Online ISSN : 2249-460X
Print ISSN : 0975-587X

Global Journal

of Management and Business Research: A

Administration and Management

From the Logistics Function

Consumer Protection in Romania

Highlights

Century of Quality Management

Organizational Change and Organizational

Discovering Thoughts, Inventing Future

VOLUME 15 ISSUE 6 VERSION 1.0

Global Journal of Management and Business Research: A
Administration and Management

Global Journal of Management and Business Research: A
Administration and Management

Volume 15 Issue 6 (Ver. 1.0)

Open Association of Research Society

This is a special issue published in version 1.0 of "Global Journal of Science Frontier Research." By Global Journals Inc.

Incorporation No.: 0423089
License No.: 42125/022010/1186
Registration No.: 430374
Import-Export Code: 1109007027
Employer Identification Number (EIN):
USA Tax ID: 98-0673427

Global Journals Inc.

*(A Delaware USA Incorporation with "Good Standing"; **Reg. Number: 0423089**)*

Sponsors: Open Association of Research Society
Open Scientific Standards

Publisher's Headquarters office

Global Journals Headquarters
301st Edgewater Place Suite, 100 Edgewater Dr.-Pl,
Wakefield MASSACHUSETTS, Pin: 01880,
United States of America
USA Toll Free: +001-888-839-7392
USA Toll Free Fax: +001-888-839-7392

Offset Typesetting

Global Journals Incorporated
2nd, Lansdowne, Lansdowne Rd., Croydon-Surrey,
Pin: CR9 2ER, United Kingdom

Packaging & Continental Dispatching

Global Journals
E-3130 Sudama Nagar, Near Gopur Square,
Indore, M.P., Pin:452009, India

Find a correspondence nodal officer near you

To find nodal officer of your country, please email us at *local@globaljournals.org*

eContacts

Press Inquiries: *press@globaljournals.org*
Investor Inquiries: *investors@globaljournals.org*
Technical Support: *technology@globaljournals.org*
Media & Releases: *media@globaljournals.org*

Pricing (Including by Air Parcel Charges):

For Authors:
22 USD (B/W) & 50 USD (Color)
Yearly Subscription (Personal & Institutional):
200 USD (B/W) & 250 USD (Color)

Integrated Editorial Board
(Computer Science, Engineering, Medical, Management, Natural Science, Social Science)

Dr. Bart Lambrecht
Director of Research in Accounting and FinanceProfessor of Finance
Lancaster University Management School
BA (Antwerp); MPhil, MA, PhD (Cambridge)

Dr. Carlos García Pont
Associate Professor of Marketing
IESE Business School, University of Navarra
Doctor of Philosophy (Management), Massachusetts Institute of Technology (MIT)
Master in Business Administration, IESE, University of Navarra
Degree in Industrial Engineering, Universitat Politècnica de Catalunya

Dr. Fotini Labropulu
Mathematics - Luther College
University of ReginaPh.D., M.Sc. in Mathematics
B.A. (Honors) in Mathematics
University of Windso

Dr. Lynn Lim
Reader in Business and Marketing
Roehampton University, London
BCom, PGDip, MBA (Distinction), PhD, FHEA

Dr. Mihaly Mezei
ASSOCIATE PROFESSOR
Department of Structural and Chemical Biology, Mount Sinai School of Medical Center
Ph.D., Etvs Lornd University
Postdoctoral Training,
New York University

Dr. Söhnke M. Bartram
Department of Accounting and FinanceLancaster University Management SchoolPh.D. (WHU Koblenz)
MBA/BBA (University of Saarbrücken)

Dr. Miguel Angel Ariño
Professor of Decision Sciences
IESE Business School
Barcelona, Spain (Universidad de Navarra)
CEIBS (China Europe International Business School).
Beijing, Shanghai and Shenzhen
Ph.D. in Mathematics
University of Barcelona
BA in Mathematics (Licenciatura)
University of Barcelona

Philip G. Moscoso
Technology and Operations Management
IESE Business School, University of Navarra
Ph.D in Industrial Engineering and Management, ETH Zurich
M.Sc. in Chemical Engineering, ETH Zurich

Dr. Sanjay Dixit, M.D.
Director, EP Laboratories, Philadelphia VA Medical Center
Cardiovascular Medicine - Cardiac Arrhythmia
Univ of Penn School of Medicine

Dr. Han-Xiang Deng
MD., Ph.D
Associate Professor and Research
Department Division of Neuromuscular Medicine
Davee Department of Neurology and Clinical NeuroscienceNorthwestern University
Feinberg School of Medicine

Dr. Pina C. Sanelli
Associate Professor of Public Health
Weill Cornell Medical College
Associate Attending Radiologist
NewYork-Presbyterian Hospital
MRI, MRA, CT, and CTA
Neuroradiology and Diagnostic Radiology
M.D., State University of New York at Buffalo,School of Medicine and Biomedical Sciences

Dr. Roberto Sanchez
Associate Professor
Department of Structural and Chemical Biology
Mount Sinai School of Medicine
Ph.D., The Rockefeller University

Dr. Wen-Yih Sun
Professor of Earth and Atmospheric SciencesPurdue University Director
National Center for Typhoon and Flooding Research, Taiwan
University Chair Professor
Department of Atmospheric Sciences, National Central University, Chung-Li, TaiwanUniversity Chair Professor
Institute of Environmental Engineering, National Chiao Tung University, Hsin-chu, Taiwan.Ph.D., MS The University of Chicago, Geophysical Sciences
BS National Taiwan University, Atmospheric Sciences
Associate Professor of Radiology

Dr. Michael R. Rudnick
M.D., FACP
Associate Professor of Medicine
Chief, Renal Electrolyte and Hypertension Division (PMC)
Penn Medicine, University of Pennsylvania
Presbyterian Medical Center, Philadelphia
Nephrology and Internal Medicine
Certified by the American Board of Internal Medicine

Dr. Bassey Benjamin Esu
B.Sc. Marketing; MBA Marketing; Ph.D Marketing
Lecturer, Department of Marketing, University of Calabar
Tourism Consultant, Cross River State Tourism Development Department
Co-ordinator , Sustainable Tourism Initiative, Calabar, Nigeria

Dr. Aziz M. Barbar, Ph.D.
IEEE Senior Member
Chairperson, Department of Computer Science
AUST - American University of Science & Technology
Alfred Naccash Avenue – Ashrafieh

Contents of the Issue

Global Journal of Management and Business Research: a Administration and Management
Volume 15 Issue 6 Version 1.0 Year 2015
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

From the logistics function to the logistics service: A literature review

By Mamdouh Tlaty & Mohamed Moutmihi

Hassan II University, FSJES- Mohammedia, Morocco

Abstract- The large outsourcing and refocusing movement, regarding the key skills, initiated by many companies, has made a new profession emerge: the one of the logistics service provider. The logistics service providers, along the multi-actor Supply Chains, are considered as real pilots of the interfaces and represent a radical innovation on the managerial, strategical and operational plan.

Our article aims to bring a comprehensive literature review of this deep mutation, through a synthesis contribution that retraces the evolution of the logistics function towards the emergence of the logistics service phenomenon.

Keywords: logistics, SCM, outsourcing, logistics provider, logistic practices.

GJMBR - A Classification : JELCode : L91

Strictly as per the compliance and regulations of:

From the Logistics Function to the Logistics Service: A Literature Review

Mamdouh Tlaty [α] & Mohamed Moutmihi [σ]

Abstract- The large outsourcing and refocusing movement, regarding the key skills, initiated by many companies, has made a new profession emerge: the one of the logistics service provider.

The logistics service providers, along the multi-actor Supply Chains, are considered as real pilots of the interfaces and represent a radical innovation on the managerial, strategical and operational plan.

Our article aims to bring a comprehensive literature review of this deep mutation, through a synthesis contribution that retraces the evolution of the logistics function towards the emergence of the logistics service phenomenon.

Keywords: logistics, SCM, outsourcing, logistics provider, logistic practices.

I. Introduction

Logistics have known, for decades now, a strong development and a radical mutation of its status and identity. It is, nowadays, perceived as a major element to affirm a competitive sustainable advantage, and thus becomes an approach that is strongly strategic for companies [1], which requires more and more resources. We notice an increasing importance given to the transport reliability, to the speed, to the qualitative factors and to the ability to provide adjusted services.

In order to avoid the scattering of their assets and to ensure the best incomes of their investments, a large number of companies have questioned their methods of conceiving and managing their Supply Chains, opting the outsourcing of their Supply Chain, or of a part of it.

The refocusing of industrials on their core business has promoted the outsourcing of the logistic function in an apparent contribution to create a logistics services market.

In this article, we suggest to enlighten and analyze this mutation in a chronological way. Our reflexion is based on a literature review, which presents, in a first stage, the concept of logistics and Supply Chains: their definitions, conceptions and management. We will also review the best practices in the logistic field, with an overview of the trends in which these practices are a forming part.

We will, afterwards, present the concept of outsourcing and the evolution of the logistic service provider business.

Author α: Doctoral researcher, Hassan II University, FSJES – Mohammedia, Morocco. e-mail: mamdouh.tlaty@gmail.com

Author σ: Professor, Hassan II University, FSJES – Mohammedia, Morocco. e-mail: moutmihi@gmail.com

II. Logistics: Origins and Evolution

In order to ensure a better understanding of the essence of logistics in the management of a company, it is necessary to review its definition, as well as to identify a brief history that allows framing its evolution and its current state.

Through our literary research, we could notice that there is no thorough agreement between actors, regarding the concept of logistics. This is due to the increasing number of data related to logistics, which have an important impact on the logistics' evolution, such as the market, the life cycle of products and services, the customers' requirements and the application field, to which the logistics function is applied.

We will retain the definition produced by the Council of Science and Technology (CST) [2], which seems to us as the most appropriate one to the current situation of the market.

« Logistics is the whole operations of management and of the organization of the physical flows and of the information inside the company, as well as between the company and its partners. It aims to coordinate the sourcing of production and distribution activities. The transport is an essential component of it. Still, it also includes the demand planification, orders' processing, procurement, planification, production, relations with customers and suppliers, storage, handling, assembling, packaging, products' packaging and support functions related to these activities.

a) The major phases of logistics' evolution

The concept of logistics dates back to ancient times, where the Greek have developed methods of logistics' procurement and coordination, in order to support their military activities. Moreover, several great empires appointed officials in charge of logistics. Logistics have been developed thanks to these military origins [3]. In fact, before the 50s, logistics were still referring to military concepts [4].

In the 70s, logistics were more perceived as an internal activity of the company, whose major role was to reach the optimization of resources they locally consume (function by function), and not in a global way. The emergence of concepts such as the « just-in-time » leads us to think in terms of flows, which leads, in the 80s, to a redefinition of logistics. This concept has

become a transversal function which, on a horizontal plane, allows the coordination of the other functions, and, on the vertical plane, supports a constant dialogue between the operational and strategic levels of the company [5].

Since the early 90s, the pursue of efforts that led to reduce costs and to enhance the service quality leads to think about the Supply Chain as a whole and not only inside the company. In consequence, we could say that, in this period, the logistic function manages both intern and extern relations between functions and the implied companies in the logistic process, in order to maintain, not only the continuity of the physical flows, but also the flexibility and the reactivity of the process. The following table recapitulates these five phases:

Inspired from the international congress of research on logistics, 2006 After having presented logistics and its evolution, we will analyze the changes that have announced the implementation of the SCM. To engage our study, it is necessary to show the impact resulted from the re-composition of logistics, which has emerged, later on, towards the SCM.

b) The emergence of the SCM paradigm

The driven efforts seeking an integrated management of the Supply Chains have given birth to an approach of SCM type, that has, by nature, an integrative and systemic vision, rather than a functional and compartmentalized one.

All the definition attempts agree on the fact that this approach is a process that integrates the entire function of the Supply Chain, with a global vision.

i. *Conceptual confusion between logistics and SCM*

There are many definitions that vary according to authors: several publications do not lead to a common body of literature. This difficulty makes it hard to agree on a conceptual definition of the supply chain management and might be the source of confusion between logistics and SCM.

This second approach refers to an expansion of the vision in terms of the SCM perception. Through this expansion, Colin and Pache[6], make it evident that logistics, transcending borders, « accentuates the existence of functional relations within and between companies, while the SCM visualizes the necessity to integrate the totality of transversal operations into the flows of associated products and information, through the identification of the major actors, among which it is essential to establish lasting relations, and which process are able to allow its achievement ».

On the basis of this distinction, the authors [7], show the existing differences between the SCM and the suggested definition provided by the Council of Logistics Management in 1998: "logistics is a part of Supply Chain activities. It is related to the planification, execution and control of the efficient and effective flow of the product's storage, and of the information service related to these functions, starting from the origin point to the consumption point, in order to respond to the customers' requirements ». This definition shows logistics as a function that participates to the SCM.

On this basis, the three authors gather in an SCM logic that goes beyond logistics, by focusing on a SCM approach related to the process. Their approach refers to cooperation between the SCM actors that leads to the management of activities and process: « Logistics, market research, sales promotion, information gathering, research and development, the conception of products and the analysis of the systems' role in the value creation ». To summarize, the supply chain management is a much larger concept than logistics.

This distinction between SCM and logistics allows us to identify, more precisely, the Supply Chain Management.

III. Logistic Environment: Trends and Best Practices

The environment framing the Supply chain management includes trends and best practices. Trends impact the best practices and vice-versa.

The logistic practices presented below are made in the context of the logistic trends that have been shaping this sector for decades; they are concrete answers to the environment pressures on companies.

a) Trends

Bigras [8] has developed certain trends that seem particularly significant to him.
That to say:

* The increasing customers' requirements
* The increasing competitiveness axed on productivity and quality
* The acceleration of technological development and diffusion.
* The complexity and globalization of markets

As far as their increasing needs are concerned, consumers are better informed and dispose of many resources to compare the quality of available products. The ability to satisfy the consumer becomes then the main challenge of competitiveness. At this level, consumers should be integrated into the supply chain, which goes from materials to them. To face this environment, companies should develop their ability to satisfy and anticipate the evolution of consumers' requirements. To highly achieve this, the producer should establish a partnership with his customers at the level of the R&D, of marketing and manufacturing.

As for the increasing competitiveness based on quality and productivity, it is perfectly obvious that companies, regarding their environment requirements, and in order to effectively satisfy their customers' needs, should master their total quality management, while

providing the guarantee and the assurance of a continuous improvement to their customers.

Regarding the fourth trend, the world is becoming, more and more, an interconnected economic system, in which companies get sourced, produce, commercialize and sell in many countries. Therefore, logistics and transport are the key elements to competitiveness in international markets.

These changes in the environment have pushed companies to undertake some readjustments, which, in turn, induce some changes in the supply chain organization. These intern changes are related to the will of minimizing costs, improving quality, providing more satisfaction to customers and ensuring a better use of the company's assets.

b) Best logistic practices

These practices contribute to the efficiency of any company. It is, somehow, what Cuthbertson and Piotrowiez [9] call the best practices, which were classified, by Bigras [10], into three main categories, according to the main lever put in action for each of the practices.

i. *The collaborative integration*

The collaborative integration between partners is one of the elements and practices that are essential to a healthy supply chain management. Concretely, it is referred to collaboration between actors of a Supply Chain, to ensure that everyone could reap benefits from it.

According to Ballou and al [11], there are three coordination levels inside the Supply chain: the intra-functional coordination between the process and the activities inside the company's logistic function, the inter-functional coordination between the various functions of the company and the inter-organizational coordination of the supply chain activities between companies.

ii. *Process reengineering*

Several optimization approaches of the company's functioning have been developed based on a process description. It is the Business Process reengineering (BPR). The principle of this approach consists in challenging the existing functioning and cutting the rope with it, in order to reach improvement levers. Thus, a process « re-conception » should take place, as well as an examination of the existing process and a re-evaluation of it, with a new vision.

iii. *Customers' relationship management*

At this level, many techniques are used to monitor the demand development and to reduce the uncertainty related to the latter. It is also a matter of the demand pooling techniques, the inventory sharing, the data capture at point of sale, as well as the demand chain management, which is analogical to the supply chain management. The most important of these methods gather in the best practice (CRM), we have previously defined. This practice aims to win the loyalty of the company's customers, by supporting their marketing efforts through a system that allows the maintain, the updating and the interpretation of the whole data related to both existing and potential customers.

These trends and best logistic practices require a serious growth of the logistic service industry, which is explained by a will to outsource logistic activities by manufacturers and distributors.

IV. Outsourcing: A Strategic and Logistic Perspective

The transit from the mass economy to the one related to the singularity economics was at the origins of a phenomenon that has strongly marked the evolution of many of the company's functions, especially the ones related to logistics and transport. We are witnessing the transformation of the logistics function in manufacturing, of the logistics service and of transport. A first stage was characterized by a massive use of third parties, allowing the variation of fixed costs. Then, the affirmation, to customers, of the service as a key factor to competitiveness has amplified the phenomenon of using professional logistics providers.

Thus, the development of logistic outsourcing appears fundamental to the rise of PSL. We will then explore how this has allowed the emergence of the PSL profession.

a) The logistic outsourcing movement

The generally given definition of logistics outsourcing is quite similar to the one generally attributed to outsourcing. Ivanoj and Massou Franzil [12] define the logistics outsourcing as "the fact to entrust the whole supply chain, previously internally ensured, or only a part of it, with an eventual transfer of resources, over a long term period, to an external provider, with a performance aim ». This definition, including a strategic dimension, is thus distinguished from notions, which are often related and confused, of subcontracting, impartation..etc

b) The logistics outsourcing forms

The partnership with a logistic service provider gets normally built by the use of contracts. Outsourcing could be done more simply, by the conclusion of a logistic outsourcing contract. Companies could also set firms of different structures, to whom outsourced activities will be entrusted.

i. *The contractual outsourcing*

Lamy[13] had defined this concept as « an outsourcing of tasks or of the logistic function to a provider, by the stipulation of a contract ». This outsourcing is achieved through the signing of contracts by ordering customers and providers, who are

supposed to ensure the marketing and/or the execution. In this case, logistics function transfer is a part of a customer-provider service relationship. The main advantages of this modality are essentially simplicity and flexibility.

ii. *Structural outsourcing*

The company has the possibility to pursue an outsourcing strategy through structural means, which implies a longer-term decision. This solution has the advantage of being stable; however, it is less flexible, unlike the previous one.

Two outsourcing modalities are possible. Those where the structures do not involve the creation of a new legal entity (branch), and the one where structures, conversely, chose the creation of a subsidiary or of a joint venture [14]

V. Logistic Service Development & Expansion

The outsourcing movement has given birth to the recent profession of logistics service provider, which is enriched with new activities, particularly in terms of products' packaging and of the supply chain steering.

a) Definition of logistics provider

There is no consensus in the literature about the definition of a logistic service provider. Authors [15] show the difficulty to agree on the contrasted definition of the logistics service and its actors.

In literature, most of the contributions are focused on the outsourcing concept, without bothering to explicitly return to the meaning of « logistics » in this context.

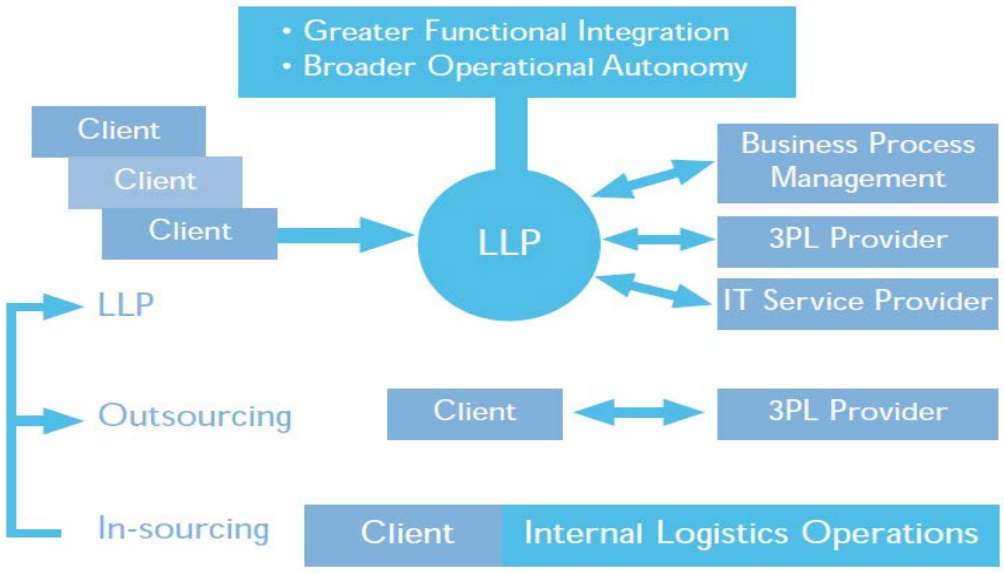
Coyle and Al [16] define a logistics service provider as "an external provider who assumes the whole company's logistics function, or a part of it ».

Sink and Langly [17] join the same definition, adding that the provider should be able to assume a combination of at least two activities, in a coordinated or integrated way.

This been said, the definition, in the matter of logistics service, definitions that focus on different aspects of the outsourcing operations (service, nature and duration of the service), overlap and reflect a chronological evolution of the logistics services, from the transport execution to more sophisticated services, included in a longer-term vision.

The diagram below provides an overview of the logistics outsourcing evolution.

Figure 1 : logistics outsourcing evolution



Source: MURRAY A. (2003)

b) PSL typology

The diversity of roles that could be attached to PSL leads to suggest typologies. Many criteria are taken into account to build these typologies: the nature of services [18], the actions' complexity and specificities [19], the capacity of PSL to ensure various service types [20], the strategic orientation of the customer and the service providers' perceptions [21]. The totality of these criteria presents various types of PSL.

Jacques Pons [22] suggests a classification of 5 types of logistics service providers, from the least to the most complete:

The 1 PL (First Party logistics providers) corresponds to companies that ensure their own

logistics organization, having their own fleet of vehicles and warehouse. This is, nowadays, still justified if the company has specific needs in materials and warehouses, or if the drivers perform other tasks than the vehicle driving (assembling, installation, adjustment of the sold product).

The 2PL (Second Party logistics providers) are the classic logistics service providers that ensures the execution of physical logistics operations (transport and storage). Their management system is limited to a monitoring for the account of the client company. They are the first type of service providers that have emerged in the 80s and that mainly focus on the development of the transport activity.

The 3PL (Third Party logistics providers) are in charge a part of a company's Supply Chain ; they do not only ensure the function execution, but they are also in charge of planning and creating a relation with other parts of the chain. The 3PL have slowly developed concentric circles of services with a high added value, which leads them to achieve tasks more and more varied, such as the cross docking, the co-manufacturing, the delayed differentiation of products, the co-packing, the tracing and tracking…

The 4PL (Fourth Party logistics providers) appear at the late 90s and are characterized by the fact that they do not own any physical resource. They could be a sort of a 3PL which are no longer sub-contractors, but that plan and coordinate the physical flows, executed by physical operators (2PL) or by the supply chain providers (3PL) that innovate and reduce global costs by the use of their own resources, as by competing with other competitive service providers.

The 5PL have recently appeared on the market. They had to retain the experts competence in the integration of SI logistics to totally steer the information sharing between clients, suppliers and 3PL. the 5PL conceive, organize and realize, on behalf of a, ordering customer, logistics solutions in the field of information system and of application software solutions.

« The LLP are logistics service providers that suggest, relying on their own assets, a complete and integrated solution, by performing, for the account of their customers, steering activities, at the level, for example, of the optimized management of stocks or purchases. This implies the achieving of the demand prevision and of optimization, as well as a wider economic function[23]

To complete this part on logistics service providers, we will discuss the diversity of roles that service providers could play.

c) The role of logistics service providers in the logistic schemes

According to Carbone [24], the importance of the phenomenon of transport outsourcing and of logistics, by manufacturers and retailers, led to many efforts to position the PSL as a key factor of the logistics evolution. Bolumole[25], considers that the PSL role in the Supply Chain is conditioned by four actors: the strategic orientation of the outsourcing organization, its perception of the PSL role, the nature of the customer-supplier relationship and the extent of the logistic process outsourcing.

i. *The integrator PSL*

In their synthetic work on the PSL role in the Supply Chain integration, Fabbe-Costes and al [26] underline that it is crucial to consider, on one hand, the nature of activities of the provided services by the PSL, and, on the other hand, the logistic integration.

A certain number of authors distinguish the PSL of type 3PL, which is in charge of executing the physical transfers (traditional PSL), from the 4PL PSL, which, according to [27], coordinates the logistics activities.

According to [28] and to [29], 4PL is an integrator of chains, whose main role is to assemble and manage the resources, the capacity and the technology of its own organization and of the complementary PSL, in order to deliver an integrated solution to customers.

For Filser and Paché [30], the profession of 4PL includes other skills: relational ones, skills in SIIO (Inter organizational information system) and in technologies support, regarding the management flows. This PSL type has also architectural skills to advice, organize the flows management and conceive integrated solutions.

ii. *The PSL firm Pivot*

Literature underlines that logistics service providers could play a pivot role in the logistic space. Dumoulin and Al [31] consider that PSL could also play a pivot role of logistics alliance Networks. Within this framework, the pivot is, therefore, essential, because of its information flows mastery. Thus, PSL is a double intermediation actor between horizontal partners, and between the horizontal partners and a traditional PSL complex. Britan and Al [32] suggest maestro and mini maestro notions. Carbone [33] adds that the control of the client company's information flows, and of logistics process, strengthens the role of the conceptor and the PSL chain manager.

iii. *The facilitator PSL*

The PSL facilitates the creation of the cooperative network, by accompanying the implementation of the network strategy, the development and the smooth functioning of trades. According to [34], the facilitator role includes many characteristics that ensure the cooperative network sustainability.

In its facilitator role, PSL has to mobilize the logistics skills, as well as the interpersonal skills, especially when it comes to the interfaces management.

iv. *The coordinator PSL*

At this level, PSL, mostly a 4PL type, ensures the operational management of the network and takes

into account the totality of the strategic objectives of its customers.

It is also in charge of the flows management coordination, of the execution of logistics activities (transport, storage, sourcing), of the synergy of information systems and of the competing industrial technologies. PSL is responsible of the organizing and optimizing resources. It is, therefore, the key actor of logistics pooling between manufacturers.

v. *The architect PSL*

As an architect, PSL, mostly of type 4PL, ensures the negotiation of strategies and objectives of the network members, and formalizes the logistic schemes. Within this framework, PSL should organize meetings and suggest common logistic schemes to the network members, whit the emphasize on the advantages of the pooling approach; to achieve this, the service provider relies on the accumulated expertise from cooperation experiences, to whom he is coordinator and facilitator, as well as on its expertise as an intermediary actor between manufacturers and the large-scale distribution.

Fronting the increasing logistics performance demand, the PSL got slowly adapted and have enlarged their offers.

VI. Conclusions and Research Paths

This article has suggested a synthesis about the logistics evolution towards the logistics service, as well as an exploration inside the new profession of the logistics service.

As a conclusion of this synthesis, we could retain the role of logistics and its evolution through the transit of the mass economy model to the one of the economics of singularity. We could also apprehend how logistics have become a strategical measure, through its successive management methods: mastery of the physical flows and SCM, a lever to get a competitive advantage.

We demonstrated that the PSL emergence is related to the logistics outsourcing movement. This weighty trend is a strategic challenge to the powerful raise of real multi-services and multi-functions professionals.

This literature review confirms the relevance of the research related to the logistics provider profession: this inducts many questions that we consider crucial: which skills should the PSL develop, in the matter of flows steering, to become the principal actor of supply chains? How to build an offer system adapted to the customers' requirements, while generating economies of scale and how to create added value? How to master the technologies progress, to ensure a better management of multi-actors supply chains, in terms of flows and platforms steering?

In short, what is the contribution or the real role of PSL on the level of multi-actors supplies chains? Many questionings that represent a research agenda of a primary importance.

