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Demand Management

Marketing Versus Trends

Highlights

Agricultural Input Factors

Dialectical Model of Marketing

Discovering Thoughts, Inventing Future

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Defining Demand Management

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Abstract- Purpose: Define demand management concept and provide a guidance for the preconditions that need to be in place in order for a company to implement demand management process with its suppliers and customers.

Design/methodology/approach: Uses the systematic literature review divided into three stages: planning the review, conducting the review, and reporting the review.

Findings: This study clarifies the concept of demand management as the creation of synergies between operations and marketing aiming at understanding the market and developing actions synchronized with the company strategy, production capacity and final customer needs. Thus, in order to implement demand management process, it is necessary to understand the market through the capability analysis, constraints, and opportunities of external and internal environments to the organization. Such knowledge, together with the guidelines and strategic and operational practices of the company, focus on designing an efficient operational system to synchronize supply and demand through sales forecasting. In order to do so, the company needs a collaborative supply chain that consist of establishing corporative efforts between internal functions and external agents to the company aiming at meeting the final customers' needs and obtaining competitive advantage.

Keywords: demand management, supply chain management.

GJMBR-E Classification: JEL Code: M39

DEFININGDEMANDMANAGEMENT

Strictly as per the compliance and regulations of:

Defining Demand Management

Daniela De Castro Melo [α] & Rosane Lucia Chicarelli Alcantara [σ]

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Practical implications: This study contribute to a better understanding and a broader view of demand manag-ement. The framework proposed has considerable applicability for practitioners providing guidance to implement demand management process in order to overcome the challenges of combining customer needs and supply chain capabilities.

Originality/value: The demand management concept and framework have not previously been studied in great depth. The paper provides new knowledge and further contributes to academic thinking by clarifying demand management concept and proposing a guidance for demand management implementation.

Keywords: demand management, supply chain management.

I. Introduction

Demand management is an emerging topic in supply chain management. It is focused on a fast and adequate integration of supplier needs in order to balance and strategically align demand with operational capability in the supply chain. Lack of accurate information is among some of the progressive demand alignment problems in a supply chain, which leads to inefficient customer service, poor stock rotation, and high obsolescence rate aggravated by the wide diversity of products.

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Some authors highlighted the need of further research on demand management (Adebanjo, 2009; Kaipia *et al.*, 2006; Simatupang and Sridharan, 2002; Taylor, 2006; Taylor and Fearne, 2006) after finding, through empiric research, that the lack of alignment between supply and demand was indeed a major and expensive problem in a number of supply chains that suffered losses due to waste, lack or surplus of inventory, and low profitability.

There is little information available on demand management (Adebanjo, 2009; Taylor, 2006; Taylor and Fearne, 2006). According to Hilletofth *et al.* (2009), demand management is a way for organizations to obtain substantial benefits focusing on customers, besides emphasizing the need of collaboration between marketing and supply chain management in order to generate value. Nevertheless, these authors point out that the application of demand management concepts is still fairly recent, and therefore it needs further investigation.

According to Mentzer and Moon (2005) demand management, as well as the concept of demand per se, have not been well understood by supply chain agents. Many companies have failed to realize that achieving chain coordination is not possible without an adequate understanding of demand. Practitioners and academics have used terms like Demand Management, Demand Planning, Demand Forecasting, Sales and Operations Planning (S&OP), Collaborative Planning, Forecasting and Replenishment (CPFR), Integrated Business Planning (IBP), Vendor Managed Inventory (VMI) to designate similar but distinct activities and processes. Therefore, there is a confusion behind the term 'Demand Management'.

Some authors discuss the need for demand management in the supply chain and the interactions that involve such process (Esper *et al.*, 2010; Hilletofth *et al.*, 2009; Juttner *et al.*, 2007; Mentzer and Moon, 2005; VICS, 2010), but they do not provide a guidance for its implementation. Croxton et al. (2008) propose a demand management framework whose structure allows the understanding of demand management from all its interfaces providing an integrated view of its relationship with other seven supply chain processes proposed by the Global Supply Chain Forum (Croxton *et al.*, 2008; Lambert, 2004; Lambert and Cooper, 2000; Lambert; Cooper; Pagh, 1998). Nevertheless, these authors do not describe how the demand management process can be implemented independent of the other seven business processes proposed by the Global Supply Chain Forum.

Thus, the objective of this study is to define demand management in supply chain in order to clarify this concept. In addition, this article aims to provide a guidance for the preconditions that need to be in place in order for a company to implement demand management with its suppliers and customers. In order to develop this research, a systematic literature review (Tranfield *et al*., 2003; Tranfield *et al*., 2004) on demand management was conducted.

Therefore, the importance and contribution of this study are justified by the fact that supply chain management is considered a new, not yet consolidated concept which requires further and deeper investigation and definitions. Hence, the aim of this study is to contribute for a better understanding and wider approach to demand management, which can lead organizations to implement it in order to overcome the challenges of combining customer needs and supply chain capabilities.

This study was structured into three sections. Initially, the research methodology is discussed including the three phases of the systematic literature review. Next, the literature review results are reported describing the demand management definitions and requirements. The last section presents the conclusions.

