basis of supply chain people sample data in context of a developing country. Understanding enhancement contributed to the supply chain literature. People responses were utilized empirically to examine the association between magnitude of BA and their effect on SC performance.

Keywords: SCOR Model, Supply Chain Performance, Management

CONTENTS

List of Figures

List of Tables

Table Number **Page**

List of Abbreviations

1.	Supply Chain Management	SCM
2.	Supply ChainOperations Reference	SCOR
3.	Business Analytics	BA
4.	Council of Logistics Management	CLM
5.	Business intelligence	BI
6.	Extract, transform, and load	ETL
7.	Advanced planning scheduling	APS
8.	Business Process Orientation	BPO
9.	Analytic hierarchy process	AHP
10.	Just in time	JIT
11.	Gross domestic product	GDP
12.	Supply chains	SC
13.	Balanced Scorecard	BSC
14.	Around Plan, Source, Make, Deliver and Return	P+S+D+R processes
15.	Information & communication technology	ICT
16.	Supply chain performance	SCP
17.	Total population	N
18.	Independent variables	IVs
19.	Dependent variables	DVs
20.	Variance inflation factor	VIF

CHAPTER 1: INTRODUCTION

1.1 Chapter Overview

By far importance of Business Analytics (BA), it offers a set of tools and techniques to analyze historical supply chain data using multiple modern analytic range of techniques. BA is referred to as a collection of interconnected approaches, tools and procedures those work under the command of SCOR model. 90s witnessed an era of competition that touched global level. Organizations were able to comprehend the role of improved efficiency within an organization, this highlights the need to develop the performance of the whole supply chain on competitive grounds. Similarly challenge aroused to acquire a product and ensure service delivery with cost oriented time and place (Trkman, McCormack, de Oliveira &Ladeira, 2010).