References Références Referencias

1. Colin J. (2005), « Le supply chain management existe-t-il réellement ? », Revue Française de Gestion, 2005/3, n°156, pp.135-149
2. Quebec (2010). L'innnovation dans la chaîne logistique des marchandises. Québec, Conseil de la science et de la technologie: 130 p
3. Van Mieghem, Timothy. (1998). Lessons learned from Alexander the Great». Quality Progress. vol. 31, no 1, p. 41. En ligne.
4. Ballou, Ronald H. (2007). The evolution and future of logistics and supply chain management. European Business Review. vol. 19, no 4, p. 332.
5. Fabbe-costes & Meschi. (2000). La place de la logistique dans l'organisation : institutionnalisation ou dilution?. Communication aux 3e Rencontres Internationales de la Recherche en Logistique (RIRL), 9-11 mai, Trois Rivières (Québec), 28p.
6. Paché, G., et Colin, J. (2000). Stocking policy in the logistics of large European retailers: from a static to a dynamic way of thinking, Proceedings of the 3rd AFM French-German Conference on Retailing and Distribution in Europe, Saint_Malo, pp. 1_15.
7. Martha C. Cooper, Douglas M. Lambert, Janus D. Pagh, (1997). Supply Chain Management: More Than a New Name for Logistics. International Journal of Logistics Management.The, Vol. 8 Iss: 1, pp.1 – 14.
8. Bigras, Y. (2004a). Les caractéristiques des entreprises manufacturières et de la distribution du grand Montréal en termes de processus logistiques et leurs besoins en transport. Rapport de l'Observatoire du Transport des Marchandises du Grand Montréal. P 14-20.
9. Cuthbertson, Richard, et Wojciech Piotrowicz. (2008). Supply chain best practices identification and categorization of measures and benefits. International Journal of Productivity and Performance Management. vol. 57, no 5, p. 389.
10. Bigras, Y. (2004b). Les caractéristiques des entreprises manufacturières et de la distribution du grand Montréal en termes de processus logistiques et leurs besoins en transport. Rapport de l'Observatoire du Transport des Marchandises du Grand Montréal. P 14-20.
11. Ballou, Ronald H. (2007). The evolution and future of logistics and supply chain management. European Business Review. vol. 19, no 4, p. 332.
12. Ivanaj Vera, Masson-Frazil Yvette (2006). Externalisation des activités logistiques : analyse

conceptuelle et propositions testables dérivées de la théorie des coûts de transaction. Université Nancy 2, Cahier de Recherche n°2006-03.
13. Lamy S.A. (2000). Le guide Lamy logistique. Ed. Lamy, Paris
14. Pache Gilles, Spalanzani Alain.(2007). La gestion des chaînes logistiques multi-acteurs : perspectives stratégiques, Presses Universitaires de Grenoble (PUG), 1ère éd., 2007
15. MurphyP., Poist R. (2000). Third party logistics: some user versus provider perspective. Journal of Business Logistics, Vol. 21, n° 1, pp. 121-133.
16. Coyle, J. & Bardi, E.J. (1996).The Management of Business Logistics. St Paul, MN: West Publishing.
17. Sink, H. L. and Langley, C. J., JR. (1997). A Managerial Framework for the Acquisition of Third-Party Logistics Services. Journal of Business Logistics, 18, 163-189.
18. Berglund M., Van Laarhooven P., Sharman G., Wandel S. (1999).Third party logistics: is there a future? International Journal of Logistics Management, Vol. 10, n° 1, pp. 59-70.
19. Persson G., Virum H. (2001) Growth strategy for logistics service providers: a case study. The International Journal of Logistics Management, Vol. 12, n° 1, pp. 53-64.
20. Lai K.H. (2004). Service capability and performance of logistics providers. Transportation Research, Part E, Vol. 40, n° 5, pp. 385-399.
21. olumole Y.A. (2001). The supply chain role of third-party logistics providers. International Journal of Logistics Management. Vol. 12, N°2. p.87-102.
22. Pons, J. (2003), « Petite histoire de la prestation logistique de 1 à 5 », Magazine Logistique &Management, Vol 11, N°2, 2003.
23. OBLOG, (2007). 4PL/LLP – Rôle et valeur ajoutée des coopérations dans la Supply Chain. Observatoire de l'immobilier logistique et du Supply Chain Management (OBLOG).
24. Carbone V. (2004a). Le rôle des Prestataires logistiques en Europe Intégration des chaînes et alliances logistiques. Thèse de doctorat en Transport, Ecole Nationale des Ponts et Chaussées, 488p.
25. Bolumole Y.A. (2003). Evaluating the supply chain role of logistics service providers. International Journal of Logistics Management, Vol. 14, n° 2,pp. 93-107.
26. Fabbe-Costes, N. (2007), La gestion des chaînes logistiques multi-acteurs: les dimensions organisationnelles d'une gestion lean et agile in G. Paché, A. Spalanzani (coord.), La Gestion des chaînes logistiques multi-acteurs : perspectives stratégiques, Presses Universitaires de Grenoble, Grenoble.
27. Wanke P., Arkader R, Hijjar M.F (2007), Logistics Sophistication, Manufacturing Segments and the choice of logistics providers, International Journal of Operations and Production Management, vol 27, n°5, PP:542-559.
28. Bauknight D., Bade D., (1998), Fourth Party Logistics-Breakthrought Performance in supply chain outsourcing, Supply Chain Management Review, vol2, n°3, Global Supplement.
29. Persson G., Virum H. (2001) Growth strategy for logistics service providers: a case study. The International Journal of Logistics Management, Vol. 12, n° 1, PP: 53-64.
30. Filser M. et Paché G. (2008). La dynamique des canaux de distribution : Approches théoriques et ruptures stratégiques. Revue Française de Gestion. Vol.34, N°182. p.109
31. Dumoulin R., Meschi P-X. et Uhlig T., (2000). Socialisation, contrôle et performance dans les réseaux d'alliances logistiques. Les Troisièmes Rencontres Internationales de la Recherche en Logistique RIRL 2000- du 9 au 11 mai 2000- Trois-Rivières.
32. Bitran G.R., Gurumurthi S., Sam S.L (2007). The need for third-party coordination in supply chain governance. MIT Sloan Management Review. pp. 30-37.
33. Carbone V. (2004b). Le rôle des Prestataires logistiques en Europe Intégration des chaînes et alliances logistiques. Thèse de doctorat en Transport, Ecole Nationale des Ponts et Chaussées, 488p
34. Hiesse,.V. (2009). La coopétition au sein des chaînes : L'intermediation du prestataire de services logistiques dans la dynamique des relations industrie-commerce. 2eme journée de recherche relations entre industrie et grande distribution alimentaire, le jeudi 2 avril 2009, Monpellier.

This page is intentionally left blank

Global Journal of Management and Business Research: a Administration and Management
Volume 15 Issue 6 Version 1.0 Year 2015
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Identification of Critical Success Factors for the Implementation of Supply Chain Management Information System through SEM Approach

By Manisha Seth, Ravi Kiran & D.P.Goyal

Hierank Business School, India

Abstract- Supply Chain Management Information System (SCMIS) in automobile industry has gained importance recently due to its ability to reduce cost and increase responsiveness in the supply chain. The system provides high quality, relevant and timely information that supports decision making. The implementation of this system is a complicated process with significant risk as huge amount of money and time is involved. A review of literature has revealed that the success in implementing SCMIS is not very encouraging. This study explored critical factors for the successful implementation of the system.

Keywords: supply chain management information system; inter organizational system (IOS); ERP II; critical success factors (CSFs); and implementation.

GJMBR - A Classification : JELCode : J22, R31

Strictly as per the compliance and regulations of:

Identification of Critical Success Factors for the Implementation of Supply Chain Management Information System through SEM Approach

Manisha Seth [α], Ravi Kiran[α] & D.P.Goyal [ρ]

Abstract- Supply Chain Management Information System (SCMIS) in automobile industry has gained importance recently due to its ability to reduce cost and increase responsiveness in the supply chain. The system provides high quality, relevant and timely information that supports decision making. The implementation of this system is a complicated process with significant risk as huge amount of money and time is involved. A review of literature has revealed that the success in implementing SCMIS is not very encouraging. This study explored critical factors for the successful implementation of the system. The survey was conducted from the executives of the Indian automobile industry dealing with the system. Factor analysis was applied to extract critical variables based on the survey results. Structural equation modeling (SEM) was then used to verify the relationships between the identified variables for the successful implementation. The results identified four major success factors namely organizational, technical, inter organizational and human. Therefore failure rate in the implementation of these systems can be minimized and success can be achieved by taking care of these variables.

Keywords: supply chain management information system; inter organizational system (IOS); ERP II; critical success factors (CSFs); and implementation.

I. Introduction

A Supply Chain Management (SCM) system involves managing and coordinating all activities associated with goods and information flows from raw material sourcing to product delivery and finally to the end customers.(Wei, C. C., & Chen, L. T. (2008).) These systems integrate networks of suppliers, factories, warehouses, distribution centres and retailers for faster communication and coordination. The integration of these multi company networks provides high quality, relevant and timely information flow that effectively supports decision-making for inventory replenishment, capacity activation and for synchronizing material flows at all tiers within the supply chain. Thereby it plays an increasingly critical role in the ability of firms to reduce costs, increase responsiveness (Chopra and Miendl 2005), gain competitive advantage (Dezdar 2011) and achieve better coordination. Thus the basic idea of SCM integration lies in 'information integration'.

Information and communication technologies (ICT) play an important role in integration of these companies leading to greater efficiency and effectiveness of supply chain. Integrated information technology solutions with respect to three major flows namely information, product and finances leads to the increase in the value of an enterprise.

Automobile companies realized the importance of these systems as it needs to keep control over costs at every stage to remain competitive. OEM after integrating the functional areas through ERP within the organization shifted the focus on integration of business processes with trading partners. This resulted in the integration of Customer relationship management (CRM) and supplier relationship management (SRM) systems in supply chain. The emergence of e-business has thus led to different way in which enterprise communicate, transmit and receive information with the suppliers upstream and customers downstream. Major OEMs have realized the benefits arising out of these systems, however, huge cost and time involved as well as the high rate of failure acts as a deterrent to the implementation of these systems. The research by Panorama consulting solutions summarizes the experiences of 172 ERP customers with regards to enterprise software, vendors, consultants and overall implementation.

Author α: Assistant Professor, Hierank Business School, Sector 62 Noida. (U.P) INDIA. e-mail: sethmanisha11@gmail.com
Author σ: Professor SMSS, Thapar University, Patiala. (Punjab) INDIA.
Author ρ: Professor,MDI, Gurgaon (Haryana) INDIA.

Table 1 : Experience of ERP users with regard to enterprise software

YEAR	COST	% O F COST OVERRUNS	DURATION	% O F DURATION OVERRUNS	% RECEIVING 50% OR LESS BENEFITS
2012	$7.1MM	53%	17.8 months	61%	60%
2011	$10.5MM	56%	16 months	54%	48%
2010	$5.5MM	74%	14.3 months	61%	48%
2009	$6.2MM	51%	18.4 months	36%	67%

(Source: 2013 ERP Report by Panorama Consulting Solutions)

The table 1shows the average cost of implementation for last four years to be $7.3 million dollars and average duration for implementation to be 16.6months. Further approximately 59% of the projects have exceeded their planned budgets , 53% have exceeded their planned durations and about 56% of respondent organization have received less than 50% of the benefits that was expected from the system. The overall failures and implementation difficulties in implementing these systems have attracted lot of research (Liu & Seddon 2009, Singh, 2009; Syed Iftikhar, 2008)

Further the information system implementation is considered to be a technical project whereas it is important to address the socio technical aspect for the successful implementation of the system. Therefore study is being conducted to identify and analyze critical factors that need to be considered to ensure successful implementation of the information system for the automobile industry. The paper develops a model to analyze the relationships between factors and success indicators. Finally, the paper provides recommendations for the success of these systems based on the analysis of critical factors. The contributions of the paper are important for industry practitioners, researchers and policy makers. The process model and critical success factors will provide a useful guide for industry practitioners who are planning to implement SCMIS in their organizations. The study can help them to improve decision making for successful implementation of SCMIS right from inception and subsequent realization of the enormous benefits that will accrue with the right implementation.

II. Review of Literature

Huge cost and risk is involved in the implementation of SCMIS therefore critical success factors (CSFs) should be identified which would lead to the successful implementation of the system. The CSFs are identified from two groups of studies firstly critical success factors for ERP implementation like top management support, BPR, change management, training , user involvement ,communication etc. since SCMIS is an extension module of ERP (Moller (2005), Koh (2011)). These factors are categorized into Organizational, human and technological groups based on the study by Sanchez and Bernal (2007). Secondly CSFs for implementation of Inter organizational systems like trust, partnership, long term relationship, technical compatibility and pressure from the partners as supply chain system is a network of organizations that are connected, upstream and downstream through different processes and activities that produce value in the form of products and services to be delivered to the consumer. Each of these groups are discussed below.

a) Top Management Support

Top management support describes the extent to which executive managers of the adopting firm provide the attention, resources, and authority required for ERP implementation (Wang and Chen, 2006). Top management has the responsibility to align the new ERP system with the current business practices and prepare the employees for the change brought by the new technology (Madininos, 2012). With top management support, user resistance can be partially mitigated by having top executives encourage, or even mandate, user engagement in the implementation. (Wang and Chen, 2006). The involvement of top management is also vital for the effective re-engineering of the supply chain and logistics processes (Gunasekaran et al. 2004) leading to successful Inter organizational systems and relationship. It is the top management commitment and willingness to take up risk involved in the adoption of IOS to gain competitive advantage that will lead to successful implementation of the systems. Thus intervention of the top management is necessary for the allocation of financial and human resources, to take fast and effective decisions, resolve conflict, to promote company wide acceptance of the project and to build cooperation among the diverse groups within the organization. The study by Ahmad (2013) which had reviewed over 50 papers relevant to the identification of CSFs for the implementation of ERP systems had observed that management support had an occurrence percentage of 100.

b) Clear Business Plan And Vision

The system implementation requires that the key personnel within the organization should have a clear goals and vision about how to satisfy customers, facilitate suppliers and empower the employees (Umble

2003) thus leading to the successful implementation of the system. The organization also needs to define the purpose of implementing the system so as to justify the investment. The vision should provide a clear link between business goals and IS strategy (Finney 2007). Wee (2000) stated that the business plan should outline proposed strategic and tangible benefits, resources, costs, risks, and the timeline.

c) Change Management

The implementation of SCMIS requires changes in the way an individual employee performs his job. Employees are often comfortable the way they are performing their work and do not feel the need for a new system. Therefore change management is very important which enables the employees to adapt to the change. If people are not properly prepared for the imminent changes, then denial, resistance, and chaos will be predictable consequences of the changes created by the implementation. (Umble 2003). However if the change management initiatives are properly undertaken people would be well prepared to embrace the opportunities that would be provided by the system. Due to its collaborative nature, managing people, organizational inertia and change management are even more critical to ERPII implementation **(Koh et al., 2008; Møller, 2005; Weston, 2003).**

d) External Support

The implementation process requires external support in the form of vendors' and consultants'. Vendor support represents an important factor with any packaged software including extended technical assistance, emergency maintenance, updates, and special user training (sawah 2008). Consultants support is required to facilitate the implementation process by providing suitable solutions to the problems being faced. Further internal implementation team depends on the consultant for their technical expertise.

e) Bpr And Minimal Customisation

Business process reengineering (BPR) plays an important role in implementing SCMIS. It is very imperative that the organization should be willing to change the way businesses are conducted as to have minimum customization of the software. It is the enterprise that should fit into the system so lead to a successful implementation

f) Organisational Culture

The studies by Leidner & Kayworth (2006) have shown that the success rate of the system that is being implemented increases if the system is aligned with the organizational culture. In connecting distinct platforms, applications and data formats across the value chain, enterprises have to overcome various obstacles such as user resistance to change (ash and burn 2001) and reluctance for establishing a company culture open to sharing business processes and to collaboration (Stefanou2013).

g) Communication

For this study communication is divided into two types internal and external. Internal communication refers to communication between all functional department of an organization in order to ensure minimum resistance to change, clarity of business goals and strong support and commitment (Al Mamari and Nunes, 2008). Proper communication in regard to the rationale for the implementation and details of the business process management change with the employees (Mandal and Gunasekaran 2003) is very important. It is imperative that we have the complete co-operation of employees at all levels; technologies alone will not improve the organizational competitiveness. Thus all personnel should understand the benefits of implementing supply chain system and should be allowed to participate in the development of the system (Ngai et al. 2004) .External communication refers to the communication between an enterprise and its suppliers, customers and partners outside the enterprise boundaries for determining business requirements, needs and opportunities and for taking decisions. (Stefanou, 2013).

Effective external communication facilitates cooperation from the suppliers. Thus for the successful implementation of SCMIS, internal communication has to be clubbed with the effective external communication with the suppliers.

h) User Support and Involvement

These factors are critical as the system being implemented is for the employees therefore the *user involvement and participation* should start much before the implementation takes place as has been emphasized by various studies (Bingi et al. 1999; Holland et al. 1999). Studies by Duplaga and Astani (2003), Hong and Kim (2002), and Rajagopal (2002) show r*esistance to change* as one of the important critical factor for SCMIS implementation. The studies revealed that the resistance is due to job changes and uncertainty of the systems. Studies by Ketikidis et al. (2008) and Soroor et al. (2009) show organizational resistance as a common cause of implementation failure.

i) Project Champion

Project champion plays a crucial role in the implementation of the system. According to Basu et al., (2011) the project champion is the one who must have the power to set goals and to introduce legitimate changes. Project leader should be place in charge for business perspective, resolve conflicts and manage changes throughout the organization Loh and Koh (2004). The implementation usually requires employees putting in long hours which may decrease employees'

morale, requiring the project champion to boost the morale of project team members and ensure the commitment of all members. (Nah 2003)

j) Project team composition

Project team composition plays a critical role in the implementation of the system. A cross functional team should consist of the best people which understand the organization's business strategy and system's technical know-how. Loh and Koh (2004). According to the research by Nah et al., (2003) team should be cross functional and should be on project full time with implementation being their only priority. Further the team members must be empowered to make quick decisions and should have clear communication with the Management.

k) Effective Project Management

Implementation of IT in SCM requires a *project management approach* with the right team for the planning and implementation of these projects and to provide financial and technical support. Studies by Aladwani (2002), Fui-Hoon (2003), Parr and Shanks (2000), Sarker and Lee (2003), and Umble et al. (2003) shows the importance of the *implementing team* which should include IT expert , business expert and consultants which should posses a balance of business and IT skills (Kalling 2003). Studies have been conducted on the need of having a project leader (Ngai et al. 2008; Bradley 2008), which should posses strong leadership skills (Mandal and Gunasekaran 2003) as well as business, technical and personal managerial competencies (Kraemmergaard and Rose 2002).Further study by Gefen and Riding (2002) shows the positive relationship between the responsiveness of the implementing team towards the user of the systems.

l) Training and Education

Another factor considered by the researchers for successful implementation is *training and education* (Bradley 2008; Ngai et al. 2004). This factor assumes importance because if proper training and education is not provided to the employees there will be high resistance for change. With proper training and education all personnel will understand the benefits of IOS and how the system is going to change the organizations business processes (vadbya 2010). The study by Soroor et al. (2009) considers inadequate training for the team members and lack of user participation in the project as one of the SCMIS development failure factors. The main goal of the training should be the effective understanding of the various business processes and should address all aspects of the system. Researchers have suggested that training should include the development of IT skills for the users (Stratman and Roth 2002; Tarafdar and Roy 2003). It is very important to have *post training analysis* so as to ensure that the users have received the appropriate training. Thus for the successful implementation of these systems human or personnel plays a crucial role (Aladwani 2002; Duplaga and Astani 2003; Markus et al. 2000; Rajagopal 2002; Robey et al. 2002; Sumner 2000).

m) Complexity of the software

Complexity of the software has been studied extensively by various researchers (Adam and O'doherty 2000; Bradford and Florin 2003; Francalanci 2001; Parr and Shanks 2000; Robey et al. 2002; Ribbers et al. 2002; Sumner 2000) and they have concluded that there exists a negative relationship between complexity of the software and successful implementation of these systems. According to the studies (Petter et al. 2008) the information systems for supply chain management should be accessible, compatible, user-friendly, stable and reliable, requiring minimal training and offering strong after sales service. The system quality features included in the studies were ease of use, ease of learning, system accuracy, flexibility, sophistication, integration capability and customization. They further included information quality features like Usability, Understandability, Relevance and Conciseness.

Hardware and software reliability is another factor to be considered for success of the system. Ngai et al. (2004) in the study considered reliability to consist of the accuracy of the data, adequate maintenance of the system and the capability of the hardware. The study by Craighead et al. (2006) related the reliability of the EDI system with the frequency of downtime which may lead to a lack of faith in the system. Therefore for success the system should be free from unplanned downtime. Another technical parameter somewhat related to reliability that is considered by Craighead et al. (2006) is *in-house ability to maintain* and to *change/update hardware and software*. The technical factors that are critical to organizations in their adoption decision of Internet-based inter-organizational information systems (IBIS) was also studied by Soliman,et al.(2004), Bouchbout and Alimazighi (2008) and suggested establishing costs , network reliability , data security, scalability and complexity as main factors that significantly affect the adoption decision of IBIS.

Relatively inexpensive, simple for the customers and suppliers to adopt and Ease to expand to other customers and suppliers are another technical dimension studied by Craighead et al. (2006).

n) Cooperation and Commitment of Trading Partners

SCMIS integrates companies both upstream and downstream therefore inter organizational factors becomes important and critical. Successful implementation of inter organizational system requires the *cooperation and commitment of trading partners* (Premkumar and Ramamurthy 1995), thus developing cordial relationships and *partnerships* (Gunasekaran et

al. 2008; Ketikidis et al. 2008) forms the basis of successful IOS. Yu et al. (2001) in their study emphasized on the benefits of supply chain partnerships based on information sharing. Study by Lu et al. (2006) reveals seven critical success factors for the IOS, namely intensive stimulation, shared vision, cross-organizational implementation team, high integration with internal information systems, inter-organizational business process re-engineering, advanced legacy information system and infrastructure and shared industry standard. Another issue widely studied is inter-organizational information sharing quality (Li and Lin 2006); Hsu et al. (2009) focused their study on *information transparency and visibility*. Soliman and Janz (2004) studied the degree of comfort about sharing sensitive information with the trading partners.

o) Trust

The literature has also researched *trust* between trading partners and has confirmed the trusting relationship as a critical factor for the success of IOS. Mutual trust refers to the fact that the channel members have confidence in their partners' reliability and honesty; namely, the channel members do business with one another on a foundation of mutual trust so the long-term and extra benefits are achieved. Soliman and Janz (2004) in the study have emphasized the importance of having trusting relationship in implementation of Inter organizational information systems. Study by Bagchi et al. (2005) emphasizes that most companies are quite cautious when it comes to sharing sensitive data. The studies by Mihok and Frank (2007), Ratnasingam (2005), Hart and Saunders (1997) have also considered trust as one of the important success factor in implementing IOS.

p) Data Security

The data flowing through the system is extremely valuable and therefore studies by Ngai et al. (2004), Warren and Hutchinson (2000), Premkumar (2000), Bouchbout and Alimazighi (2008) included *data security* as one of the important technical factor for successful implementation of web-based supply-chain management systems.

III. Research Objectives and Methodology

The main objectives of this paper are:

1. To identify various critical dimensions and their factors for the implementation of SCMIS.
2. To propose a model for the successful implementation of SCMIS.
3. To explore the relationship between the factors.

To achieve the research objectives the methodology adopted was :

a) Questionnaire Development

The dimensions for the development of the model are based on the previous studies reported in the literature and discussions with the researchers, experts and practitioners in this field. The questionnaire was developed using review of literature with some measures being adopted from the previous research while others were formed specifically for this study. Table2 shows the various variables and the study from which the various items of variables are being adopted.

Table 2 : Construct development

S.No	Variable	NO. OF ITEMS	ITEM	AUTHOR
1	Top Management Support	5	Knowledge and good understanding, commitment, involvement, persuasion of employees for participation in the development of the system and managing the transition to the new system.	Ngai et al., (2004)
2	Communication	4	Accurate and timely communication, easy communication with the suppliers, transparency and sharing information	Ngai et al., (2004)
3	Organizational Culture	4	Cultural readiness , knowledge and learning capabilities , relationship building and open culture for sharing business process	Stefanou (1999)
4	Training And Education	4	Training on system implementation, qualified personnel to execute training, developing own in-house training for the system, training on use of the system and understanding benefits of the system by all personnel	Ngai (2004)
5	User Support And Involvement	2	User involvement in the stage of definition of the company's SCMIS system needs; and user participates in the implementation of the system	Zhang , (2004)
6	Change Management	4	Training of the employees for change management, changes in organization structure to support the new systems, Counseling of employees and developing new business performance and control measures.	Vinod et al., (2003)
7	External Support	3	Service response time of the software vendor; qualified	Zhang et

			consultants with knowledge ability in both enterprises' business processes and information technology and participation of vendor in the system implementation.	al.(2004)
8	Cooperation and Commitment Of Trading Partners	5	Commonality of Objectives, Desirability of establishing a long-term relationship from a business perspective, Partners' willingness to participate, Technical compatibility and Technical expertise of the partners	Premkumar and Ramamurthy (1995)
9	Trust	5	Trading partners are honest and truthful, confidence among the trading partners, integrity, reliability and partners are trust worthy	Neelay (2006)
10	Pre implementation analysis	4	Pre implementation attitude, organizational readiness for implementation, organizing different workshops like organization mapping, corner stone or team builder workshops, expected value of the system for the users	Helm, S.A et al., 2003)
11	Data Security	4	Availability of secure modes for transmitting information, greater effectiveness in handling sensitive information, security of transactions across over the system and cost-effective security system	Ngai et al., (2004)
12	BPR	3	a) company's willingness to reengineering, b) company's readiness for change, and c) company's capability of reengineering.	Zhang (2003)
13	Effective Project Management	5	Having a formal implementation plan, a realistic time frame, having periodic project status meetings, having an effective project leader who is also a champion and having project team members who are stakeholders.	Zhang (2003)
14	Clear Business Plan And Vision	5	Vision statement and adequate business plan; clear goals and objectives; clear desired outcomes; feasibility-evaluation of the project and linking to business strategy	Dezdar et al., (2009)
15	Project team composition	5	Team members who possess the best business and technical knowledge and leadership; team is cross-functional, is on the project full time as their top and only priority; familiar with product; empowered to make decisions	Nah et al.,(2003)
16	Project champion	3	a visible senior manager committed to promote the implementation process; has power to set goals and legitimize change	Nah et al.,(2003)
17	Suitability of Hardware and software	3	compatibility of software/hardware and company's needs; Ease of customization; adequate maintenance of the system	Ngai et al., (2004) and Zhang (2003).
18	Data accuracy	4	Educating users on the importance of data accuracy, adoption of correct data entry procedures, converting data from legacy system to new system should be accurate, totally changeover to new system (credibility of the new system)	Umble et al., (2003)

The questionnaire covering these dimensions were framed on five-point Likert scale ranging from 1 (highly disagree) to 5 (highly agree) to measure the attitude of respondents for every question. A pilot test was conducted for measuring the validity of the questionnaire. Validity of the instrument was done to see if the questionnaire is measuring what it intended to measure and is the questionnaire comprehensive enough to collect all the information needed to address the purpose. Thirty practitioners and scholars were administered the questionnaire and were asked to comment on its readability and comprehensiveness. Thus the validity was established using a panel of experts from the area of SCM and discussions with academicians and implementers. The discussion with the experts led to certain changes in the wording of some survey items which was incorporated into the draft of the questionnaire.

b) Questionnaire Distribution

The questionnaire was administered to 356 executives of two main companies namely – Maruti Suzuki India Ltd. and Honda Cars India Ltd including their suppliers and dealers located in National capital region (NCR) of India (Appendix 1). The questionnaires were distributed through e-mail and personal delivery. Table 3 shows the sampling frame for suppliers and dealers who participated in the study.

Table 3 : Sampling Frame for suppliers and dealers

S.No	Company	Population	Sample	% of sample	No. of users of SCMIS in the sample
1.	Maruti Suzuki India Ltd.				
	1st Tier Suppliers	80	5	6.25	10
	Dealers in NCR	45	5	11.11	10
2.	Honda Cars India Ltd.				
	1st Tier Suppliers	50	4	8.00	08
	Dealers in NCR	20	4	20.00	08

Table 4 shows the actual response and % response rate of the users of SCMIS. A total of one hundred and thirty seven respondents or thirty eight percent has responded to the questionnaires. The respondents expressed their opinions concerning the importance of subsequent factors for the implementation success.