II. Research Methodology

The purpose of a literature review is to enable researchers to map and analyze the significant literature published on a topic and to establish a particular issue for its deep investigation. An alternative to literature review is its systematic review (Tranfield *et al*., 2003). The systematic literature review is a methodology that uses relevant literature to a particular issue as data source providing a selection, critical contribution evaluation, analysis, and summary of each work. It describes the evidences leading to reasonable conclusions about what is known and not known about the topic (Denyer and Tranfield, 2009).

Hence, this research is divided into three stages: planning the review, conducting the review, and reporting the review (Table 1).

Table 1 : Stages of a systematic review

Stage I: Planning the review
Phase 1 – Scoping study
Phase 2 – Producing a review protocol
Stage II: Conducting the review
Phase 3 – Identification of studies
Phase 4 – Data synthesis
Stage III: Reporting the review
Phase 5 – Data analysis
Phase 6 – Discussion, limitation, and conclusions

Source: Adapted from Tranfield et al. (2003, p. 214); Tranfield et al. (2004, p. 380)

Next, a description of the stages that compose the process of development of a systematic review is presented.

a) Stage I: Planning the review

The purpose of this review is to identify the concepts of demand management from a perspective of the supply chain management and its frameworks. Therefore, a research protocol was prepared including information on how the studies would be found and selected from the literature and the criteria for including those studies (Table 2).

Table 2 : Review protocol

1- Access to supply chain management published material: Ballou (2006); Cooper *et al.* (1997); CSCMP (2009); Fisher (1997); Lambert (2008); Lambert (2004); Lambert and Cooper (2000); Lambert *et al.* (1998); Mentzer *et al.* (2001); SCC (2009).
2 - Access to book chapters on Demand Management: Croxton *et al.* (2008); Mentzer and Moon (2005); Mentzer *et al.* (2007).
3- Access to the following databases: Science Direct, Emerald, and Wiley-Blackwell. Advanced search using the terms: ‘demand management’, ‘demand supply chain’, ‘demand chain’, ‘demand chain management’ as title keywords or as text keywords.
4- Access to the Brazilian Digital Library of Electronic Theses and Dissertations. Advanced search using the terms: ‘demand management’, as title keywords or as text keywords.
5- Access to the major Brazilian scientific journals covering subjects such as Production Engineering and Management. Advanced search using the terms: ‘demand management’, as title keywords or as text keywords.

6- Access to proceedings of major Brazilian scientific events on Production Engineering and Management. Advanced search using the terms: 'demand management', as title keywords or as text keywords.

b) Stage II: Conducting a review

The literature review began by surveying the topic "Supply Chain Management" on international and national books and classic international journals on this topic.

During the selection of articles, the titles and abstracts that included demand management in supply chains were evaluated. Book chapters, articles, theses, or dissertations that covered demand forecasting only were excluded. Among the international and national books on supply chain management, the chapters on demand management were selected.

Information from the following databases Science Direct, Emerald, and Wiley-Blackwell, available on Capes' Journal Citation Reports Portal, were analyzed retrospectively up to 2011. An advanced search was conducted using the terms: 'demand management', 'demand supply chain', 'demand chain' 'demand chain management' as title keywords or as text keywords considering "every year" (available in the database up to 2011) and 'journals only' as filters. Table 3 shows the total number of articles that resulted from the literature review per database and terms searched.

Table 3 : Total Number of articles that resulted from the literature review per-database and terms used in the search

Advanced search: terms used as title keywords or as text keywords ('every year' and 'journals only')	Number of articles per database		
	Science Direct	Emerald	Wiley-Blackwell
Demand management	100	47	37
Demand supply chain	100	14	5
Demand chain	100	11	6
Demand chain management	48	6	1

Hence, around 200 articles were analyzed, from which 47 were selected. Those included the concept and/or frameworks and/or challenges of demand management from a supply chain management perspective. The databases and respective journals from which the articles were selected are shown in Table 4.

Table 4 : Databases and respective journals from which the articles were selected

Database	Number of Articles	Journals
Emerald (34 articles)	1	European Business Review
	2	Industrial Management and Data Systems
	1	Integrated Manufacturing Systems
	1	Journal of Business and Industrial Marketing
	1	Journal of Consumer Marketing
	1	Journal of Contemporary Hospitality Management
	1	Journal of Enterprise Information Management
	8	Journal of Logistics Management
	1	Journal of Operations and Production Management
	6	Journal of Physical Distribution and Logistics Management
	1	Journal of Retail and Distribution Management
	10	Supply Chain Management
Science Direct (12 articles)	2	European Journal of Purchasing & Supply Management
	2	European Management Journal
	4	Industrial Marketing Management
	1	International Food and Agribusiness Management
	1	Journal of Operations Management
	2	Journal of Production Economics
Wiley-Blackwell	1	British Journal of Marketing

The analysis of the selected articles shown in Table 4 indicated the need of further search in different databases. Therefore, 18 other articles were selected and analyzed (Table 5).