Table 4 : Response of the users of SCMIS

S.No.	Company	Population	Sample	Actual response	% response rate
1	Maruti Suzuki India Ltd.	260	160	49	31
	1st Tier Suppliers	10	10	10	100
	Dealers in NCR	10	10	06	60
2	Honda Cars India Ltd	310	160	58	36
	1st Tier Suppliers	08	08	08	100
	Dealers in NCR	08	08	06	67

c) Data Analysis

Profile of the respondents

Table 5 shows the demographic profile of the respondents. The survey was conducted among 137 respondents of whom around 80% were Males. Around 42% of total respondents had working experience of 5 - 10 years while 30.65% respondents had working experience of more than 10 years. Around 46% of the total respondents surveyed worked in 'Supply Chain Management' and another 15% worked in IT Department. Around 10% each of the total respondents worked in Production, Marketing and Purchase Departments.

Table 5 : Demographics of Respondents of the Survey

	Number of respondents	Percentage of respondents
Gender		
Male	109	79.56
Female	28	20.44
Total work experience		
Less than 5 years	38	27.74
5-10 years	57	41.61
More than 10 years	42	30.65
Department		
Production	17	12.41
Purchasing	12	08.76
Supply chain Management	63	45.99
IT	21	15.33
Finance	02	01.46
Marketing	14	10.22
Others	08	05.83

Extracting success variables

Factor analysis is an ideal method for creating an easy understanding of the framework by identifying groups of related variables. The study applied factor analysis using SPSS software (version 20) to explore the latent factors of the critical success variables (CSVs) for implementation of SCMIS. Eighteen CSVs were subjected to factor analysis using principal component analysis and varimax rotation. Four factors were extracted based on Eigen value greater than 1 and scree plot. The KMO value for the factors is 0.893 and these factors explain 64.502% of the variance. Table 5 shows the four extracted factors designated as organizational, technical, human and Inter organizational

respectively. Eight of the CSVs loaded on factor 1, four on factor 2, three of the CSVs loaded on factor 3 and another three on factor 4.

Table 6 : Principal components analysis on critical success variables

VARIABLES	FACTOR 1 ORGANISATIONAL	FACTOR 2 TECHNICAL	FACTOR 3 HUMAN	FACTOR 4 INTER ORGANISATIONAL
Top Management support (OTM)	.752			
Change Management (OCM)	.749			
Organizational culture (OCT)	.745			
Business Process Reengineering(OBPR)	.738			
User Support (OUS)	.706			
Clear Business Plan and vision (OVB)	.652			
Communication (OCo)	.612			
Pre implementation Analysis (OPRE)	.537			
Technical infrastructure (TTI)		.821		
Project Management (TPM)		.765		
Data accuracy (TDA)		.741		
External support (TES)		.663		
Project champion (HPC)			.776	
Team Composition (HTC)			.774	
Training(HTr)			.724	
Data Security(IDS)				.830
Trust (Itr)				.771
Cooperation and commitment(ICC)				.702

Sem Development

SEM can be used to describe the relationship between two variables namely latent and observed / measured variables. Observed or measured variables are one that are being measured by the researcher directly whereas latent variables are not being measured directly but is of interest to the researcher. Therefore to observe latent variables a conceptual model should be developed to express latent variables in terms of observed variables. The SEM can be divided into two parts. The measurement model part which relates measured variables to latent variables and the structural model is the part that relates latent variables to one another.

For developing SEM framework the present study uses AMOS 21 statistical software and includes both measurement component and structural component. The measurement component determines that how exogenous variables measure the latent variable constructs and the latter component models the relationship between the latent variable constructs. Figure 3 shows the initial SEM framework.

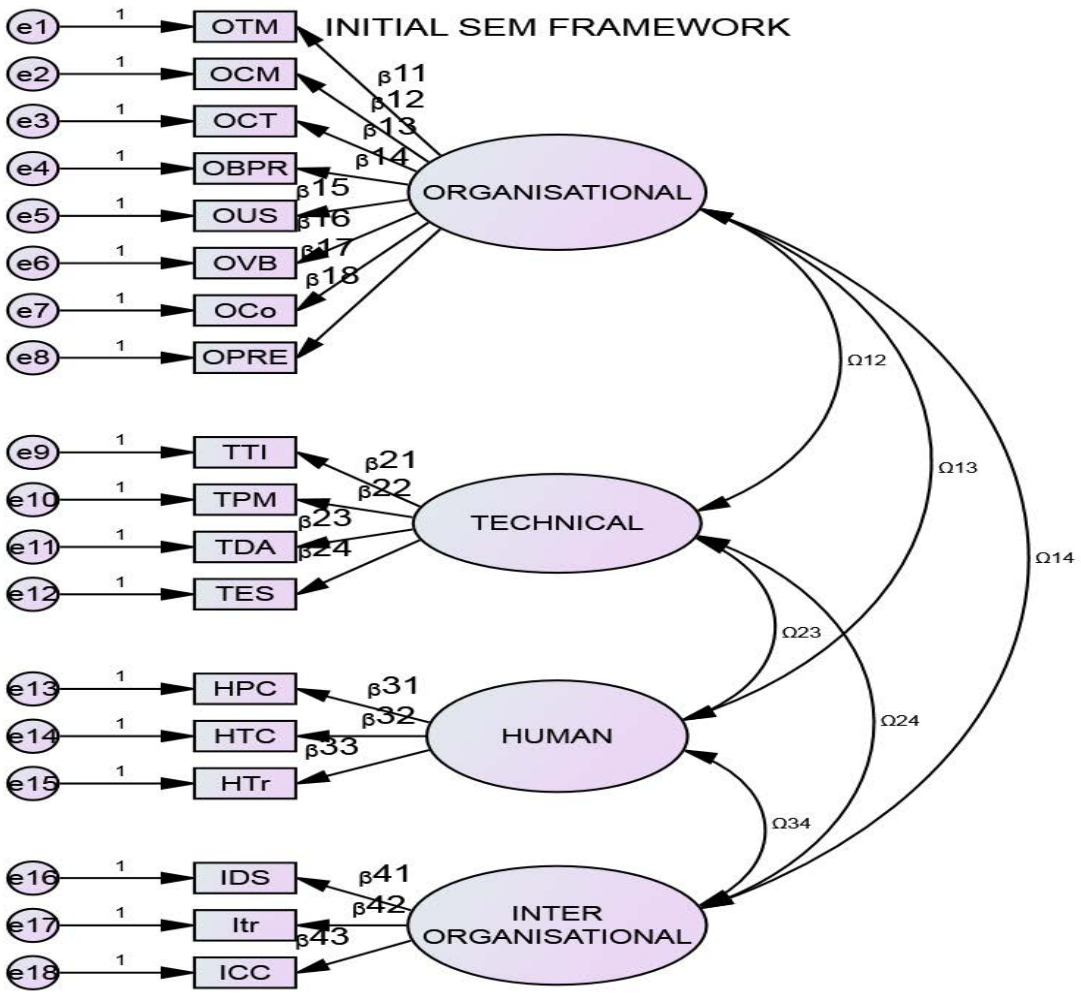


Figure 1 : Initial SEM framework

To ensure the appropriateness of groupings of CSVs into four factors for the successful implementation of SCMIS, cronbach alpha (α) reliability testing was applied. Value of α range from 0 to 1 and value greater than 0.7 is considered to be reliable. Table 7 shows the value of α for all the four factors, organizational factor has α of 0.88, technical has α of 0.79, human factor has α of 0.78 and inter organizational factor has α of 0.77. Since the value of α for all the factors is more than 0.7 therefore it shows internal consistency of initial SEM.

Table 7 : Reliability testing of measurement model

LATENT VARIABLES -----FACTORS (θi)	MEASURING VARIABLES ----ITEMS	CRONBACH α VALUE
Organizational (θ1)	1.Top Management Support (OTM) 2.Change Management (OCM) 3.Organisational Culture (OCT) 4.Business Process Reengineering (BPR) 5.Clear Business Plan and Vision (OVB) 6.Pre implementation analysis (OPRE) 7.User support (OUS) 8.Communication (OCo)	0.88
Technical (θ2)	1.Technical Infrastructure(TTI) 2.Project Management (TPM) 3.Data Accuracy (TDA) 4.External support (TES)	0.79

Human (θ3)	1.Project Champion (HPC) 2.Team composition (HTC) 3.Training (HTr)	0.78
Inter Organizational (θ4)	1.Data security (IDS) 2.Trust (Itr) 3.Cooperation and commitment (ICC)	0.77

Sem Modification

The initial SEM framework was developed from exploratory factor analysis (EFA) which determines the correlation among the variables and provides the factor structure. It is imperative to establish convergent and divergent validity for conducting confirmatory factor analysis (CFA). The convergent and divergent validity was checked using Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV), and Average Shared Variance (ASV) measures as shown in Table 8. For the convergent validity the values of AVE of the factors are greater than 0.5 and CR is more than AVE. These comply with the threshold values as indicated by Hair et al., (2010). Thus the variables correlate well with each other within their latent (parent) factor than with the latent factor outside the parent factor.

Table 8 : Convergent and Discriminant validity

	CR	AVE	MSV	ASV
HUMAN	0.780	0.544	0.511	0.372
ORGANISATIONAL	0.891	0.540	0.511	0.410
TECHNICAL	0.798	0.502	0.305	0.273
INTERORGANISATIONAL	0.781	0.547	0.415	0.330

The initial framework improvement was performed over several iterations using modification indices and theoretical justification to reach a final satisfactory framework. Figure 4 shows the final SEM framework. The rectangles indicate observed (or measured) variables. Unobserved latent variable constructs appear in ellipses. The arrows in the figure indicate the direction of hypothesized influence. For example, the influence of the 'Human' aspect (θ3) is presumed to be reflected in the observed measures of the variables: Project Champion (HPC), Team composition (HTC), and Training (HTr) as depicted by the directional arrows. Error terms are included for each exogenous variable indicating a latent variable construct. For example, Team composition does not perfectly relate to 'Human' factor, and so an error term is needed to represent the error of measurement. This To evaluate the fit of CFA various goodness of fit (GOF) indices are employed. Various GOF indicators included in the study to assess the model's goodness of fit are the ratio of $\chi 2$ to degrees-of-freedom (DF), goodness-

error of approximation (RMSEA) , root mean square residual (RMR) , standardised root mean square residual (SRMR), Parsimonious Normalised Fit Index (PNFI), Parsimonious comparative fit index (PCFI) and Hoelter CN value . Till the GOF indices do not reach their recommended values initial SEM framework is refined to improve overall fitness. The refinement was done by systematically elimination of low correlation paths and associated variables.

The refinement was done according to the modification indices provided by the AMOSS software. The various GOF indicators with their recommended values is given in the column 2

Table 9 : Goodness of fit measurement of the SEM framework'

EVALUATION INDEX	GOF	THRESHOLD	INITIAL SEM	FINAL SEM
Absolute fit index	Pearson chi-square ($\chi 2$)	The least	193.605	107.290
	Degrees of freedom		129	97
	CMIN/DF	<3 good <5 sometimes permissible	1.501	1.106
	P value	>0.05	.000	0.223
	RMR value	<0.05	.014	.010
	SRMR value	<0.05	.065	.0495
	RMSEA value	<0.05	.061	.028
	GFI value	>0.9	.869	.915
	AGFI	>0.8	.827	.881
Relative fit index	NFI value	>0.9	.841	.898
	IFI value	>0.9	.941	.989
	CFI value	>0.9	.939	.989
Parsimonious fit index	PNFI value	>0.5	.709	.726
	PCFI value	>0.5	.792	.799

and 3 of table 9 and last two columns shows the values of the indices for the initial SEM framework and final framework respectively. The final SEM framework selected after the refinement and with the best performance of GOF indices is shown in the figure 2.

Measurement Component of Sem Model

The latent organizational variable is measured in SEM framework by Top Management Support

Pre implementation analysis, Change Management, Business Process Reengineering (BPR), Clear Business Plan and Vision, User support and Communication. Top management support and user support with $\beta = 0.79$ had the most influence on the organizational factor. This was followed by Clear business plan and vision with $\beta = 0.78$, Pre implementation analysis ($\beta = 0.71$), communication ($\beta = 0.69$) and change management ($\beta = 0.69$). BPR had the least influence on the variable ($\beta = 0.68$). BPR is considered to have least influence on the organizational variable because managers view BPR as a tactical issue rather than a strategic one. According to research by Estevez 2002 in most ERP implementation projects, BPR is seen as a consequence of an ERP implementation and hence its importance is dismissed.

The latent technical variable is measured in SEM framework by effective Project Management (TPM), Data Accuracy (TDA) and External support for the implementation (TES). Effective Project Management with $\beta = 0.82$ had the most influence on the technical factor. This was followed by Data Accuracy with $\beta = 0.75$. External support had the least influence on the variable ($\beta = 0.58$). Huge cost is involved in using the service of the consultants so it makes sense for in house IT staff to take up the responsibility of implementing these information systems. The in house IT staff should have sufficient technical expertise to match business and system requirements. They should possess overall understanding of the business process and how it can be reengineered leading to the successful implementation of the system.

The latent human variable is measured in SEM framework by Project Champion (HPC), project team composition (HTC) and Training for the users (HTr). Training for the users of the system with $\beta = 0.82$ had the most influence on the human factor. This was followed by Project Champion with $\beta = 0.73$. Team composition had the least influence on the variable ($\beta = 0.65$). The role of the project leader is much more important than the project team composition. Project leader needs to lead from the front, should have an experience in the project management, and should be capable enough to resolve conflicts, manage resistance and take up the role of a mentor for the successful implementation of the system.

The latent inter organizational variable is measured in SEM framework by Trust among the trading partners (Itr), Cooperation and commitment among them (ICC) and maintaining security of the data (IDS). Trust among the trading partners with $\beta = 0.86$ had the most influence on the inter organizational factor. This

was followed by Cooperation and commitment among the trading partners with $\beta = 0.74$. Data security had the least influence on the variable ($\beta = 0.60$). Trust being the most influential variable incorporates the security of the data spanning across the organizations.

Structural Component of Sem Framework

The initial SEM shows the relationship between the four latent variables. The highest correlation was observed for Organizational and human factors ($\Omega=.72$), followed by organizational and inter organizational with $\Omega=.64$, organizational and technical has correlation of $\Omega=.59$, human and inter organizational has $\Omega=0.58$ followed by technical and inter organizational with $\Omega=0.54$ and the least correlation of $\Omega=0.53$ between technical and human factors.

The study was conducted to test whether the structural component of four latent variables fit the data of the sample. According to Bryman and Cramer [6], a correlation below 0.39 is considered low, modest if the value is from 0.49 to 0.69 and is considered high if the value is above 0.70. The result showed that the value of the correlation among the latent variables is between 0.53 and 0.72, therefore falls in the modest category. Discriminant validity was also checked for the latent organizational, technical, human and inter organizational factor. The validity was checked using Average Variance Extracted (AVE), Maximum Shared Variance (MSV) and Average Shared Variance (ASV) and for establishing divergent validity MSV and ASV are more than AVE. Thus indicating that these factors are statistically independent.

Thus there exists a strong correlation between the organizational and human factors since organization is a group of people working together to achieve an objective. The variables in the organizational factor like user support, communication among the different stakeholders, top management support all deal with the people working for an organization. Therefore a strong correlation exists between organizational and human factors.

IV. Implications of the Study

The contributions of the paper are important for industry practitioners, researchers and policy makers. The process model and critical success factors will provide a useful guide for industry practitioners who are planning to implement SCMIS in their Organizations. The study can help them to improve decision making for successful implementation of SCMIS right from inception and subsequent realization of the enormous benefits that will accrue with right implementation.

For the academic researchers the study forms the basis of a more detailed examination of the subject related to the implementation of SCMIS. The proposed model can form the basis of deriving 'performance metrics' to give organizations a clearer picture of the benefits accruing from SCMIS. This study can encourage and enlighten policy makers to establish new training institutes and formulate policies in favour of SCMIS in the wider interest of the industries and improve the overall economy.

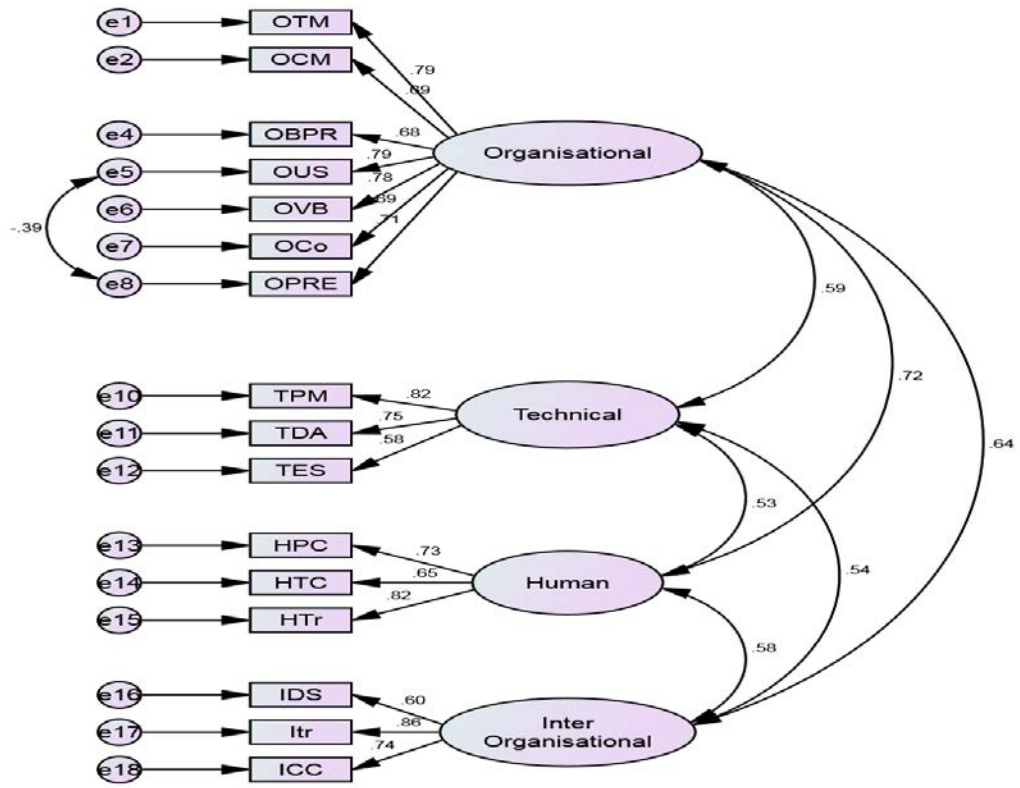


Figure 2 : Final SEM framework

V. Conclusions and Discussion

This paper explored CSVs in the implementation of SCMIS in the automobile industry in India. EFA was used to analyze the data collected through the questionnaire from the executives of two companies in the Northern capital region of India. Factor analysis grouped the 18 CSVs into four critical factors (CSFs) which were named as organizational, technical, human, and inter organizational. The SEM was used to confirm the relationship between the identified CSVs and four latent critical factors.

The analysis of the data shows that the successful implementation of SCMIS is strongly influenced by the relationship between organizational and human success factors, while the relationship between technical and human success factors is least significant. It was also found that top management support and user support had the most influence on the organizational factor, effective Project Management had the most influence on the technical factor, training for the users of the system had the most influence on the human factor and trust among the trading partners had the most influence on the inter organizational factor.

It is very imperative to view the information system not only as a technical initiative but as a social change within the organization. We need to consider organizational, inter organizational and above all human dimensions for the successful implementation of the information system. To accomplish these dimensions the support from the top management is essential so that the implementation process receives the necessary resources, time and the change management initiatives. Next CSF that must be addressed is the user training and education so as to make them comfortable with the working of the system and also the benefits of the system to be communicated clearly to the users. By carefully managing these four factors the chances of successful implementation of SCMIS can be increased and thus decreasing the failure rate.

VI. Limitations of the Study

The major limitation of this study is that the findings were limited to only two major players of the automotive sector of National capital region of India. Thus it is recommended that similar research studies should be conducted by taking a larger sample of organizations in automotive industry from other parts of India so as to include any other dimension whatsoever, that might have been left out while covering these two organizations only of the automotive industry. Secondly the study does not include the views, opinions and perceptions of software experts that are involved in the development of SCMIS from organizations like IBM, Oracle and SAP.

References Références Referencias

1. Abdinnour-Helm, S., Lengnick-Hall, M. L., & Lengnick-Hall, C. A. (2003). Pre-implementation attitudes and organizational readiness for implementing an enterprise resource planning system. European Journal of Operational Research, 146(2), 258-273.
2. Aladwani, A. M. (2002). An integrated performance model of information systems projects. Journal of Management Information Systems, 19(1), 185-210.
3. Altekar, R. V. (2005). Supply chain management: concepts and cases. PHI Learning Pvt. Ltd.
4. Al-Turki, U. M. (2011). An exploratory study of ERP implementation in Saudi Arabia. Production Planning and Control, 22(4), 403-413.
5. Bagchi, P. K., Ha, B. C., Skjoett-Larsen, T., & Soerensen, L. B. (2005). Supply chain integration: a European survey. International Journal of Logistics Management, The, 16(2), 275-294.
6. Bradford, M., & Florin, J. (2003). Examining the role of innovation diffusion factors on the implementation success of ERP systems. International Journal of Accounting Information Systems, 4(3), 205-225.
7. Bradley, J. (2008). Management based Critical success factors in the implementation of ERP systems. International Journal of Accounting Information Systems, 9(3), 175-200.
8. Briolat, D., & Pogman, J. (2000, April). User involvement influence on project productivity in a rad environment: A quasi-experiment. In European Software Control and Metrics Conference, Munich.
9. Cai, J., Liu, X. D., Xiao, Z. H. and Liu, J. (2009). Improving supply chain performance management: A systematic approach to analyzing iterative KPI accomplishment, Decision Support System, 46(2): 512.
10. Chan, C. K., & Lee, H. W. J. (2005). Successful strategies in supply chain management. Igi Global.
11. Chopra, S. and Miendl, P. (2005). Supply Chain Management. 3rd Edition, Pearson – Prentice Hall.
12. Craighead, C. W., Patterson, J. W., Roth, P. L., & Segars, A. H. (2006). Enabling the benefits of Supply Chain Management Systems: an empirical study of Electronic Data Interchange (EDI) in manufacturing. International Journal of Production Research, 44(1), 135-157.
13. Davenport, T. H. (2000). Mission critical: realizing the promise of enterprise systems. Harvard Business Press.
14. Davenport, T. H. (1998). Putting the enterprise into the enterprise system. Harvard business review, 76(4).
15. Dezdar, S., & Ainin, S. (2011). Critical success factors for ERP implementation: insights from a Middle-Eastern country. Middle-East Journal of Scientific Research, 10(6), 798-808.
16. Dezdar, S., & Sulaiman, A. (2009). Successful enterprise resource planning implementation: taxonomy of critical factors. Industrial Management & Data Systems, 109(8), 1037-1052.
17. Duplaga, E. A., & Astani, M. (2003). Implementing ERP in manufacturing. Information Systems Management, 20(3), 68-75.
18. Fui-Hoon Nah, F., Zuckweiler, K. M., & Lee-Shang Lau, J. (2003). ERP implementation: chief information officers' perceptions of Critical success factors. International Journal of Human-Computer Interaction, 16(1), 5-22.
19. Gaur, V., Giloni, A., & Seshadri, S. (2005). Information sharing in a supply chain under ARMA demand. Management Science, 51(6), 961-969.
20. Gefen, D., & Ridings, C. M. (2002). Implementation team responsiveness and user evaluation of customer relationship management: A quasi-experimental design study of social exchange theory. Journal of Management Information Systems, 19(1), 47-70.
21. Gunasekaran, A., Lai, K. H., & Edwin Cheng, T. C. (2008). Responsive supply chain: a competitive strategy in a networked economy. Omega, 36(4), 549-564.
22. Gunasekaran, A., & Ngai, E. W. (2004). Information systems in supply chain integration and management. European Journal of Operational Research,159(2), 269-295.
23. Holland, C. P., Light, B., & Gibson, N. (1999, June). A Critical success factors model for ERP implementation. In Proceedings of the 7th European Conference on Information Systems (Vol. 1, pp. 273-297). University of California Press.
24. Hong, K. K., & Kim, Y. G. (2002). The Critical success factors for ERP implementation: an organizational fit perspective. Information & Management,40(1), 25-40.
25. Hsu, L. L., Chiu, C. M., Chen, J. C., & Liu, C. C. (2009). The impacts of supply chain management systems on information sharing and integrated-performance. Human Systems Management, 28(3), 101-121.
26. Kræmmergaard, P., & Rose, J. (2002). Managerial competences for ERP journeys. Information Systems Frontiers, 4(2), 199-211.
27. Kumar, V., Maheshwari, B., & Kumar, U. (2003). An investigation of critical management issues in ERP implementation: emperical evidence from Canadian organizations. Technovation, 23(10), 793-807.
28. Leidner, D. E., & Kayworth, T. (2006). Review: a review of culture in information systems research: toward a theory of information technology culture conflict.MIS quarterly, 30(2), 357-399.
29. Li, G., Yang, H., Sun, L., & Sohal, A. S. (2009). The impact of IT implementation on supply chain

integration and performance. International Journal of Production Economics, 120(1), 125-138.
30. Li, S., & Lin, B. (2006). Accessing information sharing and information quality in supply chain management. Decision Support Systems, 42(3), 1641-1656.
31. Liu, A. Z., & Seddon, P. B. (2009). Understanding how project Critical success factors affect organizational benefits from enterprise systems. Business Process Management Journal, 15(5), 716-743.
32. Mabert, V. A., Soni, A., & Venkataramanan, M. A. (2003). ERP: managing the implementation process. European Journal of Operational Research, 146(2), 302-314.
33. Mandal, P., & Gunasekaran, A. (2003). Issues in implementing ERP: a case study. European Journal of Operational Research, 146(2), 274-283.
34. Marwah, A. K., Thakar, G., & Gupta, R. C. (2012). Determinants of Supply Chain Performance in the Indian Manufacturing Organizations (Proposed Conceptual Model).
35. Mihók, P., & Frank, T. G. (2007). Trust within the established inter-organizational information sharing system. In Managing Worldwide Operations and Communications with Information Technology, Proc. IRMA Conference(Vol. 19, p. 23).
36. Motwani, J., Akbulut, A. Y., Mohamed, Z. M., & Greene, C. L. (2008). Organizational factors for successful implementation of ERP systems.International Journal of Business Information Systems, 3(2), 158-182.
37. Nah, F. F. H., Lau, J. L. S., & Kuang, J. (2001). Critical factors for successful implementation of enterprise systems. Business process management journal,7(3), 285-296.
38. Neeley, C. K. R. (2006). Connective technology adoption in the supply chain: The role of organizational, interorganizational and technology-related factors.
39. Ngai, E. W. T., Cheng, T. C. E., & Ho, S. S. M. (2004). Critical success factors of web-based supply-chain management systems: an exploratory study.Production Planning & Control, 15(6), 622-630.
40. Ngai, E. W., Law, C. C., & Wat, F. K. (2008). Examining the Critical success factors in the adoption of ERP. Computers in Industry,59(6), 548-564.
41. Peng, G. C., & Nunes, M. B. (2010). Barriers to the successful exploitation of ERP systems in Chinese state-owned enterprises. International Journal of Business and Systems Research, 4(5), 596-620
42. Petter, S., DeLone, W., & McLean, E. (2008). Measuring information systems success: models, dimensions, measures, and interrelationships. European Journal of Information Systems, 17(3), 236-263.
43. Premkumar, G. P. (2000). Interorganization systems and supply chain management: An information processing perspective. Information Systems Management, 17(3), 1-14.
44. Premkumar, G., & Ramamurthy, K. (1995). The Role of Interorganizational and Organizational Factors on the Decision Mode for Adoption of Interorganizational Systems*. Decision Sciences, 26(3), 303-336.
45. Ratnasingam, P. (2005). Trust in inter-organizational exchanges: a case study in business to business electronic commerce. Decision Support Systems,39(3), 525-544.
46. Sarker, S., & Lee, A. S. (2003). Using a case study to test the role of three key social enablers in ERP implementation. Information & Management, 40(8), 813-829.
47. Singh, L. P., Singh, S., & Pereira, N. M. (2010, July). Human risk factors in post-implementation phase of ERP in SMEs in India. In Technology Management for Global Economic Growth (PICMET), 2010 Proceedings of PICMET'10: (pp. 1-11). IEEE.
48. Soliman, K. S., & Janz, B. D. (2004). An exploratory study to identify the critical factors affecting the decision to establish Internet-based interorganizational information systems. Information & Management, 41(6), 697-706.
49. Stefanou, C. (1999). Supply Chain Management and Organizational Key Factors for Successful Implementation of ERP (ERP) Systems. AMCIS 1999 Proceedings, 276.
50. Stratman, J. K., & Roth, A. V. (2002). ERP (ERP) Competence Constructs: Two-Stage Multi-Item Scale Development and Validation*. Decision Sciences, 33(4), 601-628.
51. Syed Iftikhar, H., Shah and Shabbir Hassan, 2008. Critical success factors in ERP Implementation in
52. Pakistan, MS (SE) Thesis, International Islamic University Islamabad.
53. Umble, E. J., Haft, R. R., & Umble, M. M. (2003). ERP: Implementation procedures and Critical success factors. European Journal of Operational Research, 146(2), 241-257.
54. Van Veenstra, A. F., Klievink, B., & Janssen, M. (2009). Avoiding management of resistances during IT pre-implementation phase: A longitudinal research in a high tech corporation.
55. Verville, J., Palanisamy, R., Bernadas, C., & Halingten, A. (2007). ERP acquisition planning: A critical dimension for making the right choice. Long Range Planning, 40(1), 45-63.
56. Wee, S. (2000). Juggling toward ERP success: keep key success factors high.ERP news, 1-5.

57. Wei, C. C., & Chen, L. T. (2008). Developing Supply Chain Management System Evaluation Attributes Based on the Supply Chain Strategy. Supply Chain, 95.
58. Xu, H., Nord, J. H., Brown, N., & Nord, G. D. (2002). Data quality issues in implementing an ERP. Industrial Management & Data Systems, 102(1), 47-58.
59. Yao, Y., Palmer, J., & Dresner, M. (2007). An interorganizational perspective on the use of electronically-enabled supply chains. Decision support systems,43(3), 884-896.
60. Zhang, Z., Lee, M. K., Huang, P., Zhang, L., & Huang, X. (2005). A framework of ERP systems implementation success in China: An empirical study.International Journal of Production Economics, 98(1), 56-80.
61. Zhang, K., Lee, A. and Zhang, Z. (2003) Critical success factors of ERP Systems Implementation Success in China. Proceeding of the 36th Hawaii International Conference on System Sciences, pp. 61-75.

Global Journal of Management and Business Research: a Administration and Management
Volume 15 Issue 6 Version 1.0 Year 2015
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

The Decision Makers' Perceptions toward the Adoption of Information Technology by Government Institutions in Jordan and its Affect on Information Accessibility, and Decision Making Quality

By Dr. Rami Tbaishat
Yarmouk University, Jordan

Abstract- In this age of rapidly advancing technology, many governments around the world have spent a great deal of money on these tools, in order to increase the performance of their work. Therefore, the Jordanian government decided to implement information technology in public institutions. However, the picture is not clear about the perceptions of users towards this technology.

The purpose of this study was to explore the perceptions of decision-makers towards the use of this technology and its impact on access to information and the quality of decision-making.

Keywords: information technology, decision making, e-government, jordanian government, public administration.

GJMBR - A Classification : JELCode : D85; D83

Strictly as per the compliance and regulations of:

The Decision Makers' Perceptions toward the Adoption of Information Technology by Government Institutions in Jordan and its Affect on Information Accessibility, and Decision Making Quality

Dr. Rami Tbaishat

Abstract- In this age of rapidly advancing technology, many governments around the world have spent a great deal of money on these tools, in order to increase the performance of their work. Therefore, the Jordanian government decided to implement information technology in public institutions. However, the picture is not clear about the perceptions of users towards this technology.

The purpose of this study was to explore the perceptions of decision-makers towards the use of this technology and its impact on access to information and the quality of decision-making.

Quantitative methodology was used to obtain the information necessary to achieve the objectives of this study. Three hundred questionnaires to decision-makers located in the city of Irbid were distributed. Two hundred sixty eight questionnaires were returned; 253 were usable, at 84% response rate. Descriptive statistics was used to analyze the data.

The results indicated the importance of computer technology in the Jordanian governmental organizations. The results revealed that the majority of the participants expressed positive perceptions about the technology. They saw this technology as a viable, necessary and effective tool. However, they still expected to have more active role of this technology in government institutions. Also, they provided many of the factors that led to some restrictions on the use of computers. In addition, the study revealed that the demographic characteristics that would hinder perceptions towards this technology seems mostly unfounded.

Based on the results of this study, Joradanian government should provide its employees more training and education opportunities on the use of this technology, in order to maintain, improve and increase the use of such technology in the future.

Keywords: information technology, decision making, e-government, jordanian government, public administration.

I. Introduction

Today the world is going through a major technological revolution, especially in the field of information technology. Due to this rapid development of this technology many aspects of our lives are changing. Despite this rapidly changing world and the advancement of information technology, the dissemination of this technology is not well understood or used in developing countries as a whole.

Therefore, governments have responded in most developing countries to such a challenge through the development of national programs for the use of computers in organizations. However, these national programs were not based on research which led to the limited success of such programs. The reason, according to Rogers (2003) is that "start-up phase", which emphasizes the need to collect information and planning, seems to be missing in this deep and long process of implementation of the technology.

Moreover, this technology will not be used unless individuals have the skills, and knowledge necessary to apply it in their daily practices, regardless of its development and sophistication. That is, individuals should become effective agents to be able to take advantage of the technology in their work.

Thus, the responsibility of developing countries not only to provide computers to their organizations, but also to promote a culture of acceptance among end-users of these tools. In addition, a growing acceptance of information technology by decision-makers will improve the quality and performance of government institutions. Thus, it is important to know how well information technology is working for these organizations. Thus, the goal of this study was to investigate the perceptions of decision-makers towards this technology and its impact on access to information and the quality of decision-making.

a) The Importance of Information Technology

According to Hanson and Narula (1990), information is necessary for development of national and international identity. The flow of information is through communication technologies from individual to individual, group to group, government to government; government to people, and vice versa. Also, IT has a

Author: Yarmouk University Irbid, Jordan.
e-mail: rururami@hotmail.com

very important role to play in building social capabilities to generate information and application of knowledge for sustainable development. Social capabilities complement technological capabilities and it brings in so many different ways to generate economic growth (Mansell & Wehn, 1998, p. 10).

Therefore, like developed countries, many developing countries rely heavily on the development of information technology to reach the highest level of modernization. In other words, the impression is that the more progress and development of the use of technology, and the most modern and advanced country will be (Hanson & Narula, 1990).

As a developing country, Jordan has a marginal participation in the generation and diffusion of technology. In general, many developing countries participate to a minimal extent to the globalization of technology. This globalization is offering new technological opportunities, but these are not seized by those countries.

To conclude, when it comes to information technology the expectations are high that this technology will serve as an innovation that will replace conventional forms of communication. Nowadays, the reality of information age as presented by computer-based technology has become more of a tool that many people in different parts of the world use, specifically Western and developed countries of the world. Moreover, the developing countries are no exception, specifically Jordan. More and more people in those countries are becoming interested in adopting the computer-based technology in the workplace and for personal use. However, in order to effectively integrate computer technology into social and economic systems and gain the most of this advanced technology, Amoretti (2007) believes Governments need to recognize the importance of information technology, reconsider the development strategy, actively promote the process of participatory decision-making, improve human capacity, and focus on more development public/privat partnerships.

b) IT Development in Jordan

When it comes to IT development, like many other developing countries, Jordan is facing many issues in its efforts toward economic, social, cultural, and political development. The government of Jordan has recognized the importance of timely, relevant, and reliable data for the planning of the economic and social development of the country. Therefore, according to Ein-Dor, Goodman, and Wolcott (1999), if youngr generations are not part of the Information Society, it will be very difficult for them to take part in international economic development, because information society is seen as a lever for economic development; a desire to join the global information society; and a desire to participate in the economics of the global network, e-commerce, etc. Therefore, Jordan has moved towards adopting full e-government, in order to increase transparency, efficiency and effectiveness of the government operations (Stanton, 2006, UNDP, 2007).

However, the implementation of technology in Jordanian government organizations has not been guided by research, in order to overcome the challenges that facing the introduction of this new technology into organizations. Therefore, there is a need for research that looks at the current status of technology in Jordanian organizational context in general, and about decision makers' reaction to the new tools, in particular. Without understanding of the end-users' perceptions toward such a new tool may cause unforeseen consequences about its diffusion in Jordanian government organizations. Therefore, Davison, Vogel, Harris, and Jones (2000) believed less computerized countries like Jordan will have to take care of the challenges before they can gain the benefits of such tools.

c) Statement of the Problem

The effective use of any technology will require those who are involved to accept it first. According to Woodrow (1992) decision makers must develop positive perceptions toward the use of computers in order to accept and use the technology in their daily work activities. Therefore, we need to understand whether government personnel accept such technologies or not. Further, understanding of the primary elements of successful adaption of information technology is needed, also investigate if there are any blocks to acceptance. Hence, without good understanding of such elements, it will be difficult to know whether this technology is fully utilized or not by those individuals in the Jordanian government organizations.

d) Purpose of the Study

The purpose of this study was to investigate the perceptions of decision-makers towards this technology and its impact on access to information and the quality of decision-making.

e) Research Questions and Variables

The study focused on the following questions:

1. What are the decision makers' perceptions in Jordanian government organizations toward Computer Technology?
2. What are the decision-makers' perceptions with regard to the following:

A. Accessibility of information.
B. The quality of decision-making.

Quantitative methodology was applied in order to answer the above questions. In addition, due to the fact that there was not much research conducted on the use of computer technology in public institutions in Jordan, the nature of this study was generally exploratory rather than confirmatory.

Therefore, the dependent variable was decision makers' perceptions toward Computer Technology. Whereas, the independent variables were: (1) the accessibility of information; (2) the quality of decision-making; and (3) the characteristics of decision-makers (including gender, age, education, and computer training background, etc.).

f) Significance of the Study

Decision makers play an important role in the economic and social development in Jordan. In order for decision makers to carry out this role successfully they need more efficient and accurate information. Therefore, the researcher believed the study was significant because of the following reasons: First, the study provided very helpful and important information regarding the perceptions toward the use of computer technology by decision makers and sought to explain the factors influencing these perceptions, in order to provide a strong understanding of this phenomenon and make a clear understanding of the factors affecting the Jordanian decision-makers' perceptions toward the successful adoption and utilizations of computer-based system.

Furrther, due to the inappropriate information and ineffective management of information resources in most of the developing countries, they suffer from the lack of communication and efficient information. Therefore, successful adoption of this technology will help government personnel understand how this technology works and be more efficient in transferring the information among them and around the globe when needed.

II. Review of Related Literature

Given the broad perception of IT for developing countries, the importance of their needs, and the lack of their economic resources, it seems useful to understand the state of IT perception and integration in different countries and priorities on IT implementation.

a) The Development of IT in Public Administration

Efficient use of this technology for cost reduction was emphasized by organizations, and computing was centralized for economic reasons. However, as time passed the technology advanced as well as people's familiarity, comfort, and understanding of it, and that created a demand for new types of applications. The improvement in computer technology coupled with reduction in its price allowed organizations to apply this technology to more of their management functions. By the 1960s and 1970s, management information systems (MIS) were created and designed to provide managers at all levels of an organization with information support for their managerial functions, such as planning, control and decision making (Kroeber & Watson, 1987).

Therefore, the development in IT opens up new organizational and communicative possibilities: the convergence of information and communications technologies in multimedia applications; for example, the Internet allows the rapid transfer of masses of data between cities, countries, and continents. This clearly presents enormous opportunities for real-time intra-and especially inter-organizational communications by greatly facilitating the surveillance and control of spatially dispersed activities (Bloomfield, Coombs, Knights, & Littler, 2000, p. 170).

Danziger and Andersen (2002) believe there are important benefits, such as improved data access and quality for both public administrators and citizens. Bertucci and Szeremeta (2006) assert that public administration is transforming itself internally and externally through the use of modern information technology. Evidence indicates a rapid growth of IT applications throughout the world, particularly among the industrialized countries. However, there is a couse for concern for those interested in improving government capacity due to the uneven distribution and implementation of governmental IT innovations.

Furthermore, it is obvious that from all of these advances in computer and electronic communications technology there would be some kind of impact on organizations that adopt and use these technologies. In addition, IT allows advances in government participation, transparency, public service delivery, knowledge creation, and networking that promise to improve the human condition as we transition toward a knowledge society (Bertucci & Szeremeta, 2006). Therefore, it is imperative that researchers and practitioners need to more clearly understand and investigate the particular contextual variables that result in differential outcomes for diffusion and adoption of IT innovations globally and develop a way of analyzing the kind of impacts that these technologies may have on organizations and individuals, as well as any factors that might impede the utilization of such a technology.

b) IT and Decision-Making

IT would decrease the number of units involved in the process of decision making. Simon (1977) asserts that computers would centralize decision making, however would not alter the basic hierarchy of the organization (cited in Heintze & Bretschneider, 2000).

The various existing concepts, strategies, techniques, and programs claim to provide a sound theoretical basis and useful guidance for making rational decisions in the face of complex, usually multidimensional, choice problems. However, the critical question is whether such aims are actually achieved by employing decision-aiding technologies (Rohrmann & Schutz, 1993). Moreover, they added, the rapid development of computer technology, providing increasingly more powerful and inexpensive computer

systems, has made the computer an easily accessible tool for decision making.

However, Simon (1990) believes that information technology had a major impact on the collection and dissemination of information. He added, the faster communications has made easier for the creation of more unified organization spread around the globe. With modern communications, he said, we have changed the balance between the number of messages that can be produced and can be received. Therefore, information can be obtained regardless of the location and nature of the decision-making process. Computers are useful in setting the stage for decision-making because they provide the necessary information on issues such as the availability of the necessary funds to make investments, but they are not very useful in determining the whether to make a decision in a particular investment. Further, computers also provides the means for monitoring the information received so as to determine when you should be making decisions. It makes rational comprehensive model more usable, and the administrator will be able to compare and highlight the potential consequences and costs of alternative means for the implementation of policies (Kraemer & Dedrick, 1997; Rosenbloom & Goldman, 1998).

Therefore, Krumwiede and Roth (1997) believe that IT innovations must provide more or better information for managers to make decisions. Innovations include the installation of a new IT system for human resources information or material requirements planning system. To do so successfully managers need to understand the stages of the implementation process, such as initiation, adoption, acceptance, and etc. The lines between these are not always clear, but the general understanding of the stages that most IT innovations pass through important because the factors affecting the progress vary from stage to stage.

c) Information Technology Development in Jordan

The Jordanian government has long recognized the importance of collecting information in a timely manner, and can be relied upon for planning economic and social development of the country. The adoption and use of information technology in Jordan face similar obstacles to those faced by other developing countries. Despite the obstacles to the adoption and use of information technology in Jordan, the installation of information technology and markets have been on the rise.

i. *Jordan IT Policy*

The information technology works to facilitate the rapid communication between the places where it can be seen to collapse time and space differences. Equally important, for Jordan and other developing countries, the production of information technology services has become highly mobile which made the links in these industries could be placed in countries that otherwise might have difficulty in foreign investment attraction. Therefore, information technology is one of the growth sectors of the Jordanian economy, and further development in this sector is the key to modernization of economic and social life in Jordan.

Al-Jaghoub and Westrup (2003) believe Jordan is taken as an example of a developing country, which is trying hard to use their scarce resources to achieve prosperity for its citizens. Information technology was the focus of attention by the King and the Jordanian government to provide a golden opportunity for the country to use the most valuable assets, human resources, to achieve competitiveness regionally and even globally. The entry to the World Trade Organization has opened access for many parts of the Jordanian economy to international competition. Jordan was to attract both international agencies and is seeking to attract large, multinational IT companies. Because of the competition between the rival states, these companies are in a strong position to pick and choose between the sites and Jordan must adapt to this environment.

ii. *Computerization of the Public Sectors in Jordan*

In the mid-1980s computer prices started to decline and the larger institutions began to upgrade computer divisions and established their own computer centers. Further, the idea to connect the information centers and form a NIS was initiated to "organize and manage information activities to serve national goals and interests."Also, the Royal Scientific Society (RSS) and the Ministry of Planning (MoP) worked together to create two sets of databases to provide up-to-date scientific information and economic data for Jordanian public administrators, planners, and policy makers. Therefore, the first set of databases was hosted in the Scientific and Technical Information Center (STIC) at the Royal Scientific Society (RSS). Whereas, the second set of databases was hosted in the Social-Economic Information Center (SEIC) at the Ministry of Planning (MoP) (Kulchitsky, 2004).

iii. *Challenges to the Development of IT in Jordan*

The inequalities of the utilization of information-technology are found and determined by level of education and digital divides, like social and economic divides, exist within and not just between regions in Jordan and they are integral parts of a much broader and intractable "development divide" that include insufficient telecommunications infrastructure, high telecommunications tariffs, inappropriate or weak policies, organizational inefficiency, lack of locally-created content, and uneven ability to derive economic and social benefits from information-intensive activities (Rawabdeh, 2007).

Furthermore, because Jordan is a small market, there is a need for local IT companies to rapidly acquire

the skills for international business and develop quality products in order for them to compete in the regional/global market. Therefore, the challenge for IT industry is to diversify capabilities and find new markets in both the domestic and regional areas so as to make the industry and economy more resilient (Appendix A7, Jordan).

In general, Jordan's economic and political development efforts suffer from the lack of active public participation in civil society and the weakness of public and private sector institutions. There is a need for the private sector to be more heavily involved in identifying and guiding overall economic reform Jordan. Als, government personnel must develop strong decision-making and regulatory institutions to manage issues effectively. Finally, all citizens of the country need to better understand the importance of reform, as many now feel that they do not directly benefit from these efforts (USAID, 2007-2011).

To summarize, in order for developing countries to close the gap and digital divide with the more advanced world, especially in the area of information processing and management, they should and must take full advantage of this new technology if they. Even though, there are problems and issues facing developing countries in their adoption and utilization of IT, the litreture has shown that there are ways and steps that can be taken to overcome such problems and issues in order to have a successful implementation and take a full advantage of the highly advanced and sophisticated technology.

III. Research Design and Methodology

Since there are various options for conducting research, this section seeks to justify the choice and rationale for the selection of the specific procedures and methods that were employed during the study.

a) Design of the Research

A quatitative research method was used as a design for this study, which involved using a survey (close-ended questionnaire) for gathering information for scientific purposes from a sample of a population. This approach was followed; through which data were assembled by an instrument developed and adapted from similar studies.

i. *Validity and Reliability*

Due to the fact that the survey questionnaire for this study was adapted from other several prior studies, with the appropriate refinements and modifications to collaborate with this research, the validity and reliability have already been developed. Hence, the previously validated questionnaires was used to collect the data from participants to understand the perceptions of the decision-makers toward the use of information technology in government organizations in Jordan.

However, Cronbach's Alpha from the actual study are reported in Table 3.1. The alpha coefficients for the scales were: computer perceptions (0.85), changes in the accessibility of information (0.84), and perception of changes in decision-making quality (.84). The overall alpha coefficient was (0.84).

Table 3.1 : Summary of Reliability Analysis

No.	Domain	Alpha value
1.	Perceptions toward computer technology	0.85
2.	Changes in the accessibility of information	0.84
3.	Changes in decision-making quality	0.84
Overall/Perceptions		**0.84**

b) Population and the study Sample

The study's population was all decision makers in Jordanian government organizations who were located in the city of Irbid and volunteered to participate in this study (n = 300). The idea behind choosing all decision makers rather than draw a sample was that since this study was the first of its kind in the country at this level, it was extremely important to include the largest number in the target population. Also, because the unit of analysis was the individual, the survey could have been performed either across organizations or within one organization. The approach of this research was to survey individuals from various organizations and divisions. Surveying subjects in multiple organizations increases generalizability.

c) Data Collection

A total number of 268 completed questionnaires out of the 300 that had been sent out were returned given (a response rate of 89.33%). However, 15 of them were not completely answered, therefore they were not used for data analysis. The valid response rate of 84.33% is shown in Table 3.2 below.

Table 3.2 : Response Rate and Percentages

		Distributed	Returned	Unreturned	Valid
Number of questionnaires	300	268	32	253	
Percentage	100.00	89.33	10.67	84.33	

d) Data Analysis Procedures

Both descriptive and inferential statistics were used for analyzing the quantitative data of this study. The Statistical Package for the Social Sciences (SPSS) was used for the data analysis. Further, all negatively stated items were reversed and descriptive statistics for all independent/dependent variables were computed.

In order to answer the research questions, means, standard deviations, correlation coefficients, and multiple regression analyses were used. In order to identify independent variables that individually correlate with the dependent variable (perceptions toward computer technology), the correlation coefficient analysis was used. A complete explanation of data analysis is provided throughout the next section.

IV. Results and Data Analysis

The participants' responses to items in the survey questionnaire were examined using the frequency and percentage distributions in some cases and the means and standard deviations in other cases. This method of analysis was expected to provide information about the relationships between decision-makers' perceptions toward the use of information technology, by using regression, correlation, and other statistical methods.

Table 4.1: Percentage and Frequency for Demographic Information

Variable		Frequency	Percentage
Gender	Male	177	70.0
	Female	76	30.0
	Total	253	100.0
Age	Less than 30 years	66	26.1
	31-40 year	69	27.3
	41-50 year	87	34.4
	More than 50 year	31	12.3
	Yes	228	90.1
	No	25	9.9
What is your current level of computer skills and knowledge?	Excellent	62	24.5
	Good	118	46.6
	Average	47	18.6
	Fair	19	7.5
	Poor	7	2.8
Level of education	High school or less	18	7.1
	Some college courses	5	2.0
	Associate degree	30	11.9
	Bachelor degree	112	44.3
	Graduate degree	88	34.8

Country of last degree earned	Jordan	101	37.7
	USA	51	19.0
	UK	19	7.1
	Iraq	18	6.7
	Russia	10	3.7
	Other	31	11.6
	Missing	38	14.2
	Total	230	100.0
Length of time in this position	Less than 1 year	40	15.8
	From 1-5 years	81	32.0
	From 6-10 years	34	13.4
	More than 10 years	98	38.7
Computer Technology Use: Personally, how often do you use the computer to retrieve computer-based files?	Very seldom	20	7.9
	Occasionally	64	25.3
	Quite often	36	14.2
	Very Often	44	17.4
	Constantly	89	35.2
Personally, how often do you ask others, either by phone or in person, to provide you with information that is computer-based?	Very seldom	31	12.3
	Occasionally	67	26.5
	Quite often	43	17.0
	Very Often	58	22.9
	Constantly	54	21.3
Technology Training: Please indicate, all relevant statements that best describe the training level you have had in the use of computer technology in general.	Courses at college or university	121	47.8
	In-house organization courses	11	4.3
	Through self-study	78	30.8
	Through a colleague at work		10 4.0
	Through vendors/consultants		19 7.5
	None	14	5.6
Computer Technology Experience: How much experience have you had using computer?	None	31	12.3
	One year or less	48	19.0
	1 to 5 years	89	35.2
	More than 5 years	85	33.6

Table 4.1 shows frequency and percentage for demographic information, the majority of the respondents (70%; n = 177) were male and female were 30% (n = 76). Also, more than one third of the decision makers were between 41 and 50 years old, (34.4%; n = 87), between the age of 31 and 40 (27.3%; n = 69), less than 30 years old (26.1%; n = 66); and only 12.3% (n = 31) were more than 50 years old. Interestingly, most (90.1%; n = 228) of the respondents have computers at home; whereas only 9.9% (n = 25) did not have computers at home. Almost half (46.6%; n = 118) of the respondents reported their level of skills and knowledge as good. One fourth (24.5%; n = 62) was excellent; and only 2.8% (n = 7) was poor; close to half (44.3%; n = 112) held a bachelor's degree; more than one third (34.8%; n = 88) had graduate degrees, 11.9% (n = 30) with associate degrees, 7.1% (n = 18) had high school education or less, and only 2% (n = 5) with some college courses. In general, then this was a relatively educated population.

The distribution of the respondents according to the country where they earned their last degree showed that 37.7% of them earned their last degree from Jordan; 19.0% from universities in the United States; 7.1% from universities in the United Kingdom; 6.7% from universities in Iraq; and 3.7% from universities in Russia. However, 11.6% earned their degree from other countries such as Canada, Egypt, Germany, Lebanon, Sudan, and Romania.

More than one third (38.7%; n = 98) of them had been in the position for more than 10 years, (32%; n = 81) were in their first 5 years in the position, 15.8% (n

= 40) were in their first year in the position, and only 13.4% (n = 34) had been in the position from 6 to 10 years. In general, with just 15.8% (n = 40) reporting a year or less in the position, one can conclude that this was a group of expertise and skillful population.

Further, it was found that (35.2%; n = 89) were constantly using computer to retrieve files, while 25.3% (n = 64) reported occasionally, 17.4% (n = 44) very often, 14.2% (n = 36) quite often, and it is worth noting that only 7.9% (n = 20) of them had reported very seldom they use computer to retrieve files. In other words, a portion of the participants had taken the initiative to use this technology to retrieve files.

However, with regard to the computer use, their responses to this statement varied with the highest percentage (26.5%; n = 67) given to occasionally, then 22.9% (n = 58) very often, 21.3% (n = 54) constantly, 17% (n = 43) quite often, while the lowest percentage (12.3%; n = 31) was given to the very seldom choice. Also, with regard to IT training, the results, as shown in Table 4.1, indicate that about half (47.8%; n = 121) of the decision makers have had IT training through general courses at college or university. In general, decision-makers' IT training shown in Table 4.1 indicates that the respondents have had, in one way or another, some IT training, which may impact their IT usage.

As far as experience is concerned, it is worth noting that only 12.3% (n = 31) of them had no experience at all, which means this was a moderately experienced population with respect to computer use.

a) What Are the Perceptions of Decision Makers Toward the Use of Computer Technology?

To answer this question descriptive statistics were applied by using Means and Standard Deviations for each item in this domain and total of all items "Perceptions Toward Computer Technology", as presented in Table 4.2.

Table 4.2 : Standard Deviation, Mean, and Rank for Each Item of Perceptions Toward Computer Technology Domain

No.	Item	Mean	Std. Deviation	Rank
1.	I feel that using computer technology could provide me with information that would lead to a better decision.	4.07	0.86	4
2.	I feel that using computer technology allows me to be more innovative by providing opportunities for creative analysis output.	3.88	0.96	6
3.	*I feel that using computer technology can take up too much of my time performing many tasks.	3.47	1.08	7
4.	*I feel that using computer technology would involve too much time doing mechanical operations (e.g. programming, input data) to allow sufficient time for managerial analysis.	2.94	1.11	10
5.	I feel that using computer technology improves my productivity on the job.	4.26	0.81	3
6.	I feel that using computer technology gives me the opportunity to enhance my managerial image.	3.95	0.95	5
7.	I feel that using computer technology allows me to acces s, store, and retrieve information easily and without difficulties.	4.48	0.77	1
8.	*I feel that using computer technology exposes me to vulnerability of computer breakdown and loss of data.	2.96	1.08	9
9.	I feel that using computer technology allows me to be more independent of secretaries.	3.04	1.11	8
10.	I feel that computers are critical organization resources.	4.28	0.80	2
	Overall Mean/ Perceptions Toward Computer Technology	3.73	0.47	

*Note: * Negative Items Reversed.*

Table 4.2 displays the participants' perceptions toward computer technology, and it shows that the overall mean and standard deviation for Perceptions Toward Computer Technology after the negative items were reversed were 3.73 (Std. 0.47). Also means for the questions of ranged from 2.94 (Std.1.11) to 4.48 (Std. 0.77). In general, the data in the table show that the decision makers have favorable or positive perceptions toward computer technology for all 10 items.

b) Description of Decision Makers on Two Main Independent Variables

A description of decision makers on two main independent variables: *First: What Are the Decision-Makers' Perceptions With Regard to Changes in the Accessibility?* Means and standard deviations for each item and the overall mean score for the domain were calculated to answer this question Table 4.3.