Table 5 : Databases and respective journals from which other articles were selected

Database	Number of Articles	Journals
Academy of Marketing Science	3	Journal of the Academy of Marketing Science
Gale	3	Harvard Business Review
Informs	1	Management Science
Wilson	3	Journal of Marketing
Other databases accessed through Michigan State University or School of Management at Cranfield University (8 articles)	1	Conradi Research Review
	3	Food Logistics
	1	Journal of Business Logistics
	1	Journal of Logistics Research and Applications
	1	Journal on Chain and Network Science
	1	Production Engineer

The search of national (Brazil) scientific publications included the digital library of electronic theses and dissertations, articles published in journals, and scientific events' proceedings on Production Engineering and Management.

The digital libraries accessed were: Digital Library of Electronic Theses and Dissertations (CAPES), Digital Library of Electronic Theses and Dissertations (USP), and the library of the Federal University of São Carlos (UFSCar). An advanced search was conducted using the terms 'demand management' as title keywords or as text keywords resulting in 4 publications. Among them, only one thesis and one dissertation were selected. In addition, following fellow researchers' suggestions, two other dissertations held by the library of Methodist University of Piracicaba (UNIMEP) that addressed demand management were also analyzed.

The Scientific Electronic Library Online (SciELO) was accessed in the search for articles in the following journals: *Produção* (Production) and *Gestão & Produção* (Production and Production & Management). No publications resulted from the search using the terms 'demand management' as title keywords or as text keywords in the RAUSP – *Revista de Administração da Universidade de São Paulo* (journal of management of the University of São Paulo) and using 'demand management' as keywords (search restricted to author and keywords) in the RAE - *Revista de Administração de Empresas* (journal of business administration).

Fifteen articles that included the terms 'demand management' in the title were found in the proceedings of scientific events. Among them, 4 were selected for analysis (Table 6).

Table 6 : Articles identified and selected from Brazilian scientific events' proceedings

Scientific events	Number of articles	Number of articles selected
ENEGEP (Encontro Nacional de Engenharia de Produção) – National Meeting on Production Engineering - from 2000 to 2010	10	2
SIMPEP (Simpósio de Engenharia de Produção) – Production Engineer Symposium- from 2000 to 2010	2	1
SIMPOI (Simpósio de Administração da Produção, Logística e Operações Internacionais) – Symposium on Production, Logistics, and International Operations – from 2005 to 2010	1	1
ENANPAD (Encontro da Associação Nacional de Pós-Graduação e Pesquisa em Administração) – National Association of Graduate Studies and Research in Administration Meeting –all publications issued	2	2

The book chapters, articles, theses, and dissertations included in the systematic review were summarized highlighting their major points. The next section presents the findings of the systematic literature review according to stage III: Reporting the review.

III. Results

The concepts and objectives of demand management discussed by several authors on Table 7 indicate that demand management cannot be considered an isolated process or an activity restricted to sales forecasting. Those authors offer a more comprehensive concept that involves the creation of synergies between operations and marketing aiming at understanding the market and developing actions synchronized with the company strategy, production capacity and final customer needs.

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Table 7 : Demand management definitions

Authors	Demand Management Definition
Croxton *et al.* (2008)	Supply chain process composed of operational and strategic sub-processes that focus on determining sales forecasting, synchronize it with the production capacity of the company and the chain, incorporate the company strategy, and map customer needs.
Hilletofth *et al.* (2009); Hilletofth and Ericsson (2007); Juttner *et al.* (2007); Walters (2006); Walters and Rainbird (2004)	Alignment of demand creation and demand fulfillment processes within the internal functions of a particular company and across companies within the chain thus exploring the synergies between market and SCM aiming at obtaining competitive advantages.
Mentzer *et al.* (2007) Mentzer and Moon (2005)	An element of the supply chain management. Creation of a coordinated demand flow between the members of the supply chain network and their markets.
Vollmann *et al.* (2004)	Key interface between the production activities of a company, and planning and market control systems. It encompasses several activities including forecasting, processing customer orders establishing delivery dates, and balancing demand and supply.
Rainbird (2004)	Understanding of the current and future customer expectations, market characteristics, and available alternative responses that result from operational processes.

The literature review allowed the identification of two demand management frameworks that are summarized in Table 8. Among them, some marketing researchers defend the need for integration between marketing and supply chain management (Esper *et al.*, 2010; Hilletofth *et al.*, 2009; Juttner *et al.*, 2007; VICS, 2010) and others focus on supply chain and define demand management as a process or an element of supply chain management (Croxton *et al.,* 2008; Mentzer and Moon, 2005).

Table 8 : Demand management framework

Demand management framework	Authors	Demand management framework description
Demand management as an integration of marketing and supply chain management	Esper *et al.* (2010)	Suggest that the success of the supply chain in creating customer value requires an extensive integration between the processes focused on demand and those focused on supply.
	Juttner *et al.* (2007); Hilletofth *et al.* (2009)	Demand management is composed of the processes of demand creation and demand fulfillment, and the coordination of these processes through the collaboration of the two areas is necessary.
	VICS (2010)	Demand management as the integration of Sales and Operations Planning (S&OP) and Collaborative Planning, Forecasting and Replenishment (CPFR).
Demand management as a process or an element of supply chain management	Croxton *et al.* (2008)	Demand management as a process of supply chain management emphasizing the need to implement operational and strategic sub-processes focusing on understanding, influencing, and managing customers' demand achieving a fast response throughout the supply chain.
	Mentzer and Moon (2005)	Demand management is the creation of a coordinated demand flow between the members of the supply chain and their markets. They consider demand management as an element of supply chain management encompassing marketing and its coordination between the agents in the supply chain (internal and external) and demand planning.

Among the authors mentioned in Table 8, only Croxton *et al*. (2008) propose a demand management framework that details the implementation process. Under this perspective, the model divides demand management into two parts: strategic sub-process and operational sub-processes. Figure 1 shows the interfaces between each sub-process with the other seven processes proposed by Global Supply Chain Forum.

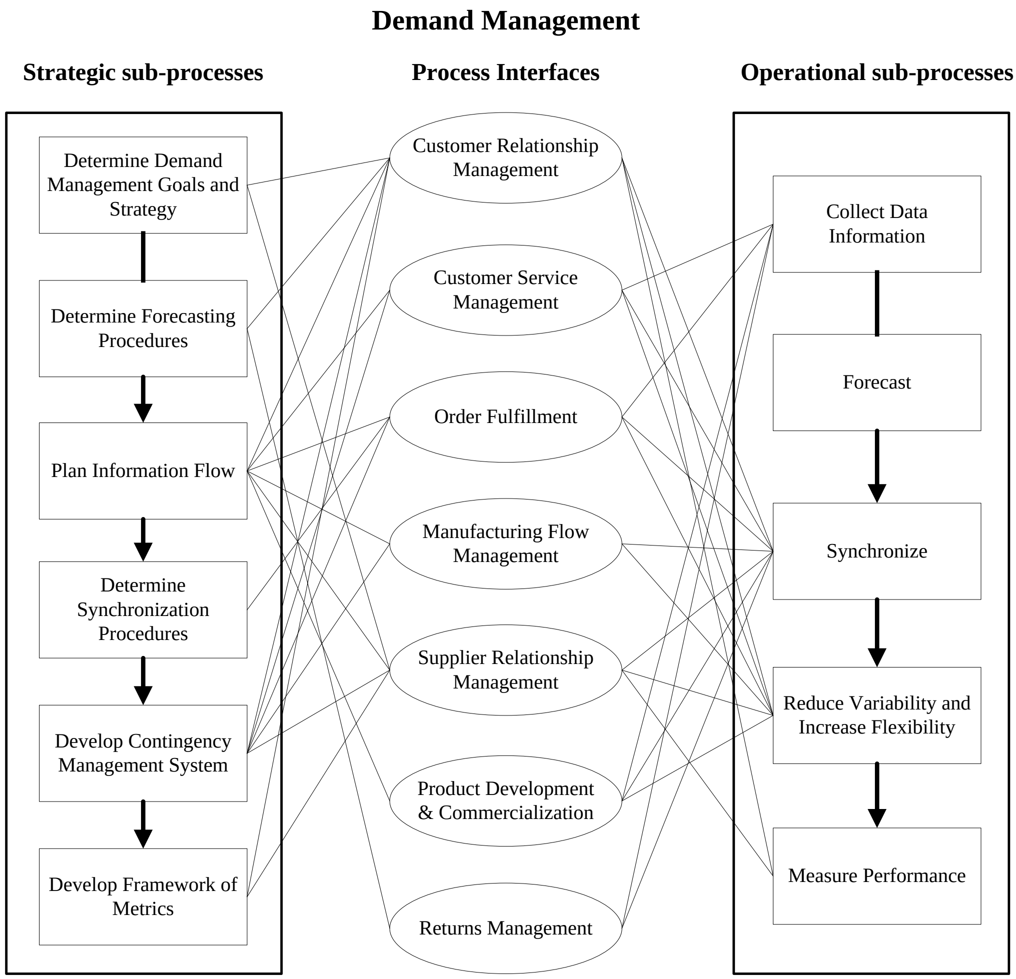

Figure 1 : Demand Management Process

Source: Croxton et al. (2008, p. 89)

The interdependence of the demand management process on the other processes limits the model proposed by the authors since the companies may not have implemented them. Hence, the literature review enabled the identification of the requirements for an effective implementation of demand management in order to eliminate its interdependence on the other supply chain processes. Those requirements are shown in Figure 2, and each one will be discussed next.

a) Collaborative supply chain management

According to Mentzer *et al.* (2001), supply chain orientation is a requirement for supply chain management that consists of the development of common, inter and intra-firms collaborative efforts. Those efforts represent the collaboration as proposed by Chen, Daugherty and Roath (2009); Fawcett, Magnan and Mccarter (2008); Holweg et al. (2005); Horvath (2001); Mentzer, Fonghin and Golicic (2000); Min *et al.* (2005); Sabath and Fontanella (2002); Simatupang and Sridharan (2002, 2004); Stank, Keller and Daugherty (2001); Vieira, Yoshizaki and Ho (2009): information sharing; planning and execution of joint actions; risk sharing, costs and gains; development of inter and intra-firms relationships; financial and non-financial investments; definition and monitoring of performance indicators.