Table 4.3 : Standard Deviation, Mean and Rank for Each Item of Changes in the Accessibility of Information Domain

No.	Item	Mean	Std. Deviation	Rank	
1.	I feel that computer technology has made it easier for me to get the information I need.	4.47	0.63	1	
2.	I feel that computer technology has provided the precise information I need.		4.14	0.82	4
3.	I feel that computer technology has provided sufficient information		4.14	0.81	5
4.	I feel that computer technology has provided reports that seem to be just about exactly what I need.	3.99	0.88	7	
5.	I feel that computer technology has provided up-to date information than that available in manual files	4.24	0.87	2	
6.	I feel that computer technology has provided me with the information I need in time	4.14	0.75	6	
7.	I feel that computer technology has made new information available to me which was not previously available.	4.21	0.77	3	
8.	Overall Mean/Changes in the Accessibility and Quality of Information		4.19	0.64	

Table 4.3 shows that the means for questions ranged from 3.99 (Std.0.88) to 4.48 (Std. 0.63); The overall mean score and standard deviation were 4.19 (Std. 0.64) out of 5; this indicates to a high degree that decision makers perceived an improvement in the accessibility of information that they receive due to the use of computer technology.

Second: Decision-Makers' Perceptions With Regard to Changes in Decision-Making Quality? Means and standard deviation for each item and the overall mean score for the domain were calculated to answer this question as shown in Table 4.4.

Table 4.4 : Standard Deviation, Mean and Rank for Each Item of Changes in Decision-Making Quality Domain

No.	Item	Mean	Std. Deviation	Rank
1.	I feel that the use of computer technology has enabled me to make better decisions.	3.75	0.83	5
2.	As a result of the use of computer technology, feel that I am better able to set my priorities in decision making.	3.68	0.91	6

3. I feel that the use of computer technology has improved the quality of decisions I make in this organizations.	3.77	0.80	4
4. As a result of the use of computer technology, I feel that the speed at which I analyze decisions has increased.	3.86	0.83	1
5. As a result of the use of computer technology, I feel that more relevant information has been available to me for decision making.	3.84	0.81	2
6. I feel that computer technology has led me to greater use of analytical aids in my decision making.	3.81	0.83	3
Overall Mean/Changes in Decision-Making Quality	3.78	0.70	

Table 4.4 shows that mean scores ranged from 3.68 (Std.0.91) to 3.86 (Std. 0.83); the overall mean and standard deviation were 3.78 (Std. 0.70) out of 5; this indicates that decision-makers have positive perceptions of the changes in their decisions quality due to the use of computer technology.

c) *The Overall Relationship Between Decision-Makers' Perceptions Toward Computer Technology and Their Perceptions of all Independent Variables as Well as the Characteristics of Decision-Makers*

For the relationships between decision-makers' perceptions toward the use of Computer and their perceptions of each of the variable, a Pearson Product Correlation analysis was used. The Multiple regression analysis was applied as shown in Tables 4.5-4.8.

Table 4.5 : The Result of Correlation Coefficient Between Decision-Makers' Perceptions Toward the Use of Computer Technology in Organizations and Their Perceptions of Independent Variables

Variable	Perceptions	Accessibility	Decision	Training
Perceptions	1.00			
Accessibility	.52**	1.00		
Decision	.52**	.69**	1.00	
Training	.16*	.16**	.16**	1.00
Gender	-.053	-.051	-.115	-.19**
Age	.065	.035	.15*	.28**
Own/home	-.023	-.19**	-.097	-.009
Knowledge	-.011	-.13*	-.18**	-.35**
Education	.057	.13*	.13*	.20**
Country	.045	-.009	.081	.14*
Length in position	.077	.060	.15*	.26**
Experience	-.013	-.056	.003	.028

*Note. ** Correlation is significant at the 0.01 level.*
**. Correlation is significant at the 0.05 level.*

d) A Brief Explaination of the Correlation Matrix of Independent Variables and Perceptions

There was a significant positive relationship (r = .52, $p < .05$) between decision-makers' perceptions toward computer and the perception of changes in the accessibility of information. Another significant positive relationship (r = .52, $p < .05$) between decision-makers' perceptions toward computer and the perception of changes in decision-making quality. Finally, a small positive relationship (r = .16, $p < .05$) existed between decision-makers' perceptions and computer training. All associations were significant at the .05 level and also at the .01 level of significance.

e) Correlation of Individual Attributes and Perceptions

Furthermore, to determine the relationship between decision-makers' perceptions toward the use of computer and the perceptions of the independent variables a multiple regression analysis was used Table 4.6.

Table 4.6 : Regression Analysis Between Decision-Makers' Perceptions Toward the Use of Computer and The Perceptions of the Variables

Variable	Unstandardized (b)	Standardized (b)	t	*p*
Accessibility	.15	.22	2.94	.004
Decision	.12	.19	2.44	.015
Training	.027	.061	1.19	.236

f) Multiple Regressions on Perceptions (Dependent Variable)

Table 4.6 shows, that the decision-makers' perceptions toward computer use was affected by three variables at the 0.05 level of significance. The absolute values of the standardized estimate (b) of these factors from largest to smallest: Changes in the Accessibility of Information (b = .22, t = 2.94, $p < .05$), and Perception of Changes in Decision-Making Quality (b = .19, t = 2.44, $p < .01$). However, Computer Training were not significant predictors of perceptions toward computer technology.

Furthermore, the R Square value represents the strength of relationship between the dependent variable and the independent variables. Table 4.7 shows that R square of 0.366 reflects the overall relationship between the perceptionss toward computer use and the independent variables: Changes in the Accessibility of Information, Changes in Decision-Making Quality and Computer Training, was statistically significant at the 0.01 level (F = 23.628, $p = 0.00$). The 0.350 of adjusted R square, reflecting an overall a relationship of about more than one third (35%) of the variability in perceptions was explained by the independent variables.

Table 4.7 : The Relationship Between Perceptions and Independent Variables

Sources	Sum of Squares	DF	Mean Square	F Value	R Square	Adjusted R Square	*p*
Model	18.285	6	3.048	23.628	.366	.350	0.00
Error	31.729	246	.129				
Total	50.014	252					

g) Overall Model of the Relationship Between Perceptions and Independent Variables

All in all, descriptive analysis has shown that decision makers in Jordanian government organizations are highly satisfied and hold favorable perceptions toward the use of computer technology. They have reported improvement in the accessibility of the information and the quality of the decisions as a result of

using this technology. In addition, based on the above results, one can conclude that the majority of the participants are advanced users of the technology with a high level of knowledge; therefore, their expectations for good information are high.

V. Discussions of the Findings, Recommendations, and Conclusions

a) Decision-Makers' Perceptions Toward Computer Technology

In this study and as predicted, perceptions have a significant effect on the willingness to use the technology. However, findings have shown that participants had positive perceptions toward the use of computer. These perceptions were evident with the overall mean of 3.73 (Std. 0.47) within the perception scale. Based on the findings, the majority of respondents indicated their acceptance and satisfaction with this technology to some degree and their seriousness about using computer technology. Therefore, perceptions toward computer usage which will enhance technology usage and users' satisfaction with the technology. Therefore, users' satisfaction influences technology usage, and technology usage also has an influence on users' satisfaction.

b) Changes in Accessibility of Information and Decision-Making Quality

The majority of participants feel that the use of computer technology in their organizations has improved the quality as well as the accessibility to the information. Likewise, the majority of the decision makers reported that the use of computer technology has made it easier for them to get needed information, has provided precise, sufficient, and up-to-date information, has made new information available, and has provided reports that seem to be just about exactly what they need. To sum up, these results showed that respondents reported high levels of satisfaction in their accessibility and quality of information as a result of using computer technology. One possible explanation for this is that the use of computer technology in Jordanian government organizations has been successful, and the system is effective. The results of the study were consistent with the findings in literature that successful use of computer technology favorably impacts the accessibility and quality of information.

Furthermore, in this study, the overall mean score of 3.78 for decision makers indicated that they positively believed that the use of computer has improved their decision-making quality. The improvement the decision-making quality may be due to their use of computer in their daily job routine. The results are consistent with the findings in the literature.

c) Decision-Makers' Perceptions in Relation to Demographic Characteristics

Based on the findings of this study, the relationships between demographic variables and the perceptions of the decision makers toward computer technology showed negligible (either positive or negative) relationships. Therefore, the high level of education attained by the respondents in this study (79% of them have a bachelor's degree or higher) as well as their relatively low average age (61.7% of them between the age of 30 and 49) may provide a partial explanation for the generally negligible relationships observed. In addition, these findings provide explanations that personal characteristics in adopting new technologies are not as important as people expect.

However, this study proves that computer technology is being used, but not to its full capacity in Jordanian public organizations, even though its advantages and impact are recognized by the majority of the decision makers in these organizations. It seems that the process of innovation will probably take a long time to reach the level of computer use seen in other parts of the world.

d) Recommendations for Policy and Practice

The results indicated that participants generally had positive perceptions toward computer use and experienced substantial improvement in their work performance and productivity through the access to quality information which is important for the overall goal of effective planning of social and economic development, despite the different factors/limitations they had mentioned. Therefore, it is essential for the government of Jordan to sustain and promote decision-makers' perceptions as a requirement for deriving the benefits of this advanced technology. Since positive perceptions toward such technology usually predict future technology use, the government of Jordan (policy-makers) can make use of decision-makers' positive perceptions toward computer technology in order to prepare them to integrate this technology in their daily work practices.

e) Suggestion for Future Research

Since the current study is the first of its kind and in order to produce more knowledge in this area, similar studies are needed with some changes to the setting, population, sampling procedures, or data collection methods utilized in the current study. For example, examining the perceptions of decision makers from different cities. Future research similar to this study should also be conducted in other developing countries.

References Références Referencias

1. Al-Jaghoub, S., & Westrup, C. (2003). Jordan and ICT-led development: towards competition state? *Information Technology & People*, *16*(1), 93-110.

2. Amoretti, F. (2007). International organizations ICTs Policies: E-Democracy and E-Government for political development. *Review of Policy Research*, *24*(4), 331-344.
3. Bertucci, G., & Szeremeta, J. (2006). A mature agenda for e-government development. *Comparative Technology Transfer and Society*, *3*(3), 211-229.
4. Bloomfield, B. P., Coombs, R., Knights, D., & Littler, D. (Eds.). (2000). *Information technology and organizations: Strategies, networks, and integration.* Oxford: Oxford University Press.
5. Danziger, J. N., & Andersen, K. V. (2002). The impacts of information technology on public administration: An analysis of empirical research from the "golden age" of transformation. *International Journal of Public Administration*, *25*(5), 591+.
6. Davison, R. D., Vogel, B. H., & Jones, N. (2000). Technology leapfrogging in developing countries: An inevitable luxury? *The Electronic Journal on Information System in Developing Countries 1*(5), 1-10.
7. Ein-Dor, P., Goodman, S., & Wolcott, P. (1999). The global diffusion of the internet project. The Hashemite Kingdom of Jordan. Retrieved on 02/03/2015 http://mosaic.unomaha.edu/Jordan_1999.pdf.
8. Hanson, J., & Narula, U. (1990). *New communication technologies in developing countries.* Hillsdale, NJ: Lawrence Erlbaum Associates.
9. Heintze, T., & Bretschneider, S. (2000). Information technology and restructuring in public organizations: Does adoption of information technology affect organizational structures, communications, and decision making? *Journal of Public Administration Research and Theory*, *10*(4), 801.
10. Kraemer, K. L., & Dedrick, J. (1997). Computing and public organizations. *Journal of Public Administration Research and Theory*, 7(1), 89+.
11. Kroeber, N. W., & Watson, H. J. (1987). *Computer-based information systems: A management approach.* New York: Macmillan Publishing.
12. Krumwiede, K. R., & Roth, H. P. (1997). Implementing information technology innovations: The activity-based costing example. *SAM Advanced Management Journal*, *62*(4), 4+.
13. Kulchitsky, D. R. (2004). Computerization, knowledge, and information technology initiatives in Jordan. *Administration & Society*, *36*(1), 3-37.
14. Mansell, R. & Wehn, U. (Eds.). (1998). *Knowledge societies: Information technology for sustainable development.* Oxford: Oxford University Press.
15. Rawabdeh, A. A. A. (2007). An e-health trend plan for the Jordanian health care system: A review. *International Journal of Health Care Quality Assurance*, *20*(6), 516-531.
16. Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York: Free Press
17. Rohrmann, B., & Schutz, H. (1993). The evaluation of decision aids. In S. S. Nagel (Ed.), *Computer-aided decision Analysis: Theory and applications.* Westport, CT: Quorum Books.
18. Rosenbloom, D. H., & Goldman, D. D. (1998). *Public administration: Understanding management, politics, and law in the public sector* (4th ed.). New York: McGraw-Hill.
19. Simon, H. A. (1977). What computers mean for man and society. Science, New Series, 195(4283), 1186-1191. *Electronics Issue*. Retrieved on 02/25/2015 from: http://www.jstor.org
20. Simon, H. A. (1990). Information technologies and organizations. *The Accounting Review*, *65*(3), 658-667.
21. Stanton, D. (September 15, 2006). IT by Royal Appointment, arabianbusiness.com. Retrieved on 02/20/2015 from: http://www. Arabian business. com/713
22. United Nations Development Program (UNDP). Building the Capacity of the Government in Implementing the Service Delivery Improvement System. Retrieved on 12/25/2007 from: http://www.undpjordan.org/UNDPinJordan/AboutUNDP/AboutUNDPJordan/tabid/67/Default.aspx
23. United States Agency International Development (USAID). Strategic Statement-Jordan (2007-2011), Public Version. Retrieved on 01/09/2015 from:http://jordan.usaid.gov/upload/keydocs/Strategic%20Statement%20-%20Public%20Version%20-%20May%2022,%202006.doc.
24. Woodrow, J. E. (1992). The influence of programming training on the computer literacy and attitudes of pre-service teachers. *Journal of Research on Computing in Education, 25*(2), 200-218.

This page is intentionally left blank

Global Journal of Management and Business Research: a Administration and Management
Volume 15 Issue 6 Version 1.0 Year 2015
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Organizational Change and Organizational Commitment: An Empirical Study of it Organizations in India

By Kanika Sofat, Dr.(Ms) Ravi Kiran & Dr.Sanjay Kaushik

Thapar University, India

Abstract- *Purpose:* The purpose of present study is mainly to understand organizational change initiatives taken in IT companies under study and to examine employees' perception and their commitment towards their organizations.

Design/methodology: The data was collected from 212 employees in 6 major IT companies in Northern India. The target population of the research included top, middle and junior employees of six major IT companies in Northern India. The questionnaire was used in order to collect the primary data. The stratified random sampling technique was used to choose the respondents. A structured questionnaire comprising of two sections was distributed to 1000 employees. A total of 212 questionnaires were collected with final responses.

Keywords: *organizational change, organizational change initiatives, organization commitment, it companies.*

GJMBR - A Classification : *JELCode : D23*

Strictly as per the compliance and regulations of:

Organizational Change and Organizational Commitment: An Empirical Study of it Organizations in India

Kanika Sofat [α], Dr. (Ms) Ravi Kiran [σ] & Dr. Sanjay Kaushik [ρ]

Abstract- ***Purpose:*** The purpose of present study is mainly to understand organizational change initiatives taken in IT companies under study and to examine employees' perception and their commitment towards their organizations.

Design/methodology: The data was collected from 212 employees in 6 major IT companies in Northern India. The target population of the research included top, middle and junior employees of six major IT companies in Northern India. The questionnaire was used in order to collect the primary data. The stratified random sampling technique was used to choose the respondents. A structured questionnaire comprising of two sections was distributed to 1000 employees. A total of 212 questionnaires were collected with final responses.

Findings: The correlation analysis was used and it was found that initiatives taken during organizational change were correlated significantly to organization commitment. Through Regression analysis it was found that there is a positive relationship between the perception of employees regarding appropriateness of reasons and manner in which Organizational change initiatives are taken in the IT companies under study and the commitment. The study also examines the methods used by managers to implement and manage change initiatives and the organizational commitment in the IT companies under study

Originality/value (mandatory): The paper offers an in depth analysis of the perspective of employees regarding organizational change initiatives in the few selected IT companies in Northern India. The research is original and will add value to the policy makers & managers to understand the importance of management of organizational change in order to make it successful.

Keywords: organizational change, organizational change initiatives, organization commitment, it companies.

I. Organizational Change

Change is inevitable in an organization. In wide term '*change*' is used to refer to a system of discrete episodic changes that happen in one or more organizational domain like people, structure, and technology (Romanelli & Tushman, 1994). These types of changes occurring in the organization have a tendency to be formal, planned, and goal directed in nature. Organizational change is defined as the adoption of a new idea or behavior by an organization (Draft, 2005[b]). The organizations as a result focus on actively managing the processes and outcomes associated with the change (Pettigrew, Woodman, & Cameron, 2001), (Alvesson, 2002).

Management within organizations is experiencing a lot of internal as well as external pressures for organizational change to occur. The external pressures triggering the change mainly include government laws and regulations, production and process, market place, labor markets technology, political & social events and also the Internationalization of business (Pfeffer, 1994). The internal factors which are present and generate change from within the organization includes internal business policies, employment policies, administrative processes and people problems (Lunenburg, 2010).

One of the most important and dramatic element of change for today's organization is the shift to a technology driven workplace and an emphasis on information and relationships. The discipline of change management deals primarily with the human aspect of change, and as a result is related to pure and industrial psychology. The organizational change is an iterative and complex process with unintended or intended outcome. The management of organizational change has become the leading concern for the managers so as to make the change program successful It is important for the industries to engage the employees in training and provide more work flexibility.

Kotter (1995) describes eight step helpful models for understanding and managing change summarized as: Increase urgency, Build the guiding team, Get the vision right, Communicate for buy-in, Empower action, Create short-term wins, don't let up and Make change stick. The keys for successful change management include thinking holistically to understand all of the change implications, focusing on the critical success factors that facilitate implementations and striving to be equal partners with business implementing

Author α: Research Scholar School of Humanities and Social Sciences, Thapar University. Patiala-147004 (Punjab) India. e-mail: kanikasofat@gmail.com
Author σ: Professor and Former Head School of Humanities and Social Sciences, Professor In Charge, Alumni Relations Thapar University. Patiala-147004 (Punjab) India. e-mail: rkiran@thapar.edu, kiranravee@gmail.com
Author ρ: Professor University Business School Panjab University Chandigarh. e-mail: sanjaykaushik.ubs@gmail.com

change (Bechtel & Squires, 2001), (Beckhard,1969), (Brown, 2005).

According to Nilakant & Ramnarayan (2003) there are various organizational characteristics or features important for a change process in an organization and are identified as Organizational Change Levers. It answers the most important aspect of organizational change that is 'What to Change?'. In order to bring about change in an organization the managers should pay attention on four primary/content areas which are Technology, Marketing, Quality and cost. Any changes in these four content areas will be accomplished by change in the structure, strategy and HRM practices known as the contextual areas or the context for change. The change encountered in these contextual areas will lead long-term and permanent change in the organization. The context for change will also result in facilitating change in the four content areas. The Leadership change lever/area is the most important and the foundation on which change is built. It is as a result also known as the primary driver of change. The organizational change hence driven by right kind of values & leadership is known as value based leadership. These together constitute the eight levers crucial for a change process which are Technology, Marketing, Quality, Cost, Strategy, Structure, Managing People and Leadership. These 8 levers are interrelated dimensions of change.

The leadership and changes in employees are the primary change drivers. The leaders change related actions towards the implementation of change initiatives should also be clearly well-known. These actions further include celebrating or recognizing positive outcomes etc and the effect of drivers varies depending on the characteristics of the change initiatives like first order versus second order change initiatives. In instances of large scale change the efficient and effective use of resources should be done (Whelan-Berry & Somerville, 2010), (Whelan Berry & Alexander,2005)

The organizational change affects the commitment by raising the individual work productivity and attachment to organization particularly of the skilled workers especially in IT sector (Bresnahan, Brynjolfsson, & Hitt, 2002), .The organizational as a result to make the change program successful, need to manage the change initiatives properly in order to raise the commitment of the employees. The reason is that the skilled workers are more receptive to retain, more autonomous, more able to handle the information, resulting in affecting the organizational change & the commitment. The current study hence focuses on the organizational commitment of the IT workers resulting out of the organizational change.

a) Organization Commitment

Organizational commitment is the employee's psychological attachment to the organization. It can be contrasted with other work-related attitudes, such as job satisfaction, defined as an employee's feelings about their job, and organizational identification, defined as the degree to which an employee experiences a 'sense of oneness' with their organization. (O' Reilly & Chatman, 1986).

The three-component model of commitment by Meyer and Allen's (1990), prior research indicated that there are three "mind sets" which can characterize an employee's commitment to the organization. The "Affective Commitment" is defined as the employee's positive emotional attachment to the organization. An employee who is affectively committed strongly identifies with the goals of the organization and desires to remain a part of the organization. This employee commits to the organization because he/she "wants to". "Continuance Commitment" which is the individual commits to the organization because he/she perceives high costs of losing organizational membership including economic costs (such as pension accruals) and social costs (friendship ties with co-workers) that would be incurred. The employee remains a member of the organization because he/she "has to". "Normative Commitment" is the individual commitment to and remains with an organization because of feelings of obligation. These feelings may derive from many sources. The commitment of employees towards the organization is influenced by factors like organizational change, rewards, relationship with superiors and co-workers, conflicts, efficiency etc.

The employees spend major part of their time in organization so there are number of organizational factors that determine employee commitment (Bashir & Ramay, 2008). The employee commitment can be increased by organising and managing the organizational factors, which are wages and salary, nature of work, working environment conditions, job satisfaction, job content and opportunities for rewards & promotion (Altindis, 2011).

The commitment to change is very important in an organization because it is a force that helps to unite an individual to a course of action deemed necessary for the successful implementation of a change initiative". This commitment to change within the employee helps to support and make use of change effectively (Herscovitch & Meyer, 2002).

II. Review of Literature

a) Studies on Organization Change

Carnell (1986) defined the Organization Change as an attempt or series of attempts to modify an organization's structure, goals, technology or work task. According to Weich & Quinn (1999) change always starts with failures to adapt and that change never starts because it never stops. Hultman (2007) in his research emphasized that the causes for change are often driven

by variables that can't be controlled, such as the wants and needs of customers, investor expectations, the economy, global competition, etc.

Wallace (2006) in his research highlighted that employees have become the key differentiator, as well as the driving force behind the success and ability to accept change. For long-term success there is a need to successfully train and develop employees for results on research conducted on senior executives The culture of an organization is the key to successful positive organizational change effort (Bushey, 1999). According to Vadi (2006) there is a need to understand influence of organizational culture on attitude towards change and learning in society under transition. Culture is important in an organization to stimulate change.

Judson (1991) proposed a linear, staged model for implementing a change in the organization: (a) analyzing and planning the change; (b) communicating the change; (c) gaining acceptance of new behaviors; (d) changing from the status quo to a desired state, and (e) consolidating and institutionalizing the new states.

Pettigrew & Whipp (2013) emphasized the continuous interplay between the three strategic change dimensions, i.e., Content (objectives, purpose and goals)- what, process (implementation)- how and context (internal and external environment)-where the implementation of change according to them is an iterative, cumulative and reformulation in use process.

Chapman (2002) stated in his study that there is a framework for planning change processes that are transformational in nature which is structured around three core issues in organizational change management that are the nature of organizations and what constitutes an improvement to them, appropriate strategies for levering change and change agent roles.

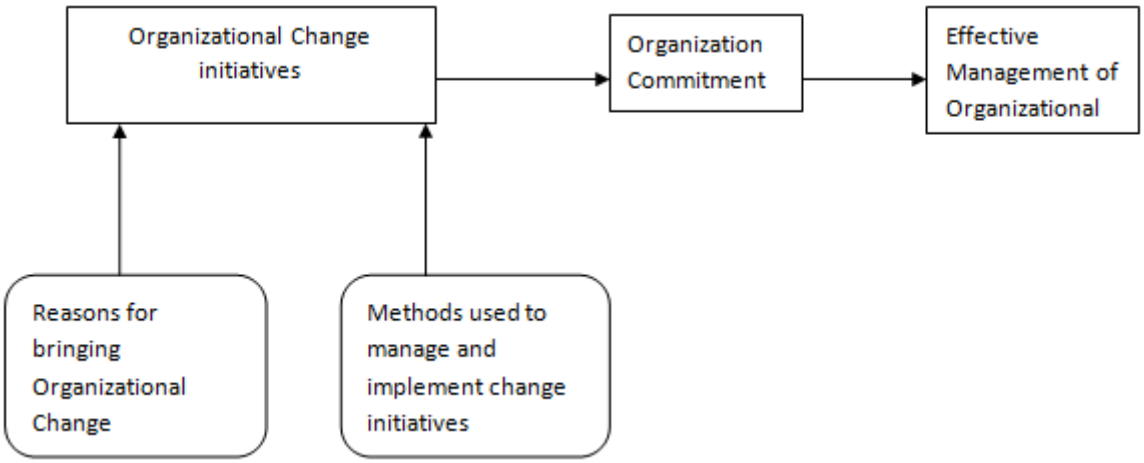
Benchmarking is the tool for change management which helps all organizations to be more effective in managing the change process (Clarke & Manton, 1997). It can be used at a number of levels within an organization in contrast to other tools, which are more useful at either a strategic level or an operational level within an organization.

According to research done by Smith (2002) in organizations the rate of failure varies by the type of change and the management of change, which stays relatively high especially with large scale change. There are Seven communication reasons organizations do not change are: Insufficient communication, Local identification, Global distrust, Lack of productive humor, Poor interpersonal communication skills, Conflict avoidance and An inappropriate mix of loose and tight coupling (Salem and Philip, 2008). The organizations need to focus on them to make the change process successful and reduce resistance to change (Rastogi & Rastogi, 2011).

b) Studies on Organization Commitment and Organizational Change

Stuart (1996) and Lamsa & Savolainem (2000) in their research emphasized that organizational change can have negative consequences on the employees such as low morale, stress, loss of direction, anxiety, lack of loyalty and commitment. The employees with higher commitment have positive outcome like increase in job satisfaction level, motivation and regularity in work (Benette & Durkin, 2000). If the employees lack commitment it will lead to increase in absenteeism and affecting labor turnover. The committed employees will hence ease stress during organizational change process and will understand and cope with change so as to make it successful (Robbin & Langton, 2001). The committed employees further help in the improvement of quality and client centeredness, improvement of organizational communication and a larger willingness to accept change (Wim J. & Gijs, 1998).The managers in the organizations should create relationship, commitment, trust and satisfaction among employees to make change initiatives successful(Parish, Wallander, & Bush, 2008). The leadership behavior present in an organization is also significantly associated with the commitment of employees .The previous studies suggest that the way change initiatives are managed and perceived during change impacts the commitment of employees involved in it(Caldwell, Herold, & Fedor, 2004); (C & C.,2000); (Gulledge, Hill, & Sibley, 1995); (Judge, Thoresen, Pucik & Welbourne, 1999); (Vakola & Nikalaou, 2005).

III. Research Model



a) Significance of the Study

The present study focuses on organizational change initiatives taken in IT companies under study and to examine employees' perception and the commitment of employees towards their organization. The study will also help the managers to understand how organizations should manage change initiatives taken during the change process. The study also helps to understand reasons for bringing organizational change and the management of organizational change. It also helps to examine the various methods used by managers to implement and manage change initiatives in IT companies under study. The study further helps to understand the need and importance of organizational commitment to make change program successful. This will help to increase knowledge about most effective ways of managing change.

b) Objective of the study

The objectives of the research are framed as:

- To study the change initiatives taken by IT companies under study
- To study the perception of employees regarding how these change initiatives were managed in the IT companies under study.
- To study the organization commitment of employees in the IT companies under study.
- To explore the reasons for bringing organizational change in the IT companies under study.
- To explore the relationship and impact between perceptions of employees regarding how these change initiatives were managed and organization commitment in IT companies under study.

c) Hypothesis

The following Hypothesis was formulated for the study:

H_1: There is an association between the perception of employees regarding appropriateness of Organization Change initiatives taken during the process and Organization Commitment.

H_2: There is an impact between the perception of employees regarding the manner in which organizational change initiatives are managed in during organization change and organization commitment.

H_3: Technology is the most important area in which changes have been brought in the IT companies under study.

H_4: "Increase effectiveness of organization" is the most important reason for bringing change in the IT companies under study.

H_5: "Providing motivation for change to the employees" is used as a method to implement and manage organizational change effectively in the IT companies.

IV. Methodology

a) Scope of the study

The current research was dedicated to assess organizational change and commitment of employees in the IT companies of Northern India. The study is dedicated to the top middle and lower level employees of the IT companies. Data was collected through multi stage sampling. In the first stage to select the IT companies, the companies having maximum revenue generation and employee number were selected for the study. The NASSCOM website was used to select the companies. The units of these companies which were situated in Northern India were selected. In the second stage, stratified random sampling was used to select the employees from top, middle and junior level totaling the 6 major IT companies and sample size of 400 employees.

b) Data Collection

The authors have individually collected the data from the respondents and at least one author was present during data collection process. The data was collected personally to understand the change initiatives

in the Indian IT companies and the observations were recorded carefully. The data was collected from 212 employees in 6 major IT companies in Northern India. The target population of the research included top, middle and junior employees of six major IT companies in Northern India. The questionnaire was used in order to collect the primary data. The stratified random sampling technique was used to choose the respondents. A structured questionnaire comprising of two sections was distributed to 1000 employees. A total of 212 questionnaires were collected with final responses.

c) Measures

The questionnaire was prepared for the managerial employees in the IT companies under study, to study the organizational change and commitment of these employees. The questionnaire started with information relating to demographic profile of the respondents i.e. age, qualification, gender, marital status, experience in the present organization and total work and the level of management in the present organizations. The second part of the questionnaire comprised of two sections: the first part was used to understand the organizational change initiatives. The second section was used to understand the organizational commitment by Allen and Meyer. The first part of the questionnaire was prepared by Malhotra and Kaur (2007) and it included the organization change initiatives like reasons to bring organization change and methods used by managers to implement & manage change initiatives as part of the complete change process.. The second part was of Organizational commitment and was developed by Meyer & Allen (1997) had developed a three-component model of commitment and labeled them as affective, continuance, and normative commitment, which are distinguishable from each other and these were considered. The demographic information of the respondents was also collected. The above mentioned variables used 5 point Likert type scale anchored with Strongly Agree(5) and Strongly Disagree(1). The authors have individually collected the data from the respondents and at least one author was always present during data collection from the employees. The discussions with various levels of management helped to provide a better view of the organizational change initiatives in IT companies under study. The employees having work experience more than 4 years were considered for the research

d) Data Analysis

The research of the IT industry was broadly covered into two section: descriptive and inferential. The demographic analysis included percentage and frequencies, which was used to present the main characteristics of the study. The mean and standard deviation was calculated to present the description of overall sample.

In general, the male respondents were more than the female respondents. Specifically, the male respondents contribute 69.5% of the total participated employees and 30.5 were female respondents. Out of all the respondents, 57.3% were married, 25.6% were unmarried, 1.2% was single and 15.9% gave no response. The socio- economic background of the employees was mostly urban and semi urban. Specifically, 9.8% were from rural, 43.9% were from semi- urban, 45.1% from urban, 1.2% gave no response. The qualification of employees were asked and it was found that 46.3% were graduated, 43.9% were post graduated, 6.1% were professionals of some field and 3.7% gave no response. Among the respondents, the 19.5% were junior level employees, 59.8% were middle level employees, 13.4% were senior level employees.

e) Reliability Analysis

The reliability of the data was calculated and checked by performing Cronbach's test. Here, the values of alpha for all the variables came out to be greater than 0.07. The values are given in the table 1. The sample data was found to be reliable.

Table1 : Reliability Analysis

Items	Number of Items	Cronbach's Alpha
1. Organizational Change	204	0.993
2. Organizational Commitment	30	0.799

The content validity of the instruments was ensured through an examination from the experts i.e. the academicians and the practitioners in the field. The instruments were than finalized and used for further analysis.

f) Correlation Analysis

The association between perception of employees regarding appropriateness of Organizational Change initiatives taken during the process and organization commitment of employees was examined using Pearson correlation test.

Table 2 : Correlation Analysis

Correlation Analysis		
	1	2
1. Organizational Change	-	0.729
2. Organizational Commitment	0.729	-

****Correlation significant at 0.001 level*

The association between perception of employees regarding appropriateness of reasons and manner in which Organizational Change initiatives taken during the process and organization commitment of employees was found to be significant and positive (Moderate correlation= 0.729) at 0.05 level of

significance. Hence we accept the hypothesis H_1. We can further draw the inference that respondents perceive organizational change initiatives ultimately leads to increase in the organizational commitment level in the IT companies under study.

g) Regression

To explore the relationship between perception of employees regarding appropriateness regarding the reasons & manner in which Organizational Change initiatives were taken and Organizational Commitment in IT companies under study. The reasons and methods to manage and implement change were taken as independent variables in the study. The organizational commitment of the employees in selected IT companies is used as a dependent variable.

The mathematical representation of the research model for the above relationship is displayed as:

$\gamma = \alpha x + b + \text{error term}$

Where γ = overall Organizational Commitment

x= Reasons and manner of Organizational Change initiatives

b= coefficients of factors of organizational change initiatives

The relationship between perception of employees regarding the appropriateness of the reasons & manner in which Organizational Change initiatives and Organizational Commitment was first investigated using Pearson Correlation. The preliminary analysis revealed that all associations were found to be significant at 95 percent level, with a positive association between reasons and manner in which Organizational Change initiatives were taken and Organizational Commitment.($r = 0.729$, $p<0.05$).

From the co-relational table it can be seen that there is moderate positive correlation among factors of Organizational Change initiatives and Organizational Commitment.

Table 3 : Regression Model Summary: Organizational Change Initiatives and Organizational Commitment

MODEL	R	R^2	ADJUSTED R^2	Std Error Of Estimation
1	0.491	0.241	0.212	0.373

**significant at 0.01 level*

1. Independent variable: Organizational Change initiatives
2. Dependent Variable: Organizational Commitment
3. R^2 refers to the coefficient of determination that measures the proportion of the variance in the dependent variable that is explained by the independent variable.

The model summary table 3 reports the strength of the relationship between Organizational Change Initiatives (Independent Variable) and Organizational Commitment (Dependent Variable). The table displays R, R^2 and adjusted R^2 and the standard error of the estimation R. it can be seen that the regression explained as 21.2% of the variance in the organizational commitment level of employees of the IT companies under study. Hence we accept hypothesis H_2.

Table 4 : Anova Table

	Sum Of Squares	Df	Mean Square	F	Significance
Regression	3.505	8	0.438	8.075	0.000
Residual	11.014	203	0.054		
Total	14.519	211			

Table 3 above summarizes the results of analysis of analysis of variance. The sum of squares, degrees of freedom and Mean Square are displayed for two sources of variation, regression and residual is displayed in the table. The significant value of F statistic is less than 0.05 which means that the variation explained by the model is not by chance.

V. Perception of Employees as per the Level of Managerial Hierarchy

The significance of the difference among the sample means was tested using ANOVA (analysis of variance). This is done by F-test for testing the significance of the difference of one measure in the IT companies' understudy. The results of the analysis through this test have been explained below:

Table 5 : Employees perception with regard to areas in which changes have been brought in the IT companies under study

Areas in which changes have been brought in the IT companies under study									
Level/Area		Technology	Marketing	Quality	Cost	Strategy	Structure	Managing People	Leadership
Higher	Mean	3.73	3.73	3.64	3.82	3.64	4.00	3.45	.751
	S.D	.786	.786	.505	.603	.809	.632	.820	.226
Middle	Mean	3.84	3.38	3.38	3.47	3.31	3.11	3.47	1.067
	S.D	1.032	1.063	1.080	.932	1.163	1.086	.920	.144
Junior	Mean	4.44	4.19	3.69	3.88	3.94	3.94	4.13	.998
	S.D	.727	.834	1.014	.719	.854	.998	.719	.249
Total	Mean	3.94	3.59	3.48	3.60	3.48	3.40	3.60	3.32
	S.D	.973	1.030	1.009	.866	1.085	1.086	.901	1.053
	F value	2.783	4.225	.725	1.773	2.228	6.208	3.631	3.683
	p-value(sig)	0.068	0.018**	0.487	0.177	0.115	0.003	0.031*	0.030*

0.05 is at 5%level of significance*

*0.01** is at 1%level of significance*

*0.001*** is at 0.1% level of significance*

From the table 5, we can see that the probability of areas technology, quality, cost, strategy is more than 0.05. The values are non significant at 5 % level of significance. The inference is that there is no significant difference in the perception of respondents regarding the changes which have come in different areas except in Structure, marketing, managing people and leadership.

It can also be inferred that the employees in the IT companies perceive that the most important area in which change has occurred in the IT companies under study is Technology. Hence hypothesis H_3 is accepted.

Table 6 : Employees perception with regard to the reasons for bringing about organizational change in the IT companies under study

Reasons for bringing about organizational change						
Level/Reason		Increase effectiveness of organization	Ensure the survival of organization	Cut cost	Change the image of organization	Overcome fierce competition
Higher	Mean	3.5455	4.0000	3.3636	3.3636	3.9091
	S.D	1.36848	1.00000	1.12006	1.36182	1.04447
Middle	Mean	3.7925	3.6182	3.4182	3.1636	3.2364
	S.D	1.14956	1.19398	.91674	1.13470	1.20129
Junior	Mean	4.1250	4.3125	3.8750	4.3125	4.3125
	S.D	.95743	.87321	1.02470	1.13835	.94648
Total	Mean	3.8250	3.8049	3.5000	3.4146	3.5366
	S.D	1.14488	1.13789	.97183	1.23679	1.20897
	F value	3.157	4.215	2.925	.742	6.864
	p-value(sig)	.019**	0. 004***	0.026*	0.566	0.001**

0.05 is at 5%level of significance*

*0.01** is at 1%level of significance*

*0.001*** is at 0.1% level of significance*

From the table 6, it can be inferred that the probability of perception of respondents regarding the reason for bringing about change in the IT companies is $\geq$ 0.05 at 5% level of significance is in "to change the image of the organization". In others reasons $p < 0.05$. The inference is that there is a significant difference in perception of respondents. There exists a significant difference between the perceptions of respondents regarding the reasons for bringing about organizational change in the IT companies under study.

It can also be inferred from the table that the employees in the IT companies under study perceive

that the most important reason to bring change in the IT companies under study is to increase the effectiveness of the organization. Hence we accept the hypothesis H_4.

Table 7 : Employees perception with regard to methods used by managers to implement & manage change initiatives in IT companies under study

		Methods used by managers to implement & manage change initiatives					
Level	Reason	Providing Education and Training	Leadership support and encouragement	Encouraging risk taking and support	Providing motivation for change	Developing new competencies and skills in people	Involvement & participation of people
Higher	Mean	3.9091	3.6364	3.8182	3.4545	3.8182	3.8182
	S.D	.70065	1.02691	.98165	.82020	.87386	.75076
Middle	Mean	3.5091	3.2545	3.1091	3.2545	3.3818	3.3273
	S.D	.97890	1.09237	1.08308	.82143	.95240	1.05505
Junior	Mean	3.8750	3.6250	3.3125	3.7500	3.7500	3.5625
	S.D	1.02470	.95743	1.19548	1.12546	.93095	1.09354
Total	Mean	3.6341	3.3780	3.2439	3.3780	3.5122	3.4390
	S.D	.96241	1.06156	1.10622	.89774	.94600	1.03157
	F value	2.933	2.605	3.345	3.356	3.216	1.763
	p-value(sig)	.039*	.042*	.014**	.023*	.017**	.161

0.05 is at 5%level of significance*

*0.01** is at 1%level of significance*

*0.001*** is at 0.1% level of significance*

From table 7 it can be inferred that the probability of perception of respondents regarding the method used to implement & manage these change initiatives in IT companies under study is ≥ 0.05 at 5% level of significance in "involvement & participation of people". Whereas in other methods the $p<0.05$. The inference is that there is a significant difference in perception of respondents regarding various methods used to implement and manage the change initiatives in the IT companies under study.

It can further be inferred that the employees in the IT companies under study perceive that the most important measure used to implement and manage the change initiatives in IT companies under study is providing education and training to the employees. Hence we accept hypothesis H_5.

VI. Hypotheses Testing

From the analysis, we infer that association between the perception of employees regarding appropriateness of Organization Change initiatives taken during the process and Organization Commitment. Hence we accept the hypotheses H_1. The study also supports the hypotheses H_2 i.e. there is an impact between the perception of employees regarding the manner in which organizational change initiatives are managed in during organization change and organization commitment. the study supports all the hypotheses i.e. H_3, H_4 and H_5. The hypotheses H_3 state that technology is the most important area in which changes have been brought in the IT companies under study. The hypotheses H_4 stating that the most important reason for bringing change in the IT companies under study is Increase effectiveness of organization was also accepted. The last hypotheses H_5: stating that the most important "method used to implement and manage organizational change effectively in the IT companies is providing motivation for change to the employees" was also accepted. Thus, the findings support the results of previous studies Olson, 1992; Gulledge, Hill, & Sibley, 1995; Waldersee & Eagelson, 2002; Fedor, Caldwell, & Herold, 2006; Vakola & Nikolaou, 2005; Sofat & Kiran, 2014 and Dordevic, 2004.

VII. Conclusions

The IT sector in India is currently thriving with changing global competition. To survive in the competitive era the organizations have to understand the importance of organization change, productivity and

its impact on important factors like organization commitment. The main aim of the paper was to study different change initiatives taken in organizational change and its impact on organization commitment. The organization change has two important aspects first is the 'content of change' i.e. 'what needs to be changed' and second aspect is related to process i.e. 'way in which change is introduced and managed'.

The study was done to understand organizational change initiatives in detail. The various aspects related to change i.e. reasons for bringing organizational change and methods used by managers. The impact of organization change on the organization commitment was also studied.

The areas in which change have been brought in the IT companies under study were technology, quality, cost, strategy, managing people and leadership. The most important organizational change lever noted was 'Technology' in IT companies under study. The least important change levers noticed were 'marketing', 'structure', 'managing people' and 'leadership' . Hence the perception of employees regarding the areas in which organizational change has occurred in the IT companies is more or less similar. There is no significant difference between the perception of employees regarding the areas in which change have been brought about in the IT companies except in marketing, structure, managing people and leadership.

The study also showed that to implement & manage these change initiatives in the IT companies under study education and training was provided and leadership support was encouraged among the employees. The employees were further encouraged to take risk, provide motivation for change and develop new competencies and skills. The employees also perceived that it was important to make the involvement & participation of people in organization in the change process. There was no significant difference between the perceptions of respondents.

The findings from the correlation and regression analysis state that the appropriateness regarding the reasons and manner in which organization change initiatives were taken and managed in the IT companies under study have a positive association with organization commitment. Hence from the findings it can be concluded finally that the management in order to make change management initiatives successful should focus on the reasons for bringing about the above written organisation change and the ways to manage & implement change. The impact of organizational change initiatives on the organization commitment should be managed properly so as to increase the commitment of the employees and make the change process a success. Managers or change agents focus on various change activities in order to bring change effectively in an organization. The organizations undergoing change should manage the change initiatives properly in order to raise the productivity and commitment of the employees in order to make the change program successful.

VIII. Implications, Limitations and Suggestions for Future Work

Organizations today factions' main issues like, what do people want? Why do change interventions succeed or fail? There is sparse literature available on assessing the outcome of change in banking sector. For managers, the major issue in organizations today is to deal with reasons and factors that initiate organizations change and the processes characterizing change initiatives and also the steps taken to manage these change initiatives. As a result an in depth study is required to understand organizational change initiatives, and its impact on the organizations. Not many studies are undertaken to examine the impact of change in various sector in India and the commitment among employees towards their organizations before and after change has been introduced. Hence future study should focus on the study of organizational change initiatives and its impact on organizational commitment or job satisfaction in various industries. The impact of organizational change initiatives on the organization commitment post and pre change initiatives can also be studied for future work.

Bibliography

1. Altindis, S. (2011). Job motivation and organizational commitment among the health professionals: A questionnaire survey. *African Journal of Business Management Vol. 5(21)* , 8601-8609.
2. Alvesson, M. (2002). Understanding Organizational Culture. *London:Sage Publications,Ltd* .
3. Bashir, S., & Ramay, M. I. (2008). Determinants of Organizational Commitment A Study of Information Technology Professionals in Pakistan. *Institute of Behavioral and Applied Management.* , 226-238.
4. Bechtel, R. L., & Squires, J. K. (2001). Tools and techniques to facilitate change. *Industrial and Commercial Training, Vol. 33 Iss: 7* , 249 - 255.
5. Beckhard, R. (1969). *Organization Development: Strategies and Models.* Reading: Addison-Wesley.
6. Benette, H., & Durkin, M. (2000). The effect of organizational change on employee psychological attachment:An exploratory Study. Journal of Managerial Psychology Vol.15 , 126-147.
7. Black, S., & Lynch, L. (2001). 'How to Compete. The impact of Workplace Practices and Information Technology on Productivity. *Review of Economics and Statistics, Vol.83, Issue:3* , 434-445.
8. Bramley, P. (1989). *Effective Training.* West Yorkshire: MCB University Press.

9. Bresnahan, T., Brynjolfsson, E., & Hitt, L. (2002). Information Technology, workplace organization and the demand for skilled labour: firm level evidence. *Quarterly Journal of Economics, Vol.117, Iss. 1* , 339-376.
10. Brown, A. D. (2005). Narrative, identity and change: a case study of Laskarina Holidays. *Journal of Organizational Change Management, Aug 2005, Volume 18* , 312-326.
11. Bushey, B. (1999). *A Model For Organizational Change In The Duluth Fire Department.* Duluth, Minnesota: An applied research project submitted to the National Fire Academy as part of the Executive Fire Officer Program.
12. C, H., & C., L. (2000). Moderating effects of organizational based self-esteem on organization uncertainty: Employee response relationships. Journal of Management, Vol. 26, 215-232.
13. Caldwell, S., Herold, D., & Fedor, D. (2004). Towards an understanding of the relationships between organizational change, individual differences and changes in person-environment fit: A cross level study. Journal of Applied Psychology, Vol. 89, 868-882.
14. Carnall, C. (2003). *Managing Change in Organizations, 4th edn.* Harlow: Prentice Hall.
15. Caroli, E., & Van Reenen, J. (2001). Skill Biased Organisational Change? Evidence from British and French Establishments. *Quarterly Journal of Economics* , 1449-1492.
16. Chapman, J. A. (2002). A framework for transformational change in organisations. *Leadership & Organization Development Journal Vol. 23 Iss: 1* , 16 - 25.
17. Clarke, A., & Manton, S. (1997). A benchmarking tool for change management. *Business Process Management Journal, Vol. 3 Iss: 3* , 248 - 255.
18. Crespi, Criscuolo, G. C., & Haskel, J. (2007). Information Technology, Organisational Change and Productivity Growth: Evidence from UK Firms. *CEP Discussion Paper*, (p. 783).
19. Daft, R. L. (2005). Types of Planned Change. In R. L. Daft, *Management Sixth Edition* (p. 387). Chennai: Thoman South Western.
20. Dordevic, B. (2004). EMPLOYEE COMMITMENT IN TIMES OF RADICAL
21. Gulledge, T. R., Hill, D. H., & Sibley, E. H. (1995). *Public sector reengineering: applying lessons learned in the private sector to U.S. Department of Defence.* Harrisburg, PA: Idea Group Publishing.
22. Herscovitch, L., & Meyer, J. (2002). Commitment to organizational change: extension of a three-component model. *Journal of Applied Psychology* , 474-487.
23. Hultman, K. (2007). Are Your OD Efforts Change-Driven or Values-Driven? *Values Driven Change: Strategies and Tools for Long-Term Success.*
24. Judge, T., Thoresen, C., Pucik, V., & Welbourne, T. (1999). Managerial coping with organizational change: A dispositional perspective. Journal of Applied Psychology, Vol. 84 , 107-122.
25. Judson, A. (1991). *Changing Behaviour in organizations: Minimizing Resistance To Change.* Blackwell Pub; Rev Sub edition (June 1991).
26. Kaur, G. (2007). A Study Of Organizational Change and its Impact on Employee Job Satisfaction and Customer Satisfaction in a Few Selected Public Sector IT companies in and around Chnadigarh. Chandigarh, India.
27. Kotter, J. (1995). *Leading Change.* Boston: Harward Business School Press.
28. Lamsa, A.-M., & Savolainem. (2000). The nature of managerial commitment to Strategic Change. Leadership & Organization Development Journal, Vol.21, Issue:6 , 297-306.
29. Lunenburg, F. (2010). Approaches to Managing Organizational Change. INTERNATIONAL JOURNAL OF SCHOLARLY ACADEMIC INTELLECTUAL DIVERSITY VOLUME 12, NUMBER 1, 2010 , 1-10.
30. Meyer, J. P., & Herscovitch, L. (2001). Commitment in the workplace: Toward a general model. Human Resource Management Review, Vol. 11, , 299–326.
31. Meyer, J., & Allen, N. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology, Vol. 63.*
32. Mowday, R. T. (1996). Reflections on the study and relevance of organizational commitment. *Human Resource Management Review Volume 8, Issue 4* , 387-401.
33. Nilakant, V., & Ramnarayan, S. (2003). Managing Organizational Change. In V. Nilakant, & S. Ramnarayan, *Managing Organizational Change* (pp. 148-203). New Delhi: Response Books.
34. Noble, C., & Mokwa, M. (1999). Implementing Marketing Strategies: Developing and Testing a Managerial Theory. *Journal of Marketing, Vol. 63, No. 4,* , 57-73.
35. O'Reilly, C. A., & Chatman, J. (1986). Organizational-commitment; Helping-behavior; Social-compliance; Affiliation-Psychology; Dependency- Psychology. *Journal of Applied Psychology* , 492-499.
36. Parish, J. T., Wallander, S. C., & Bush, P. (2008). Want To, Need to, Ought to: employee commitment to organizational change. Journal of Organizational Change Management, Vol. 21, Issue:1 , 32-52.
37. Pettigrew, & Whipp. (2013). *Value Based Management.* Retrieved january 26, 2013, from valuebasedmanagement.net: http://www.valuebasedmanagement.net
38. Pettigrew, A., Woodman, R., & Cameron, K. (2001). Studying Organizational Change and Development:

Challenges for Future Research. *Academy of Management Journal, Vol. 44, No.4* , 697-713.
39. Pettit, T., Donohue, R., & Cieri De, H. (2004). Career stage, organizational commitment and corganizational citizenship behavior. *Department of management working paper series ISSN 1327-5216* , 1-9.
40. Pfeffer, J. (1994). Competitive advantage through people . . *Boston : Harvard Business School Press .*
41. Rastogi, I., & Rastogi, S. (2011). Role of HR in Change Management. *Asian Journal of Management Research* , 98-113.
42. Romanelli, E., & Tushman, M. (1994). Transformation as Punctuated Equilibrium: An Empirical Test. *Organizational Academy of Management Journal* , 1141-1166.
43. Robbin, S., & Langton, N. (2001). Organizational Behavior: Concepts, Controversies and Applications, 2nd ed. Toranto: Prentice Hall Inc.
44. Romanelli, E., & Tushman, M. (1994). Transformation as Punctuated Equilibrium: An Empirical Test. *Organizational Academy of Management Journal* , 1141-1166.
45. Salem, & Philip. (2008). The Seven Communication Reasons Organizations Do Not Change. *Corporate Communication: An International Journal Vol. 13 No.3* , 333-348.
46. Shirbagi, N. (June 2007). Exploring Organizational Commitment and Leadership Frames within Indian and Iranian Higher Education Institutions . *Bulletin of Education & Research, Vol. 29, No. 1* , 17-32.
47. Smith, M. (Janurary 2002). Success rates for different types of Organizational Change. *Performance Improvement Vol. 44, No.1* .
48. Stuart, R. (1996). The trauma of organizational change. Journal of European Industrial Training, Vol.20, No.2 , 11-16.
49. Tilaye, K. (2005). Level of Organizational Commitment: Its Correlates and Predictors. *Indian Journal of Industrial Relations, Vol.41, No. 1, July* .
50. Vadi, R. A. (2006). Impact Of Organizational Culture on Organizational Learning and Attitudes Concerning Change from an Institutional Perspective. *Int. J. Strategic Change Management, Vol. 1, Nos. 1*, 155-170.
51. Vakola, M., & Nikolaou, I. (2005). Attitudes towards organizational change: What is the role of employees' stress and commitment? Employee Relations, Vol. 27 No. 2, , 160-174.
52. Wallace, R. E. (2006). Developing employees' attitudes is a must. *Birmingham Business Journal* .
53. Weick, K. E., & Quinn, R. E. (1999). Organizational development and change. *Annual Review of Psychology, Vol.50* , 361-86.
54. Whelan Berry, K., & Alexander, P. (2005). Creating a culture of excellent service: a scholar and practitioner explore a case of successful change. *Academy of Management* .
55. Whelan-Berry, K. S., & Somerville, K. A. (2010). Linking Change Drivers and the Organizational Change Process: A Review and Synthesis. *Journal of Change Management* , 175-193.
56. Wim J., N. M., & Gijs, B. (1998). Employee commitment in changing organizations:an exploration. Journal of European Industrial Training, Vol.22 Iss:6 , 243-248.
57. Wright M., P., & Kehoe R., R. (2007). HR Practices and Organizational Commitment:A Deeper Examination. *CAHS Working Paper Series* , 1-22.

This page is intentionally left blank

Global Journal of Management and Business Research: a Administration and Management
Volume 15 Issue 6 Version 1.0 Year 2015
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Quarter Century of Quality Management and Consumer Protection in Romania

By Nicolae Drăgulănescu

University POLITEHNICA of Bucharest, Romania

Abstract- The former socialist/ communist rule kept Romania almost isolated from the Western World during about half a century (1945-1989). All about 7000 Romanian former state-owned companies (which were operational at the end of 1989) were obliged, by Law, starting the years '60, to organize their own so-called "CTC (Technical Quality Control) Department", in order to only inspect the quality of their products. In 1992, two years only after the fall of Ceausescu's dictatorship, in Romania were published both the first Romanian edition of famous ISO 9001 standard (in 1987, when ISO published its first international issue, the former Romanian regime did not allow the translating of it in Romanian!) and the first Consumer Protection Act in Romania's history.

Keywords: *romania, quality management, consumer protection, legislation, organizations, approaches.*

GJMBR - A Classification : *JELCode : L15*

Strictly as per the compliance and regulations of:

Quarter Century of Quality Management and Consumer Protection in Romania

Nicolae Drăgulănescu

Abstract- The former socialist/ communist rule kept Romania almost isolated from the Western World during about half a century (1945-1989). All about 7000 Romanian former state-owned companies (which were operational at the end of 1989) were obliged, by Law, starting the years '60, to organize their own so-called "CTC (Technical Quality Control) Department", in order to only inspect the quality of their products. In 1992, two years only after the fall of Ceausescu's dictatorship, in Romania were published both the first Romanian edition of famous ISO 9001 standard (in 1987, when ISO published its first international issue, the former Romanian regime did not allow the translating of it in Romanian!) and the first Consumer Protection Act in Romania's history. This paper introduces - from both historical and professional insider's perspective - the most important facts, challenges, issues and outcomes of these very important events, happened a quarter century ago.

Keywords: romania, quality management, consumer protection, legislation, organizations, approaches.

I. Introduction

Romania is *the ninth largest country of the EU* by area [about 238,400 square kilometers (92,000 sq mi)] and has *the seventh largest population of the EU* (with over 19 million people[1]). Its capital and largest city is Bucharest - *the tenth largest city in the EU* (with a population of around 2 million}.

„*Romania joined NATO on 29 March 2004, the European Union on 1 January 2007 and is also a member of the Latin Union, of the Francophonie, the OSCE*[2]*, the WTO*[3]*, the BSE*[4] *and the United Nations*."[5]

Like for other former "socialist" countries, the transition of Romania to the functional free market economy, between years 1990-2000, included the transition of companies and of other organizations from State "Quality Control" towards the much more efficient "Quality Assurance" and "Total Quality Management" approaches.