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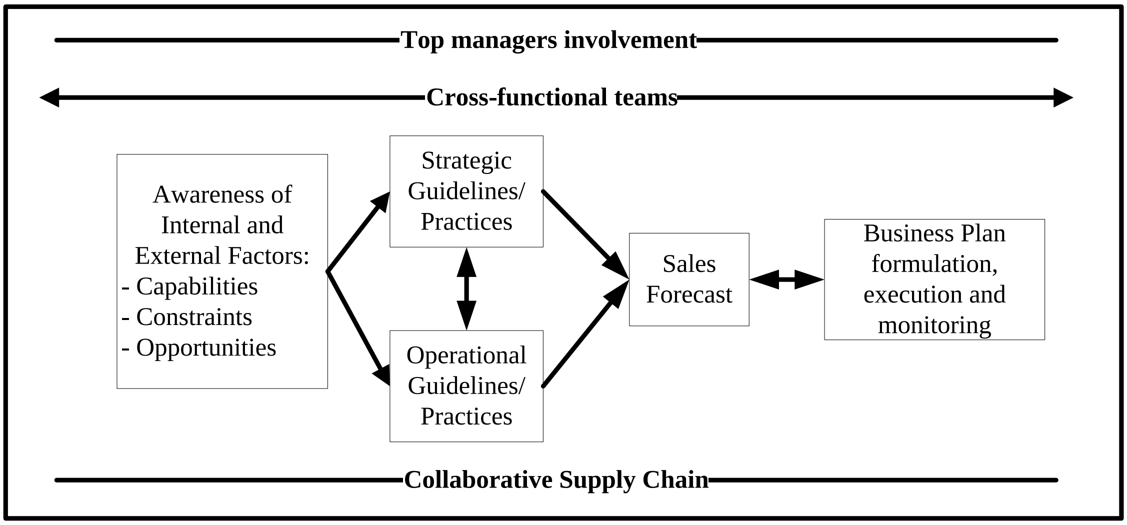

Figure 2 : Demand management requirements

b) Grasping market capabilities, constraints, and opportunities

In order to implement demand management, it is necessary to understand the market (Croxton *et al.*, 2008; Esper *et al.*, 2010; Hilletofth *et al.*, 2009; Juttner *et al.*, 2007; Mentzer and Moon, 2005; Rainbird, 2004) through the analysis of capabilities, constraints, and opportunities of internal and external environments of an organization. Grasping the organization's internal and external market will establish guidance as well as strategic and operational practices in the organization.

c) Grasping guidance and strategic/operational practices in organizations

It involves sharing strategic operational information between organizations aiming at identifying the difficulties and potentialities of partners (Vieira; Yoshizaki; Ho, 2009) and generating information as well as supply and demand forecasting (information on capabilities, initiatives, suppliers' strategies, technology, tendencies within the sector, stock level, transportation, and storage options) (Esper *et al.*, 2010). In addition, it aims at gauging partner's strategic intent that enables focusing on growing and developing, achieving market share, and improving the services provided (Min et al., 2005).

d) Development of cross-functional teams

The demand management process involves an cross-functional team composed of members from different organizational levels and sectors and supply chain representatives (suppliers and customers) (Chen, Daugherty and Roath, 2009; Croxton *et al.*, 2008; Hilletofth *et al.*, 2009; Juttner *et al.*, 2007; Mentzer *et al.*, 2007; Vollmann *et al.*, 2004). This cross-functional team should have a complete understanding of the market and the guidance provided, and the strategic and operational practices in the organization (Croxton *et al.*, 2008; Esper *et al.*, 2010; Hilletofth *et al.*, 2009; Mentzer *et al.*, 2007).

e) Development of sales forecasting

Sales forecasting is a prediction of expected future market demand (Mentzer et al., 2007), and it focuses on accuracy (Aghazadeh, 2004; Katz, Pagell and Bloodgood, 2003; Mentzer et al., 2007; Taylor and Fearne, 2006). According to Croxton et al. (2008), in order to develop sales forecasting, it is necessary to determine the levels of detail and the scope of forecasting, to identify the information sources, and to define the forecast method, which could involve internal and external cross-functional teams.

f) Business plan creation, execution, and monitoring

Practitioners and academics have used terms like Sales and Operations Planning (S&OP), Collaborative Planning, Forecasting and Replenishment (CPFR), Integrated Business Planning (IBP), Vendor Managed Inventory (VMI) to designate similar but distinct activities and processes. S&OP is a cross-functional integration that focuses on conciliating marketing and operation plans in the organization (APICS, 2009; Croxton *et al.*, 2008; VICS, 2010; Wallace, 2004) and it can advance to higher S&OP integration, including inter-firms integration (Grimson and Pyke, 2007; Lapide 2005).

The CPFR is an initiative used by supply chain agents aiming at improving the relationship through the jointed planning and management of the processes and information sharing (Seifert, 2003). Therefore, in the CPFR the supplier is involved in demand planning, but according to VICS (2010), the sales plans, in general, do not include future initiatives such as marketing campaigns, promotions, and product launching. Thus, VICS (2010) proposes a combination of the S&OP and CPFR models to develop the IBP, in which the S&OP activities (internal alignment, monthly review cycle, scope of planning, involvement of decision makers, and detailing of sales and marketing plan) are incorporated into the CPFR. For demand management, S&OP should be implemented first because according to Van Hoek and Mitchell (2006) and Gimenez (2006) the alignment should begin internal since most initiatives are crucially dependent on the active participation of other functions.

The VMI is the stock management by the supplier since the clients do not control their own inventory, which indicates that this chain tier needs to operate with limited collaboration and reliability (Claassen, Van Weele and Van Raaij, 2008). Therefore, the major difference between VMI and CPFR is that in the former the supplier is not involved in demand planning, and in the latter the supplier does not control client inventory effectively as to process resupply orders.

Therefore, it can be said that the organizations can implement different levels of initiatives of S&OP (Grimson and Pyke, 2007; Lapide, 2005), CPFR (Danese, 2007; Larsen; Thernoe; Andresen, 2003; Seifert, 2003), and VMI (Claassen, Van Weele and Van Raaij, 2008; Elvander, Sarpola and Mattsson, 2007) in the demand management process.

According to Min *et al*. (2005), the development of a joint business plan to be executed by the cross-functional teams of organizations is one of the consequences of collaboration as the partners' relationship improves. In the context of demand management, Mentzer *et al*. (2007) define "planning" as a set of specific managerial actions to be taken in order to exceed sales forecast. Based on the economic condition, competitors, Marketing, Sales, Production, and Logistic plans, the expected future market demand is determined. The business plan is therefore developed as an iterative process because if the resulting business plan is not aligned with the needs and the financial objectives of the organization, the demand forecasting should be evaluated again concentrating on determining additional efforts for a successful business plan thus guaranteeing a plan based on the financial and market reality faced by the organization in terms of logistic capabilities, production capabilities, and supply chain (Mentzer *et al*., 2007).

With regard to the CPFR, the partner organizations will develop a joint business plan to identify the significant factors that affect demand and supply establishing sales forecasting and resupplying (VICS, 2004). S&OP involves an integration of customer focused marketing plans with the management of the supply chain in order to support the annual business planning (APICS, 2009). S&OP links the company's strategic plans and business plan to its detailed processes, this process requires a synchronized demand, supplies, and finance plan for a period between 18 and 24 months identifying the risks, opportunities, and action plans to solve problems (Wallace, 2004). VICS (2010) proposes the development of an integrated business plan, in which the S&OP activities, such as internal alignment, monthly review cycle, scope of planning, involvement of decision makers, detailing of sales and marketing plan are incorporated into the CPFR.

According to Esper *et al.* (2010), applying the knowledge about internal and external environments and demand forecasting is made possible through the demand plans (4Ps of marketing: price; place, promotion and product). Therefore, in the demand management, the marketing and supply management work together in order to develop adequate relationships for different customers, customer priority strategies, and accurate information process to customers. They also focus on developing combined actions to conciliate value requirements and operational capabilities.

According to Croxton *et al*. (2008), the objective of executing a single plan is to balance Manufacturing needs and costs, Logistics, Sales and suppliers to meet an anticipated demand. Therefore, the terms "joint business plan" (Barratt and Oliveira, 2001; Min *et al*., 2005; VICS, 2004), "integrated business plan" (VICS, 2010), "business plan" (Mentzer *et al*., 2007; APICS, 2009; Wallace, 2004), "demand and supply management plans" (Esper *et al*., 2010), and "single execution plan" (Croxton *et al.,* 2008) are used to designate the set of actions developed by partners in the supply chain management. Those actions include synchronizing marketing and operational management to better understand demands, and should be aligned with the strategic plans of organizations.

The process of collaboration should be formalized detailing the key performance indicators (Min *et al*., 2005) that involve specific focus on costs, productivity, goals, and gains. In the demand management process, the cross-functional teams define the indicators to measure and monitor the process and establish performance improvement goals (Croxton *et al*., 2008).

The aim to implement demand management is to create synergies between operational and marketing management in order to understand the market and develop actions aligned with organizational strategy, productive capability, and meeting final customer needs (Croxton *et al*. 2008; Hilletofth and Ericsson, 2007; Hilletofth *et al*., 2009; Juttner *et al*., 2007; Mentzer *et al*., 2007; Mentzer and Moon, 2005; Rainbird, 2004; Vollmann *et al*., 2004; Walters, 2006; Walters; Rainbird, 2004).

g) Top management involvement

According to Min et al. (2005), the internal alignment involves determining organization internal actions and the role of external partners. In order to guarantee this alignment, the top management group involvement is essential. The support of senior decision makers is important for both financial and non-financial investments. Furthermore, the interaction between top management groups aiming at identifying opportunities and improvement areas is crucial to create an information sharing and communication environment among the supply chain agents (Min *et al.*, 2005).

The executive S&OP meeting requires the participation of top management group representatives to make decisions regarding the recommendations discussed in previous sections and to solve conflicts (Wallace, 2004). Lapide (2004) reinforces the need for senior decision makers' participation in the S&OP.