Author: Professor, University POLITEHNICA of Bucharest, Romania. e-mail: nicudrag@yahoo.com

[1] According to Romanian 2011 Census http ://www .insse. ro/cms/ files/statistici/comunicate/alte/2012/Comunicat%20DAT %20PROVIZORII%20RPL%202011.pdf

[2] OSCE - Organization for Security and Co-operation in Europe

[3] WTO – World Trade Organisation

[4] BSEC - Organization of the Black Sea Economic Cooperation

[5] http://en.wikipedia.org/wiki/Romania

II. Former Passive-Repressive Approach of Quality

The former "socialist" rule kept Romania isolated from the Western World for almost half a century (1945-1989).

Starting years `60, all Romanian industrial companies (large, medium and small - all Stateowned) Introduce the so-called State „ Quality Control" as were obliged to expression of *the **Passive-Repressive Approach of Quality*** [4]. Its characteristics were the following:

1. Over *12,000 mandatory State national standards* (called "State Standards" - STAS)
2. *Legislation and rules implementing exclusively the **State „Quality Control"***

According to the former legislation, all Romanian industrial companies were State owned and compelled to adopt, since their founding, the microeconomic "(Technical) Quality Control" approach. This was very frequently understood and achieved - thanks mostly to the lack of resources - as only "Inspection" approach (also called "passive Quality Control" approach, without "corrective actions" and with few efficient "corrections"). The "Inspection" approach - invented in industrialized countries over a century ago - is considered today to be only the first step of all other more efficient "Quality Management" approaches (like "active Quality Control" or "Quality Control", "Quality Assurance", "Total Quality Management").

The "Quality Assurance" approach was implemented before 1989, in Romania, only in some very few companies, operating mainly in the nuclear, aeronautics, electronics and defence sectors.

The "Total Quality Management" approach models, principles and practices were, until years 2000, practically ignored in Romania.

3. Establishment and operation of *central and local **governmental agencies*** (the so-called "*State General Quality Inspectorate*" - IGSCCP[6] nicknamed *"Quality Police"*) aimed to over-check manufactured products and .H to punish - especially financially - companies' staffs and employees found "guilty" for not having provided quality products.

[6] IGSCCP – Inspectoratul General de Stat pentru Controlul Calităţii Produselor (State General Inspectorate for Products' Quality Control)

These three above mentioned features characterized the so-called "Passive-Repressive Approach of Quality", a former ***State quality policy*** that was specific to Romania and to other centrally planned economies from Central and Eastern Europe as well as from Asia, during some decades (1960 – 1990).

Many Romanian quality professionals do agree now that this approach came in Romania and in other ex-"socialist" countries from USSR (via GOSSTANDARD) that, in turn, imported it - after the Second World War - from USA. ("*The US approach has historically been command-and-control oriented. This might be the result of a history of political and military management as a basis for business management.*" [4].

This situation was reflected in a negative way as well in the educational system as in creating a solid quality culture, especially regarding "prevention" versus "detection"/ "correction" attitudes and behaviours.

In December 1989, this Romanian authoritarian approach was abandoned and the "Quality Police" dismantled. But their counterproductive heritages – especially at the level of people mentalities, attitudes, behaviours, etc. – still remained.

III. CNSMC - a New but Ephemeral Governmental Agency which Drafted Romania's First New Laws and Government Decisions on Quality Matters

After 1990, like other Central and Eastern European countries, Romania was facing the great challenge of rapidly implementing and adjusting its accreditation and certification systems according to the *EU Quality System* as well as implementing quality standards and quality systems in its private and state owned companies. In order to cope with these objectives, starting years 1990-1992 and till 2006, new legislation was adopted and new infrastructures were established in the fields of standardization, certification, accreditation, metrology and consumers` protection.

A new but ephemeral governmental agency – ***the National Commission for Standards, Metrology and Quality (CNSMC [7]),*** employing over three thousands people within six organizations[8] and *managed by author, as Minister State-Secretary* – was established in February 1990, in order to identify needs and to propose necessary legislative and institutional changes, compatible with democracy, free market economy and EEC policies [4]. During its only two years action, the CNSMC drafted over twenty Government Ordinances (GO) – future Laws - and Government Decisions (GD) on standardization, metrology, certification, accreditation and consumers` protection matters. The last one was a new concern in all emerging European democracies intending to become freemarket based "capitalist countries" with "consumer societies"[9]. These drafts attempted to start the harmonization of Romania's legislation, standards, structures and procedures with those existing in EC Member States.

In 1990, CNSMC established or re- established memberships of its component organizations – as Romania's specialized bodies - in different international organizations like: International Standardization Organisation (ISO), Comité Electrotechnique International (CEI/ IEC), European Telecommunications Standardization Institute (ETSI), Bureau International de Poids et Mesures (BIPM), Organisation Internationale de Metrologie Legale (OIML), European Organisation for Quality (EOQ), etc.

During the same year, after thorough documentation, some expert teams of CNSMC started to elaborate first drafts of Government Decisions and Laws. It was a difficult task because CNSMC's action domains – standardisation, metrology, quality and consumers' protection – were heterogeneous and full of innovations (in rapport with their levels of development in Romania before 1990).

Simultaneously, CNSMC supported the initiatives of some of its employees and collaborators aiming to establish new specialized non-governmental bodies. Thus, till the end of 1990, there were founded, for example, the Romanian Quality Association - ARC[10], the Consumers' Protection Association - APC[11], and the Network of Romanian Laboratories - RELAR[12].

In 1991, CNSMC proposed to Romanian Government a *National Quality Policy* (a proposal published by the *Romanian Government Bulletin, No. 30/1991*). But, instead of an appropriate decision to apply this proposal, in August 1992, the Romanian Government ... dismantled CNSMC (by Governmental Ordinance[13], GO, No.18/92)

[7] CNSMC – Comisia Naţională pentru Standarde, Metrologie şi Calitate (National Commission for Standards, Metrology and Quality)

[8] The six initial components of CNSMC were (in 1990): IRS (Institutul Român de Standardizare/ Romanian Standardization Institute), OSC (Oficiul de Stat pentru Calitate/ State Office for Quality), IMS (Inspecţia Metrologiei de Stat / State Metrology Inspection), ISCC (Inspectoratul de Stat pentru Calitate în Construcţii / State Inspectorate for Buildings'/ Constructions' Quality), INM (Institutul Naţional de Metrologie/ National Metrology Institute), LAREX (Laboratorul Român pentru Testări şi Expertizări/ Romanian Testing Laboratory).

[9] "Consumers society"'s and "consumers protection"'s concepts, goals and practices were officially rejected and/ or even banned in some former "socialist countries" as being ideologically and politically incompatible with the goals and objectives of future "socalist society" and/ or "communist society" (planned to be erected).

[10] ARC – Asociaţia Română pentru Calitate (Romanian Association for Quality, www.quality.ro)

[11] APC – Asociaţia pentru Protecţia Consumatorilor (Association for Consumers Protection , www.apcromania.ro)

[12] RELAR – Asociaţia Reţelei de Laboratoare din România (Association of Romanian Laboratories Network (forerunner of today RENAR – Romanian Association for Accreditaton, www.renar.ro)

[13] OG – Ordonanţă de Guvern (GO - Governmental Ordinance) ; L – Lege (L - Law)

and promulgated other *three GO*: on ***standardization*** (GO No. 19/1992), on ***metrology*** (GO No. 20/1992) and on ***consumers' protection*** (GO No. 21/1992), as well as the Governmental Decision, GD, No. 167/1992 on ***national quality certification system*** – all based on drafts proposed by CNSMC. All GO were put in force immediately, but their approval by the Romanian Parliament came only two years later (by the Law No.11/1994). According to these new regulations, *most of national Romanian Standards SR (former State Standards, STAS) became voluntary, the fundamental universal rights of consumers were officially recognized/ granted, a new government agency – the Consumers` Protection Office* (the forerunner of today ANPC[14]) *and its network - was founded and over hundred non-governmental associations for consumers protection were created within most important cities.*

Thus, the Romanian Government decided in 1992 to abandon or to transfer gradually most of its former quality responsibilities in order to involve itself in only few quality matters, especially in ***standardization*** and ***certification*** (through IRS-the Romanian Standardization Institute, a former governmental agency, the forerunner of today ASRO[15]), ***metrology*** (through *BRML – the Romanian Office for Legal Metrology*) and ***consumers' protection*** (through *OPC – the Consumers' Protection Office*).

Meanwhile, a former Research and Technology Ministry (MCT) established however an own *quality structure* dedicated mainly to the establishment and management of quality programs/ projects funded by EU (PHARE Programme).

It is to be mentioned that, in 1991, the Romanian Government has decided that the new established Ministry of Public Works (MLP) should subordinate ISCC, the State Inspectorate for Constructions' Quality, a very important governmental agency that was also included, between years 1990-1991, within CNSMC.

No other quality structures (excepting some small departments *dedicated to consumers' protection)* were created within other concerned governmental agencies (including mainly the Ministry of Industry[16], the Ministry of Transports and Tourism, the Ministry of Telecommunications[17], the Ministry of, Education[18] , the Ministry of Health, the Ministry of Agriculture, etc. – which were nevertheless confronted with many quality challenges - „hoping" that the free-market will succeed alone to solve itself these problems!!

In 1992, IRS, the Romanian Standardization Institute – one of the basic components of CNSMC - succeeded finally to translate, adopt and publish (even with 5 years delay!) the *Romanian edition*[19] *of the first issue of ISO 9000 family standards.* As it is worldwide largely known, this first international issue of these standards was published by ISO in 1987 but, till 1989, a Romanian version of these standards was informally banned in Romania, as being "unnecessary"[20]!

Consequently, following the publishing in 1992 – *for the first time,* during the whole Romania's history – of both fundamental documents *Consumers Protection Act* and *ISO 9000 family standards,* **we may considered that 1992 signified the formal introduction in Romania of Consumers' protection and Quality Management matters** (mainly through *references* - concepts, principles, requirements, etc. – as well as through *structures* and, later, through *practices*).

IV. New Regulatory Frame and New Structures Dedicated to Trust/ Confidence Generation and Market Surveillance

After the dismantling of CNSMC in August 1992, during the following 23 years, *some hundreds* of ***small companies*** and ***non-governmental bodies*** *dedicated to quality* were created, in order to deal with *certification, accreditation, education & training and consultancy in Quality Management* matters, as well as in order to survey the market.

Meanwhile, *some dozens* of **new basic regulatory measures** were promulgated in the areas of quality assurance/ certification and of consumers' protection; the most important of them being the following:

- *L No. 10/1995* - on *buildings'/ constructions' quality*

- *GD No. 629/1996* - on *products quality assurance and their certification*

[14] ANPC – Autoritatea Naţională pentru Protecţia Consumatorilor (National Authority for Consumers` Protection, www.anpc.ro) managing a national network of 41
regional/ countys' Offices for Consumers` Protection (OPC – Oficiul pentru Protecţia Consumatorilor)

[15] ASRO – Asociaţia de Standardizare din România (Romanian Standards Association, www.asro.ro)

[16] The Ministry of Industry was then the forerunner of today`s Ministry of Economy, Trade and Business Environment

[17] The Ministry of Telecommunications was then the forerunner of today`s Ministry of Communications and Information Society

[18] The Ministry of Education was then the forerunner of today`s Ministry of Eucation, Research, Youth and Sports

[19] The first Romanian edition of ISO 9000 standards (most „attractive" and "interesting" of them being ISO 8402 and ISO 9001 standards) was a trilingual (Romanian/ English/ French) publication, in order to facilitate the understanding of their somehow "unusual" content. All further Romanian editions of all ISO 9000 standards were published later only in RomanianH

[20] According to some former IRS employees, the answer given in 1987 by one of the former Romanian Communist Party leaders at their official request to be allowed topublish a Romanian version of ISO 9000 standards was: "Comrades, there is no need to publish such standards in our country because we do not need <quality systems> inRomania, our <socialist system> being fully sufficient!". In addition, only in 1990 it became possible to re-establish the ISO an CEI memberships (which were cancelled under Ceausescu's regime) of IRS

- *GD No. 908/1996* - establishing *CIIC – the Interministerial Council for Quality* (managed by the Ministry of Research and Technology) in order to assess/ propose quality legislation and to establish a *National Program on Products and Services Quality.*

The CIIC was later suppressed and this program was never approved and put in practice!

- *GD No.1073/1996* - on quality assessment, certification and surveillance for providers of national defence system, establishing some dedicated military bodies named *OMCAS – the Military Body for Certification, Accreditation and Surveillance and CCASs – the Commissions for Certification, Accreditation and Surveillance.* All these structures were later dismantled.

- *GO No.38/1998* - on the *accreditation activity* (approved, after 4 years, by the *Law 245/2002*) – and *GO No.39/1998* - on the *standardization activity* (approved, after 4 years, by the *Law 355/2002*) – both deciding the long time claimed separation of regulation, standardization, certification and accreditation functions (erroneously introduced by GD No.167/1992). Thus, the former governmental agency IRS, Romanian Standardisation Institute was replaced by a non-governmental organization, *the ASRO – Standardization Association of Romania* (www.asro.ro), "under the surveillance of the Ministry of Economy and Trade". Another non-governmental organization - called RENAR, *Romanian Association for Accreditation* (www.renar.ro), "under the co-ordination of Ministry of Economy and Trade" - started to work and was recognized at both national and European levels

- *GD No.166/2001* - establishing ANPC – *the National Authority for Consumers' Protection* (www.anpc.ro), as successor of former OPC – the Consumers' Protection Office, created in 1992 - *GD No.681/2001* - establishing CISPPSPC – *the Inter-ministerial Committee for Products and Services Market Surveillance and Consumer Protection* (managed by ANPC) – suppressed later

- *L No.608/ 2001 - on the product conformity assessment* - offered the general framework for a whole set of technical regulations based on the European "New Approach" directives (adopted in Romania through Government Decisions developed by different ministries before 2007). The Ministry of Industry and Trade [21] is now the competent authority to coordinate *the national quality infrastructure* and the *product conformity assessment policy.*

- *L No.37/2002* – approving *GO No.58/2000* which amended substantially the basic "old" *GO No.21/1992* (on consumers' protection) and establishing *principles of liability for defective products*, according to European Directives.

- *GO No.23/2009* – on the activity of *accreditation of conformity assessment bodies*

Thus, mainly between years 1992-2006, *before the Romania's accession in EU/ EC,* 1st of January 2007, a comprehensive ***national quality infrastructure*** was built in Romania, **mostly on a private basis.** It includes the ***national conformity assessment infrastructure*** as well as ***consultancy and education & training organizations.*** Its basic goal is *to generate confidence in products, services and their providers,* as it is shown in Figure 1.

According to the data displayed on RENAR's website[22], today Romania's ***national conformity assessment infrastructure*** includes **over 1420 bodies/ organizations,** of which:

- about 500 accredited *testing laboratories*,
- 22 accredited *calibration laboratories*
- about 820 accredited *laboratories for medical analysis*
- 67 accredited *certification bodies for management systems* (of which 26 are dedicated to quality management systems, 17 – to environment management systems, 13 – to occupational health and safety management systems (OHSAS), 4 - to food safety management systems (including HACCP) and 7 - to information security management systems)
- 13 accredited certification bodies for *products*
- 4 accredited bodies for *people*|

[21] This ministry became later the Ministry of Economy, Trade and Business Environment

[22] www.renar.ro (visited today, 12 th of August 2012)

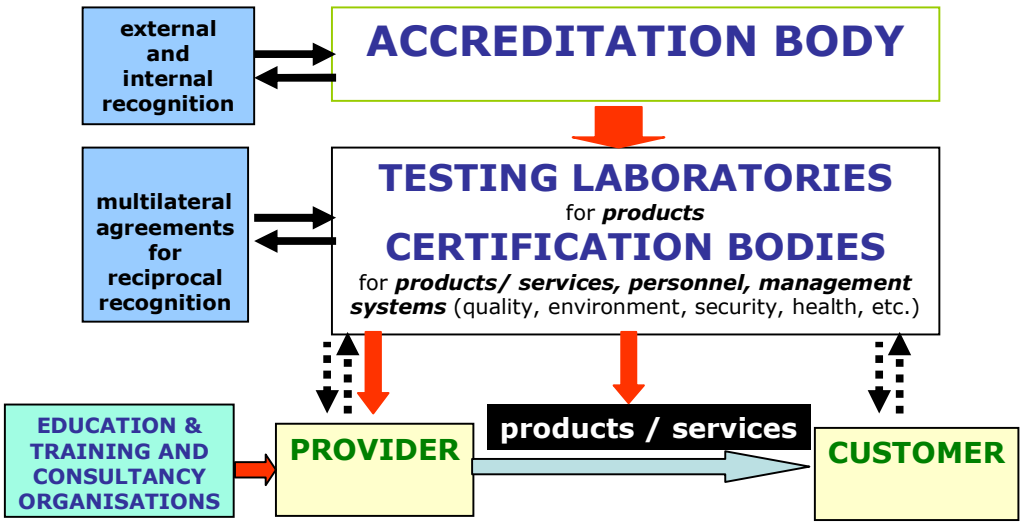


Figure 1 : The Romanian quality infrastructure is continuously generating TRUST/ CONFIDENCE in products/ services and their providers, through certification and accreditation *(Source: Author's elaboration)*

In addition to these bodies established and accredited in Romania, on Romanian market of ***conformity assessment*** are also acting *some dozens of foreign* bodies for conformity assessment (most of them being already accredited in EU, so that there is no need for a Romanian accreditation, thank to some formal multilateral recognizing agreements and schemes).

The Romania's today ***national quality infrastructure*** is also including – in addition to bodies mentioned above - *some hundreds of Romanian and foreign consultancy and education & training organizations* for management systems.

V. Promotion of European Quality Policy in Romania

Dr.S.Thomas Foster[23] was very right when he noticed "Culture plays *a greater role in European quality practices* that it does in United States."[2]

Within a project financed by European Union, the ***Romanian Foundation for Quality Promotion, RFQP/ FRPC***[24] (Bucharest, Romania) promoted in Romania,

In an *increasingly globalizing economy*, the **European Quality Policy** - as it was conceived by the DG IIIB Directorate - was based on Quality Management concepts „that place individual at the center of every organization".

„Part of the European Commission's *new industrial competitiveness initiatives,* the **European Quality Policy** was developed to provide *the humanistic component of Europe's competitiveness policy.* It was designed in cooperation with the various stakeholders (including European and national quality organizations, trade associations, chambers of commerce and national authorities), to develop *a favorable environment in which companies and public administrations in Europe aim to achieve excellence in terms of their outputs and internal organization for the benefit of society as a whole*"[25].

As such, it could and should be a logical step on the road, from *conformity with safety regulations* to *competitiveness and business excellence*, through Quality Management principles. [3], [4]

The RFQP's project, financed by EU, included *editing and distributing of two dozens of publications (books, leaflets, brochures)* as well as some *workshops and education & training actions.*

RFQP has repeatedly proposed to all Romanian former *Prime Ministers,* between years 1991-2009, to define and adopt in Romania appropriate national policies/ strategies on *quality promotion* (or quality *competitiveness development)* and *consumers' education*. Unfortunately, no formal answer was given till today!

In addition, unfortunately, in 2000, the EEC abandoned – without any explanations, arguments and preparation - its useful European Quality Policy and suppressed its specialized structure DG IIIB (by replacing it with a new structure dedicated to … the Information Society)!!

[23] Dr.S.Thomas Foster - A well known American professor of Quality Management (www.freequality.org) who - invited by the Romanian Foundation for Quality Promotion - visited Bucharest in 2002, in order to lecture on TQM and Six Sigma issues and advantages.

[24] FRPC – Fundaţia Română pentru Promovarea Calităţii (The Romanian Foundation for Quality Promotion, www.frpc.ro)between years 1999-2002, the **European Quality Policy**, with the goal to prepare Romanian mentalities for Romania's accession, in 2007, in EU and CEE.

[25] „A European Quality Promotion Policy For Improving European Competitiveness"/ "O politică europeană de

VI. Changing Quality Approaches in Romania – some of their Challenges and Issues

a) Romania - from „Inspection" and „Quality Control" approaches to „Quality Assurance" approach (Fig.3)

Between years 1991-2006, in Romania were founded many *hundreds of thousands* of new private companies (mostly small or medium sized ones) and two thirds of existing State-owned companies (mostly large ones) were sold/ privatized or closed. Consequently, a lot of companies - mostly private but also some State-owned ones - tried to become profitable (and even competitive, especially on foreign markets), by adopting the **„Quality Assurance" Approach** (mainly through implementing a *Quality Management System* in conformity with *ISO 9001 model's requirements*), with or without certification. That was a first *difficult step* aimed to initiate the transition of Romanian industrial companies from „Inspection" to „Quality Control" and, further, to „Quality Assurance" approaches (Fig.2)

Even if, in 1989, the former State „Quality Control" was formally suppressed in Romania, its heritages are still alive (most important of these being the following: *lack of financial resources, lack or insufficient managers' commitment for quality, lack or insufficient employees' motivation for quality, resistance/ reluctance to change*, etc.). Here are, for example, some of today's most known ***Romanian myths on ISO 9000 standards:***

- "*ISO 9000 is a <product standard>*"
- "*ISO 9000 is an <authorization>*"
- "*ISO 9000 certification is compulsory*"
- "*ISO 9000 is to be implemented mainly within big industrial companies; therefore, it is not adequate for education providers*"
- "*There are no customers in higher education; therefore, it is nonsense to speak about <customers' requirements>, <fulfillment of customers' requirements> and <customers' satisfaction> within higher education.*"

In this way, in today's Romania, the quality is no longer the <State's problem> since it became the <everyone's business>!

In addition, **the former counter-productive bottom-line orientation of companies in quality matters was replaced by *a general concern of all its employees for quality.***

According to ISO statistics[26], in 2011, in Romania there were delivered, in all, *19.405 ISO 9001 certificates* (within the 492.248 certificates delivered in Europe and 1.111.698 certificates delivered worldwide) [27]. The same year, in Romania, there were delivered, in all, 9557 *ISO 14001 certificates* (within the 106.700 certificates delivered in Europe and 267.457 certificates delivered worldwide).

In this connection it is noteworthy that Japan, a country once ridiculed for the poor quality of its exports, has become an economic superpower chiefly because it attained world leadership in quality of products. One of the actions it took to attain that leadership was the creation of a national award for high quality.

b) From „Quality Assurance" approach to „Total Quality Management" approach (Fig.3)

In 2000 - thank to a project[28] financed by EU – it was launched in Bucharest, the ***<Joseph M. Juran> Romanian Quality Award –*** i.e. the Romanian model of TQM. Romanians decided thus to pay homage to a worldwide famous American citizen (born in 1904 in Braila, Romania, dead in 2008 in Rye, USA) - Dr. Joseph Moses Juran.

In February 2001, the *first Romanian awarded companies* were presented (by the former President of Romania Ion Iliescu). Before this event, Dr. Juran sent to the award winners the following message:

> *"I have been informed by Dr. Dragulanescu that in November of this year there will be announced the first winners of the <J. M. Juran> Romanian Quality Award. In my view, this is an important forward step for the Romanian economy.*
>
> *In this connection it is noteworthy that Japan, a country once ridiculed for the poor quality of its exports, has become an economic superpower chiefly because it attained world leadership in quality of products. One of the actions it took to attain that leadership was the creation of a national award for high quality.*
>
> *Many other nations have since created such awards. Their experience has demonstrated that the existence of a national quality award, plus publication of the criteria used to judge the merits of applications for the award, tend to stimulate companies to improve their own quality. Moreover, when one company in a specific industry receives such an award it stimulates other companies in that same industry to bring their quality up to the level of the award winner.*
>
> *So it gives me much pleasure to congratulate this year's award winners and to extend to all Romanian institutions my best wishes for continued progress in improving quality, year after year."*

[26] ISO Survey 2011 (www.iso.ch)

[27] According to ISO Survey 2013, in 2012 there were delivered worldwide 1.129.446 ISO 9001 certificates

[28] The Terms of Reference (TOR) document was drafted by Nicolae Dragulanescu and Mihai Văleanu.

	INSPECTION	QUALITY CONTROL	QUALITY ASSURANCE	TOTAL QUALITY (TQM)
1.START TIME	Beginning of XX-th century	Decade 1930-1940	Decade 1950-1960	Decade 1970-1980
2.GOAL OF QUALITY APPROACH	Detection/ identification of non-conformities/ failures (poor quality)	Putting and maintaining under control the quality of end product	Continuous building of intermediate and final quality of end product.	Systemic and systematic management of quality of actions/ processes providing products
3.BASIC CONCEPTS	-Efficiency -Work dividing	-Accepted Quality Level (AQL)	-Reliability -Customer trust	-Excelency

Figure 2 : Quality approaches evolution towards more and more efficiency *(Source: Author's elaboration)*

This <Joseph M. Juran> Romanian Quality Award – whose criteria are also representing *the Romanian Model for Excellence* – is the ***highest Romania's recognition of managerial competence, at national level***. It is based on the former *EFQM European Model for Excellence,* i.e. on the *European Quality Award's* criteria employed in Europe till 1999, as the European model of Total Quality Management.

There are actually in Romania **over 1.000,000 Registered** [29] **companies.** Only about **20.000 organizations** (mainly companies) were *certified ISO 9001* and **only 32 organizations** (mainly companies) became „finalists" of *Romanian Quality Award* competition (of which 24 were awarded the *<Joseph M. Juran> Romanian Quality Award or Trophee).*

In addition, during these 25 years (1990 – 2015), unfortunately and for many reasons, ***no Romanian organization became an EFQM Award finalist/winner*** (despite some very few „daring" candidatures and attempts!)…

However, the only one Romanian organization which has succeeded to be recognized by EFQM as „Committed for excellence" (C2E) - the first level of excellence – is the *National Agency for Community Programs in the Field of Education and Vocational Training.*[30]

[29] www.listafirme.ro

[30] ANPCDEFP - Agenţia Naţională pentru Programe Comunitare în Domeniul Educaţiei şi Formării Profesionale (National Agency for Community Programs in the Field of Education and Vocational Training, www.anpcdefp.ro)

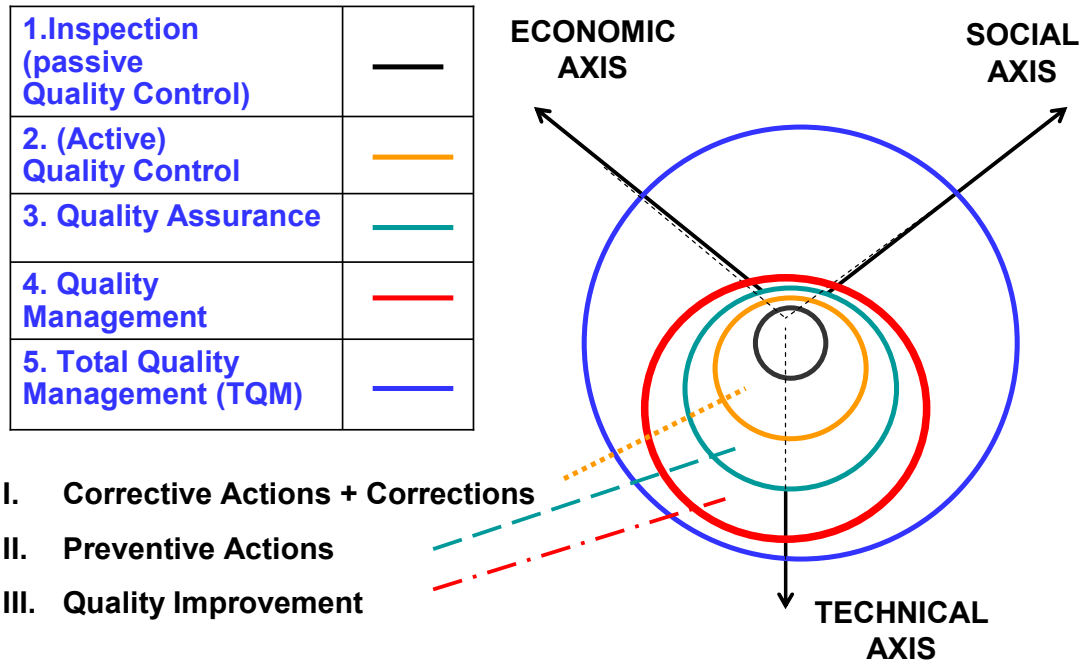


Figure 3 : Relative positioning of existing quality approaches *(Source: Author's elaboration)*

Notes: 1. Segments defined by axes' origin and each circle's intersections with axes are approximating the contributions of technical, economic and social issues within each approach.
2. Efficiency of each approach is continuously increasing from Inspection to TQM

VII. Conclusions

1. Today's Romania has over 1.000,000 registered companies (mostly private, small and medium sized) which are striving to compete - within the Global Market - through their quality products/ services – by mplementing more efficient Quality Management approaches, like "Quality Assurance" and "Total Quality Management".
2. Romania needs formal national policies/strategies dedicated to *quality promotion, competitiveness development (mainly through quality)* and *consumers' education.*
3. The most important pan-European quality organizations - like EOQ (European Organization for Quality) and EFQM (European Foundation for Quality Management) are to be invited to involve themselves - within European programs and with European financing - in supporting Romanian Government and internationally certified Romanian quality experts, in order to improve the competitiveness through quality of Romanian products and providers on today's globalized markets.