Hence, demand management should balance the customer needs and the company capabilities reducing uncertainties and providing efficient flow in the supply chain. Therefore, demand management is essential for the success of supply chain management. According to Croxton et al. (2008) proper implementation of the process can improve the level of services delivered to the customer and can derive substantial financial benefits such as inventory reduction, better use of assets, and product availability improvement.

IV. Conclusions

This study contribute to a better understanding and a broader view of demand management as an integrated process that guides the actions of organizations to overcome the challenges of combining customer needs and supply chain capabilities. It clarifies the concept of demand management as the creation of synergies between operations and marketing aiming at understanding the market and developing actions synchronized with the company strategy, production capacity and final customer needs. This paper identifies two frameworks for demand management: integration between marketing and supply chain management and as a process or an element of supply chain management. As such, it should help practitioners as well as researchers understand demand management.

The framework in Figures 2 has considerable applicability for practitioners providing guidance as to the preconditions that need to be in place in order for a company to implement demand management with its suppliers and customers. Thus, in order to implement demand management process, it is necessary to understand the market through the capability analysis, constraints, and opportunities of external and internal environments to the organization. Such knowledge, together with the guidelines and strategic and operational practices of the company, focus on designing an efficient operational system to synchronize supply and demand through sales forecasting. In order to do so, the company needs a collaborative supply chain that consist of establishing corporative efforts between internal functions and external agents to the company aiming at meeting the final customers' needs and obtaining competitive advantage.

Demand management can incorporate different initiatives such as CPFR, S&OP, VMI, and IBP. The business plans are developed based on sales forecasting done by the cross-functional teams of the organizations in the supply chain. Those teams have also the responsibility to execute and monitor the business plan in order to find combined alternatives to better serve the clients and redirect actions in difficult situations. The whole demand management process should be supported by the organization top management group to guarantee a successful implementation of the process. Therefore, it can be said that demand management process involves a cross-functional team composed of different level and sector members of an organization and some strategic supply chain representatives (suppliers and customers). This team will be responsible for the joint development of sales forecasting and for formulating, execution, and monitoring a business plan. Therefore, the external and internal agents in the chain should have supply chain orientation.

The business plans to be reached should be based on sales forecasting through the joint efforts of the supply chain agents. Besides the responsibility for the joint development of sales forecasting, the cross-functional teams of the focal company and its suppliers are responsible for executing and monitoring the business plan searching for joint alternatives to provide customers with better services and redirect actions in situations that diverge from expected. All demand management process should be supported by the company top management to guarantee a successful implementation of the process.

For researchers, Figure 2 provides a wealth of research questions to investigate: How demand management can be effectively coordinated within a company and across supply chain? What are the challenges for demand management? What are the key performance indicators for demand management? The results are based on a thorough review of the literature, thus this paper highlights the need for developing an empirical framework of demand management and the constructs and relationships proposed in Figure 2 is intended to guide this research.

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A Study on Resource use Efficiency of Agricultural Input Factors with Reference to Farm Size in Three Revenue Mandals of Nellore District: Andhra Pradesh

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Abstract- Farm-size is of an extreme interest in agriculture. This has been much debated over what may be appropriate size of the farm because the size of the operating unit, as in the case of manufacturing industries, decisively affects the income from agriculture. Since the amount of income is dependent on the size of the farm, preponderance in small and tiny holdings is mainly responsible poor peasantry in the third world countries. Even where there is no cost advantage or disadvantage for farms of various sizes, small farms will have, under usual price relationship, lower incomes and savings than large farms. Thus, size of farms is a vital element in determining the earning capacity of the farmer as well as the efficiency of a farming unit. Hence the present study aims to analyse the resource use efficiency of input factors in different size-level farms based on entire sample of Farms in three revenue mandals of Nellore District, Andhra Pradesh. Data was collected for the variables with the help of survey method through personal interviews of the farmers selected through mixed sampling.

Keywords: resource use efficiency, marginal value product, marginal cost, regression co-efficient, geo-metric mean.

GJMBR-E Classification: JEL Code: Q00, Q13

ASTUDYONRESOURCEUSEEFFICIENCYOFAGRICULTURALINPUTFACTORSWITHREFERENCETOFARMSIZEINTHREEREVENUEMANDALSOFNELLOREDISTRICTANDHRAPRADESH

Strictly as per the compliance and regulations of:

A Study on Resource use Efficiency of Agricultural Input Factors with Reference to Farm Size in Three Revenue Mandals of Nellore District: Andhra Pradesh

Dr. E. Lokanadha Reddy [α] & Dr. D. Radhakrishna Reddy [σ]

Abstract- Farm-size is of an extreme interest in agriculture. This has been much debated over what may be appropriate size of the farm because the size of the operating unit, as in the case of manufacturing industries, decisively affects the income from agriculture. Since the amount of income is dependent on the size of the farm, preponderance in small and tiny holdings is mainly responsible poor peasantry in the third world countries. Even where there is no cost advantage or disadvantage for farms of various sizes, small farms will have, under usual price relationship, lower incomes and savings than large farms. Thus, size of farms is a vital element in determining the earning capacity of the farmer as well as the efficiency of a farming unit. Hence the present study aims to analyse the resource use efficiency of input factors in different size-level farms based on entire sample of Farms in three revenue mandals of Nellore District, Andhra Pradesh. Data was collected for the variables with the help of survey method through personal interviews of the farmers selected through mixed sampling. By studying the Marginal Value Products of factors of production, we assessed the relative importance of factors of production.