References Références Referencias

1. Drăgulănescu N., Drăgulănescu M. – *Quality management of Services*, Editura AGIR, Bucharest, Romania,2004
2. Foster S. Thomas – *Managing Quality - An Integrative Approach*; Prentice Hall, New Jersey, USA, 2001
3. Drăgulănescu, N., Niculescu, C. – *Quality Management,* Editura NICULESCU, Bucharest, Romania, 2000
4. Drăgulănescu, N. – *Quality in Romania; From Passive- Repressive Approach to Total Quality*, Editura Alternative, Bucharest, Romania, 1996
5. Cătuneanu, V., Drăgulănescu, N. - *Quality Awards*, Romanian Foundation for Quality Promotion, Bucharest, Romania, 2001
6. Drăgulănescu, N. - *The impact of transposing EU quality systems on selected Romanian industrial sectors* (in English), Pre-accession impact studies, Study no.6, European Institute of Romania, Bucharest, Romania, 2003

Global Journals Inc. (US) Guidelines Handbook 2015

www.GlobalJournals.org

FELLOW OF ASSOCIATION OF RESEARCH SOCIETY IN BUSINESS (FARSB)

Global Journals Incorporate (USA) is accredited by Open Association of Research Society (OARS), U.S.A and in turn, awards "FARSB" title to individuals. The 'FARSB' title is accorded to a selected professional after the approval of the Editor-in-Chief/Editorial Board Members/Dean.

- The "FARSB" is a dignified title which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., FARSB or William Walldroff, M.S., FARSB.

FARSB accrediting is an honor. It authenticates your research activities. After recognition as FARSB, you can add 'FARSB' title with your name as you use this recognition as additional suffix to your status. This will definitely enhance and add more value and repute to your name. You may use it on your professional Counseling Materials such as CV, Resume, and Visiting Card etc.

The following benefits can be availed by you only for next three years from the date of certification:

FARSB designated members are entitled to avail a 40% discount while publishing their research papers (of a single author) with Global Journals Incorporation (USA), if the same is accepted by Editorial Board/Peer Reviewers. If you are a main author or co-author in case of multiple authors, you will be entitled to avail discount of 10%.

Once FARSB title is accorded, the Fellow is authorized to organize a symposium/seminar/conference on behalf of Global Journal Incorporation (USA).The Fellow can also participate in conference/seminar/symposium organized by another institution as representative of Global Journal. In both the cases, it is mandatory for him to discuss with us and obtain our consent.

You may join as member of the Editorial Board of Global Journals Incorporation (USA) after successful completion of three years as Fellow and as Peer Reviewer. In addition, it is also desirable that you should organize seminar/symposium/conference at least once.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The FARSB can go through standards of OARS. You can also play vital role if you have any suggestions so that proper amendment can take place to improve the same for the benefit of entire research community.

As FARSB, you will be given a renowned, secure and free professional email address with 100 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders,Auto-Responders, Email Delivery Route tracing, etc.

The FARSB will be eligible for a free application of standardization of their researches. Standardization of research will be subject to acceptability within stipulated norms as the next step after publishing in a journal. We shall depute a team of specialized research professionals who will render their services for elevating your researches to next higher level, which is worldwide open standardization.

The FARSB member can apply for grading and certification of standards of their educational and Institutional Degrees to Open Association of Research, Society U.S.A. Once you are designated as FARSB, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria. After certification of all your credentials by OARS, they will be published on your Fellow Profile link on website https://associationofresearch.org which will be helpful to upgrade the dignity.

The FARSB members can avail the benefits of free research podcasting in Global Research Radio with their research documents. After publishing the work, (including published elsewhere worldwide with proper authorization) you can upload your research paper with your recorded voice or you can utilize chargeable services of our professional RJs to record your paper in their voice on request.

The FARSB member also entitled to get the benefits of free research podcasting of their research documents through video clips. We can also streamline your conference videos and display your slides/ online slides and online research video clips at reasonable charges, on request.

The FARSB is eligible to earn from sales proceeds of his/her researches/reference/review Books or literature, while publishing with Global Journals. The FARSB can decide whether he/she would like to publish his/her research in a closed manner. In this case, whenever readers purchase that individual research paper for reading, maximum 60% of its profit earned as royalty by Global Journals, will be credited to his/her bank account. The entire entitled amount will be credited to his/her bank account exceeding limit of minimum fixed balance. There is no minimum time limit for collection. The FARSC member can decide its price and we can help in making the right decision.

The FARSB member is eligible to join as a paid peer reviewer at Global Journals Incorporation (USA) and can get remuneration of 15% of author fees, taken from the author of a respective paper. After reviewing 5 or more papers you can request to transfer the amount to your bank account.

MEMBER OF ASSOCIATION OF RESEARCH SOCIETY IN BUSINESS (MARSB)

The ' MARSB ' title is accorded to a selected professional after the approval of the Editor-in-Chief / Editorial Board Members/Dean.

The "MARSB" is a dignified ornament which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., MARSB or William Walldroff, M.S., MARSB.

MARSB accrediting is an honor. It authenticates your research activities. After becoming MARSB, you can add 'MARSB' title with your name as you use this recognition as additional suffix to your status. This will definitely enhance and add more value and repute to your name. You may use it on your professional Counseling Materials such as CV, Resume, Visiting Card and Name Plate etc.

The following benefitscan be availed by you only for next three years from the date of certification.

MARSB designated members are entitled to avail a 25% discount while publishing their research papers (of a single author) in Global Journals Inc., if the same is accepted by our Editorial Board and Peer Reviewers. If you are a main author or co-author of a group of authors, you will get discount of 10%.

As MARSB, you will be given a renowned, secure and free professional email address with 30 GB of space e.g. johnhall@globaljournals.org. This will include Webmail, Spam Assassin, Email Forwarders,Auto-Responders, Email Delivery Route tracing, etc.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

The MARSB member can apply for approval, grading and certification of standards of their educational and Institutional Degrees to Open Association of Research, Society U.S.A.

Once you are designated as MARSB, you may send us a scanned copy of all of your credentials. OARS will verify, grade and certify them. This will be based on your academic records, quality of research papers published by you, and some more criteria.

It is mandatory to read all terms and conditions carefully.

AUXILIARY MEMBERSHIPS

Institutional Fellow of Open Association of Research Society (USA)-OARS (USA)

Global Journals Incorporation (USA) is accredited by Open Association of Research Society, U.S.A (OARS) and in turn, affiliates research institutions as "Institutional Fellow of Open Association of Research Society" (IFOARS).

The "FARSC" is a dignified title which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., FARSC or William Walldroff, M.S., FARSC.

The IFOARS institution is entitled to form a Board comprised of one Chairperson and three to five board members preferably from different streams. The Board will be recognized as "Institutional Board of Open Association of Research Society"-(IBOARS).

The Institute will be entitled to following benefits:

The IBOARS can initially review research papers of their institute and recommend them to publish with respective journal of Global Journals. It can also review the papers of other institutions after obtaining our consent. The second review will be done by peer reviewer of Global Journals Incorporation (USA) The Board is at liberty to appoint a peer reviewer with the approval of chairperson after consulting us.

The author fees of such paper may be waived off up to 40%.

The Global Journals Incorporation (USA) at its discretion can also refer double blind peer reviewed paper at their end to the board for the verification and to get recommendation for final stage of acceptance of publication.

The IBOARS can organize symposium/seminar/conference in their country on behalf of Global Journals Incorporation (USA)-OARS (USA). The terms and conditions can be discussed separately.

The Board can also play vital role by exploring and giving valuable suggestions regarding the Standards of "Open Association of Research Society, U.S.A (OARS)" so that proper amendment can take place for the benefit of entire research community. We shall provide details of particular standard only on receipt of request from the Board.

The board members can also join us as Individual Fellow with 40% discount on total fees applicable to Individual Fellow. They will be entitled to avail all the benefits as declared. Please visit Individual Fellow-sub menu of GlobalJournals.org to have more relevant details.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time. This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

After nomination of your institution as "Institutional Fellow" and constantly functioning successfully for one year, we can consider giving recognition to your institute to function as Regional/Zonal office on our behalf.
The board can also take up the additional allied activities for betterment after our consultation.

The following entitlements are applicable to individual Fellows:

Open Association of Research Society, U.S.A (OARS) By-laws states that an individual Fellow may use the designations as applicable, or the corresponding initials. The Credentials of individual Fellow and Associate designations signify that the individual has gained knowledge of the fundamental concepts. One is magnanimous and proficient in an expertise course covering the professional code of conduct, and follows recognized standards of practice.

Open Association of Research Society (US)/ Global Journals Incorporation (USA), as described in Corporate Statements, are educational, research publishing and professional membership organizations. Achieving our individual Fellow or Associate status is based mainly on meeting stated educational research requirements.

Disbursement of 40% Royalty earned through Global Journals : Researcher = 50%, Peer Reviewer = 37.50%, Institution = 12.50% E.g. Out of 40%, the 20% benefit should be passed on to researcher, 15 % benefit towards remuneration should be given to a reviewer and remaining 5% is to be retained by the institution.

We shall provide print version of 12 issues of any three journals [as per your requirement] out of our 38 journals worth $ 2376 USD.

Other:

The individual Fellow and Associate designations accredited by Open Association of Research Society (US) credentials signify guarantees following achievements:

- The professional accredited with Fellow honor, is entitled to various benefits viz. name, fame, honor, regular flow of income, secured bright future, social status etc.

- In addition to above, if one is single author, then entitled to 40% discount on publishing research paper and can get 10%discount if one is co-author or main author among group of authors.
- The Fellow can organize symposium/seminar/conference on behalf of Global Journals Incorporation (USA) and he/she can also attend the same organized by other institutes on behalf of Global Journals.
- The Fellow can become member of Editorial Board Member after completing 3yrs.
- The Fellow can earn 60% of sales proceeds from the sale of reference/review books/literature/publishing of research paper.
- Fellow can also join as paid peer reviewer and earn 15% remuneration of author charges and can also get an opportunity to join as member of the Editorial Board of Global Journals Incorporation (USA)
- • This individual has learned the basic methods of applying those concepts and techniques to common challenging situations. This individual has further demonstrated an in–depth understanding of the application of suitable techniques to a particular area of research practice.

Note :

"

- In future, if the board feels the necessity to change any board member, the same can be done with the consent of the chairperson along with anyone board member without our approval.
- In case, the chairperson needs to be replaced then consent of 2/3rd board members are required and they are also required to jointly pass the resolution copy of which should be sent to us. In such case, it will be compulsory to obtain our approval before replacement.
- In case of "Difference of Opinion [if any]" among the Board members, our decision will be final and binding to everyone.

"

Process of submission of Research Paper

The Area or field of specialization may or may not be of any category as mentioned in 'Scope of Journal' menu of the GlobalJournals.org website. There are 37 Research Journal categorized with Six parental Journals GJCST, GJMR, GJRE, GJMBR, GJSFR, GJHSS. For Authors should prefer the mentioned categories. There are three widely used systems UDC, DDC and LCC. The details are available as 'Knowledge Abstract' at Home page. The major advantage of this coding is that, the research work will be exposed to and shared with all over the world as we are being abstracted and indexed worldwide.

The paper should be in proper format. The format can be downloaded from first page of 'Author Guideline' Menu. The Author is expected to follow the general rules as mentioned in this menu. The paper should be written in MS-Word Format (*.DOC,*.DOCX).

The Author can submit the paper either online or offline. The authors should prefer online submission.Online Submission: There are three ways to submit your paper:

(A) (I) First, register yourself using top right corner of Home page then Login. If you are already registered, then login using your username and password.

(II) Choose corresponding Journal.

(III) Click 'Submit Manuscript'. Fill required information and Upload the paper.

(B) If you are using Internet Explorer, then Direct Submission through Homepage is also available.

(C) If these two are not convenient, and then email the paper directly to dean@globaljournals.org.

Offline Submission: Author can send the typed form of paper by Post. However, online submission should be preferred.

Preferred Author Guidelines

MANUSCRIPT STYLE INSTRUCTION (Must be strictly followed)

Page Size: 8.27" X 11'"

- Left Margin: 0.65
- Right Margin: 0.65
- Top Margin: 0.75
- Bottom Margin: 0.75
- Font type of all text should be Swis 721 Lt BT.
- Paper Title should be of Font Size 24 with one Column section.
- Author Name in Font Size of 11 with one column as of Title.
- Abstract Font size of 9 Bold, "Abstract" word in Italic Bold.
- Main Text: Font size 10 with justified two columns section
- Two Column with Equal Column with of 3.38 and Gaping of .2
- First Character must be three lines Drop capped.
- Paragraph before Spacing of 1 pt and After of 0 pt.
- Line Spacing of 1 pt
- Large Images must be in One Column
- Numbering of First Main Headings (Heading 1) must be in Roman Letters, Capital Letter, and Font Size of 10.
- Numbering of Second Main Headings (Heading 2) must be in Alphabets, Italic, and Font Size of 10.

You can use your own standard format also.
Author Guidelines:

1. General,

2. Ethical Guidelines,

3. Submission of Manuscripts,

4. Manuscript's Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

1. GENERAL

Before submitting your research paper, one is advised to go through the details as mentioned in following heads. It will be beneficial, while peer reviewer justify your paper for publication.

Scope

The Global Journals Inc. (US) welcome the submission of original paper, review paper, survey article relevant to the all the streams of Philosophy and knowledge. The Global Journals Inc. (US) is parental platform for Global Journal of Computer Science and Technology, Researches in Engineering, Medical Research, Science Frontier Research, Human Social Science, Management, and Business organization. The choice of specific field can be done otherwise as following in Abstracting and Indexing Page on this Website. As the all Global

Journals Inc. (US) are being abstracted and indexed (in process) by most of the reputed organizations. Topics of only narrow interest will not be accepted unless they have wider potential or consequences.

2. ETHICAL GUIDELINES

Authors should follow the ethical guidelines as mentioned below for publication of research paper and research activities.

Papers are accepted on strict understanding that the material in whole or in part has not been, nor is being, considered for publication elsewhere. If the paper once accepted by Global Journals Inc. (US) and Editorial Board, will become the copyright of the Global Journals Inc. (US).

Authorship: The authors and coauthors should have active contribution to conception design, analysis and interpretation of findings. They should critically review the contents and drafting of the paper. All should approve the final version of the paper before submission

The Global Journals Inc. (US) follows the definition of authorship set up by the Global Academy of Research and Development. According to the Global Academy of R&D authorship, criteria must be based on:

1) Substantial contributions to conception and acquisition of data, analysis and interpretation of the findings.

2) Drafting the paper and revising it critically regarding important academic content.

3) Final approval of the version of the paper to be published.

All authors should have been credited according to their appropriate contribution in research activity and preparing paper. Contributors who do not match the criteria as authors may be mentioned under Acknowledgement.

Acknowledgements: Contributors to the research other than authors credited should be mentioned under acknowledgement. The specifications of the source of funding for the research if appropriate can be included. Suppliers of resources may be mentioned along with address.

Appeal of Decision: The Editorial Board's decision on publication of the paper is final and cannot be appealed elsewhere.

Permissions: It is the author's responsibility to have prior permission if all or parts of earlier published illustrations are used in this paper.

Please mention proper reference and appropriate acknowledgements wherever expected.

If all or parts of previously published illustrations are used, permission must be taken from the copyright holder concerned. It is the author's responsibility to take these in writing.

Approval for reproduction/modification of any information (including figures and tables) published elsewhere must be obtained by the authors/copyright holders before submission of the manuscript. Contributors (Authors) are responsible for any copyright fee involved.

3. SUBMISSION OF MANUSCRIPTS

Manuscripts should be uploaded via this online submission page. The online submission is most efficient method for submission of papers, as it enables rapid distribution of manuscripts and consequently speeds up the review procedure. It also enables authors to know the status of their own manuscripts by emailing us. Complete instructions for submitting a paper is available below.

Manuscript submission is a systematic procedure and little preparation is required beyond having all parts of your manuscript in a given format and a computer with an Internet connection and a Web browser. Full help and instructions are provided on-screen. As an author, you will be prompted for login and manuscript details as Field of Paper and then to upload your manuscript file(s) according to the instructions.

To avoid postal delays, all transaction is preferred by e-mail. A finished manuscript submission is confirmed by e-mail immediately and your paper enters the editorial process with no postal delays. When a conclusion is made about the publication of your paper by our Editorial Board, revisions can be submitted online with the same procedure, with an occasion to view and respond to all comments.

Complete support for both authors and co-author is provided.

4. MANUSCRIPT'S CATEGORY

Based on potential and nature, the manuscript can be categorized under the following heads:

Original research paper: Such papers are reports of high-level significant original research work.

Review papers: These are concise, significant but helpful and decisive topics for young researchers.

Research articles: These are handled with small investigation and applications

Research letters: The letters are small and concise comments on previously published matters.

5.STRUCTURE AND FORMAT OF MANUSCRIPT

The recommended size of original research paper is less than seven thousand words, review papers fewer than seven thousands words also.Preparation of research paper or how to write research paper, are major hurdle, while writing manuscript. The research articles and research letters should be fewer than three thousand words, the structure original research paper; sometime review paper should be as follows:

Papers: These are reports of significant research (typically less than 7000 words equivalent, including tables, figures, references), and comprise:

(a)Title should be relevant and commensurate with the theme of the paper.

(b) A brief Summary, "Abstract" (less than 150 words) containing the major results and conclusions.

(c) Up to ten keywords, that precisely identifies the paper's subject, purpose, and focus.

(d) An Introduction, giving necessary background excluding subheadings; objectives must be clearly declared.

(e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition; sources of information must be given and numerical methods must be specified by reference, unless non-standard.

(f) Results should be presented concisely, by well-designed tables and/or figures; the same data may not be used in both; suitable statistical data should be given. All data must be obtained with attention to numerical detail in the planning stage. As reproduced design has been recognized to be important to experiments for a considerable time, the Editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned un-refereed;

(g) Discussion should cover the implications and consequences, not just recapitulating the results; conclusions should be summarizing.

(h) Brief Acknowledgements.

(i) References in the proper form.

Authors should very cautiously consider the preparation of papers to ensure that they communicate efficiently. Papers are much more likely to be accepted, if they are cautiously designed and laid out, contain few or no errors, are summarizing, and be conventional to the approach and instructions. They will in addition, be published with much less delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and to make suggestions to improve briefness.

It is vital, that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.

Format

Language: The language of publication is UK English. Authors, for whom English is a second language, must have their manuscript efficiently edited by an English-speaking person before submission to make sure that, the English is of high excellence. It is preferable, that manuscripts should be professionally edited.

Standard Usage, Abbreviations, and Units: Spelling and hyphenation should be conventional to The Concise Oxford English Dictionary. Statistics and measurements should at all times be given in figures, e.g. 16 min, except for when the number begins a sentence. When the number does not refer to a unit of measurement it should be spelt in full unless, it is 160 or greater.

Abbreviations supposed to be used carefully. The abbreviated name or expression is supposed to be cited in full at first usage, followed by the conventional abbreviation in parentheses.

Metric SI units are supposed to generally be used excluding where they conflict with current practice or are confusing. For illustration, 1.4 l rather than 1.4 × 10-3 m3, or 4 mm somewhat than 4 × 10-3 m. Chemical formula and solutions must identify the form used, e.g. anhydrous or hydrated, and the concentration must be in clearly defined units. Common species names should be followed by underlines at the first mention. For following use the generic name should be constricted to a single letter, if it is clear.

Structure

All manuscripts submitted to Global Journals Inc. (US), ought to include:

Title: The title page must carry an instructive title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) wherever the work was carried out. The full postal address in addition with the e-mail address of related author must be given. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining and indexing.

Abstract, used in Original Papers and Reviews:

Optimizing Abstract for Search Engines

Many researchers searching for information online will use search engines such as Google, Yahoo or similar. By optimizing your paper for search engines, you will amplify the chance of someone finding it. This in turn will make it more likely to be viewed and/or cited in a further work. Global Journals Inc. (US) have compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy and planning a list of possible keywords and phrases to try.

Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art.A few tips for deciding as strategically as possible about keyword search:

- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

Acknowledgements: Please make these as concise as possible.

References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

References to information on the World Wide Web can be given, but only if the information is available without charge to readers on an official site. Wikipedia and Similar websites are not allowed where anyone can change the information. Authors will be asked to make available electronic copies of the cited information for inclusion on the Global Journals Inc. (US) homepage at the judgment of the Editorial Board.

The Editorial Board and Global Journals Inc. (US) recommend that, citation of online-published papers and other material should be done via a DOI (digital object identifier). If an author cites anything, which does not have a DOI, they run the risk of the cited material not being noticeable.

The Editorial Board and Global Journals Inc. (US) recommend the use of a tool such as Reference Manager for reference management and formatting.

Tables, Figures and Figure Legends

Tables: Tables should be few in number, cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g. Table 4, a self-explanatory caption and be on a separate sheet. Vertical lines should not be used.

Figures: Figures are supposed to be submitted as separate files. Always take in a citation in the text for each figure using Arabic numbers, e.g. Fig. 4. Artwork must be submitted online in electronic form by e-mailing them.

Preparation of Electronic Figures for Publication

Even though low quality images are sufficient for review purposes, print publication requires high quality images to prevent the final product being blurred or fuzzy. Submit (or e-mail) EPS (line art) or TIFF (halftone/photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Do not use pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings) in relation to the imitation size. Please give the data for figures in black and white or submit a Color Work Agreement Form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution (at final image size) ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs) : >350 dpi; figures containing both halftone and line images: >650 dpi.

Color Charges: It is the rule of the Global Journals Inc. (US) for authors to pay the full cost for the reproduction of their color artwork. Hence, please note that, if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a color work agreement form before your paper can be published.

Figure Legends: Self-explanatory legends of all figures should be incorporated separately under the heading 'Legends to Figures'. In the full-text online edition of the journal, figure legends may possibly be truncated in abbreviated links to the full screen version. Therefore, the first 100 characters of any legend should notify the reader, about the key aspects of the figure.

6. AFTER ACCEPTANCE

Upon approval of a paper for publication, the manuscript will be forwarded to the dean, who is responsible for the publication of the Global Journals Inc. (US).

6.1 Proof Corrections

The corresponding author will receive an e-mail alert containing a link to a website or will be attached. A working e-mail address must therefore be provided for the related author.

Acrobat Reader will be required in order to read this file. This software can be downloaded

(Free of charge) from the following website:

www.adobe.com/products/acrobat/readstep2.html. This will facilitate the file to be opened, read on screen, and printed out in order for any corrections to be added. Further instructions will be sent with the proof.

Proofs must be returned to the dean at dean@globaljournals.org within three days of receipt.

As changes to proofs are costly, we inquire that you only correct typesetting errors. All illustrations are retained by the publisher. Please note that the authors are responsible for all statements made in their work, including changes made by the copy editor.

6.2 Early View of Global Journals Inc. (US) (Publication Prior to Print)

The Global Journals Inc. (US) are enclosed by our publishing's Early View service. Early View articles are complete full-text articles sent in advance of their publication. Early View articles are absolute and final. They have been completely reviewed, revised and edited for publication, and the authors' final corrections have been incorporated. Because they are in final form, no changes can be made after sending them. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so Early View articles cannot be cited in the conventional way.

6.3 Author Services

Online production tracking is available for your article through Author Services. Author Services enables authors to track their article - once it has been accepted - through the production process to publication online and in print. Authors can check the status of their articles online and choose to receive automated e-mails at key stages of production. The authors will receive an e-mail with a unique link that enables them to register and have their article automatically added to the system. Please ensure that a complete e-mail address is provided when submitting the manuscript.

6.4 Author Material Archive Policy

Please note that if not specifically requested, publisher will dispose off hardcopy & electronic information submitted, after the two months of publication. If you require the return of any information submitted, please inform the Editorial Board or dean as soon as possible.

6.5 Offprint and Extra Copies

A PDF offprint of the online-published article will be provided free of charge to the related author, and may be distributed according to the Publisher's terms and conditions. Additional paper offprint may be ordered by emailing us at: editor@globaljournals.org .

You must strictly follow above Author Guidelines before submitting your paper or else we will not at all be responsible for any corrections in future in any of the way.

Before start writing a good quality Computer Science Research Paper, let us first understand what is Computer Science Research Paper? So, Computer Science Research Paper is the paper which is written by professionals or scientists who are associated to Computer Science and Information Technology, or doing research study in these areas. If you are novel to this field then you can consult about this field from your supervisor or guide.

TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

2. Evaluators are human: First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

4. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

5. Ask your Guides: If you are having any difficulty in your research, then do not hesitate to share your difficulty to your guide (if you have any). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work then ask the supervisor to help you with the alternative. He might also provide you the list of essential readings.

6. Use of computer is recommended: As you are doing research in the field of Computer Science, then this point is quite obvious.

7. Use right software: Always use good quality software packages. If you are not capable to judge good software then you can lose quality of your paper unknowingly. There are various software programs available to help you, which you can get through Internet.

8. Use the Internet for help: An excellent start for your paper can be by using the Google. It is an excellent search engine, where you can have your doubts resolved. You may also read some answers for the frequent question how to write my research paper or find model research paper. From the internet library you can download books. If you have all required books make important reading selecting and analyzing the specified information. Then put together research paper sketch out.

9. Use and get big pictures: Always use encyclopedias, Wikipedia to get pictures so that you can go into the depth.

10. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right! It is a good habit, which helps to not to lose your continuity. You should always use bookmarks while searching on Internet also, which will make your search easier.

11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.

12. Make all efforts: Make all efforts to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in introduction, that what is the need of a particular research paper. Polish your work by good skill of writing and always give an evaluator, what he wants.

13. Have backups: When you are going to do any important thing like making research paper, you should always have backup copies of it either in your computer or in paper. This will help you to not to lose any of your important.

14. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several and unnecessary diagrams will degrade the quality of your paper by creating "hotchpotch." So always, try to make and include those diagrams, which are made by your own to improve readability and understandability of your paper.

15. Use of direct quotes: When you do research relevant to literature, history or current affairs then use of quotes become essential but if study is relevant to science then use of quotes is not preferable.

16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

18. Pick a good study spot: To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

19. Know what you know: Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

20. Use good quality grammar: Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.
- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

Please carefully note down following rules and regulation before submitting your Research Paper to Global Journals Inc. (US):

Segment Draft and Final Research Paper: You have to strictly follow the template of research paper. If it is not done your paper may get rejected.

- The **major constraint** is that you must independently make all content, tables, graphs, and facts that are offered in the paper. You must write each part of the paper wholly on your own. The Peer-reviewers need to identify your own perceptive of the concepts in your own terms. NEVER extract straight from any foundation, and never rephrase someone else's analysis.

- Do not give permission to anyone else to "PROOFREAD" your manuscript.

- Methods to avoid Plagiarism is applied by us on every paper, if found guilty, you will be blacklisted by all of our collaborated research groups, your institution will be informed for this and strict legal actions will be taken immediately.)
- To guard yourself and others from possible illegal use please do not permit anyone right to use to your paper and files.

Criterion for Grading a Research Paper (Compilation) by Global Journals Inc. (US)

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals Inc. (US).

Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

INDEX

Global Journal of Management and Business Research

Visit us on the Web at www.GlobalJournals.org | www.JournalofBusiness.Org
or email us at helpdesk@globaljournals.org

ISSN 9755853