Keywords: resource use efficiency, marginal value product, marginal cost, regression co-efficient, geometric mean.

I. Introduction

Farm-size is of an extreme interest in agriculture. This has been much debated over what may be appropriate size of the farm because the size of the operating unit, as in the case of manufacturing industries, decisively affects the income from agriculture. In case of manufacturing industry, we have optimum size of the unit, a size which is in existing conditions of technique and organizing ability has the lowest average cost of production per unit. Similarly in agriculture, too, we have a size, which under given conditions, would yield the best results to the farmer. The advantages of large and small farms have been debated for atleast a century.

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There are economists and farmers who advocate large-scale farming for efficient operations, a satisfactory income to the farm family and food to the consumer at reasonable rate. But, on the other hand, some persons strongly advocate small-scale farming on the ground of social justice. Poverty in agriculture, in most of the third world countries is as much a problem of farm size as of other single factor. The great majority of farm families in these developing countries with low income line on undersized and adequate units. Even where there is no cost advantage or disadvantage for farms of various sizes, small farms will have, under usual price relationship, lower incomes and savings than large farms. Thus, size of farms is a vital element in determining the earning capacity of the farmer as well as the efficiency of a farming unit. The size of the farm is usually measured on the basis of acreage. This is the only measure consistently used by the agricultural census of many countries of the world. India is a land of small units of cultivation. A predominantly large proportion of the cultivated holdings has steadily continued. Today about 82 percent of the holdings are being operated in small units covering about 39 percent of the total operated land. It is obvious at a glance that small units of cultivation reflect a serious imbalance on the land-man ratio. In contrast to large holdings which suffer from lack of labour and inputs, the small units suffer from holdings also have less of motivation than the other farmers. The new approach in agricultural production serves to emphasize the importance of small units of cultivation and to understand the problems connected with these.

Many evaluative studies were made an impact on new technology in transforming Indian Agriculture. The extreme diversities in resource endowments and relative factor scarcities have led the economists to make a diverse assessment about the impact of the new technology on the small and large farms. The northern states which are endowed with a developed infrastructural and irrigational facilities, surpass the other states in sharing the benefits.

There are number of studies on the agricultural sector in Nellore district. Among these studies, the research on agricultural production is very limited. The empirical investigations are needed to study the resource use efficiency of input factors in different size-level farms. Hence, the empirical and scientific investigational study of resource use efficiency of input factors in the rural economy of Nellore district is an important phenomena. In the present study, an attempt has been made to study the resource use efficiency of input factors in different size-level farms basing on entire sample of farms of three mandals, namely, Kaligiri, Muttukur and Pellakur of Nellore district of Andhra Pradesh.

II. Review of Literature

Rajvir Singh and Patel18 [1973] made an attempt to examine the relationship between output and farm-size in Meerut district of Utter Pradesh. The authors was concluded that in the context of new technology there is no indication of decrease in output per hectare with an increase in farm-size and, therefore, the hypothesis of inverse relationship is rejected in the area under study. One possible explanation for these trends is that, as farm technology undergoes a change; large farmers take together interest in using land more intensively with modern inputs at proper time in the week of higher probability offered by the New Technology.

Based on the data derived from different resources, Hanumantha Rao8 [1965] reached the following observations, “Despite better access to resources, output per acre among large farms under the traditional labour intensive technology was cost of (hired) labour was higher for them for small family farms. Also, managerial and supervisory diseconomies of large-size under labour-intensive methods accounted for lower labour input per acre among large farms. Technological changes created new production possibilities for large farms which could now increasingly substitute capital for labour by adopting biological as well as mechanical techniques and produce at a faster rate than small farms. The latest evidence shows that the inverse relationship between farm size and output per acre found under traditional technology no longer holds true with the adoption of new technology”.

Bhatia and Datta3 [1987] made an attempt to analyse, whether the use of different energy inputs help in promoting employment. The study was conducted in the Amritsar District for the year 1984-85 and cultivators were divided into four groups namely marginal, small, medium and large sized farm groups. The study revealed that the number of family labour engaged in agriculture bears direct relationship with size of operational holding. However, employment (man equivalent days/acre) bears inverse relationship. The functional relationship revealed that in the case of marginal and small farms, human employment can be supplemented by the more use of mechanical energy, whereas in the case of medium farms the use of human-labour can be increased some extent within the increased use of chemical energy but in the case of large farms, the use of human-labour was rational and can be increased with more use of chemical as well as mechanical energy.

Reddy, A.R. and Sen, C19 [2004] study was undertaken in the Sone Canal command area of the state of Bihar. A sample of 270 farmers comprising 207 marginal (< 1 hectare), 31 small (1-2 hectares), 22 semi-medium (2-4 hectares) and 10 medium (4-10 hectares) farms were selected through stratified random sampling method. Technical inefficiency of the individual farms was estimated through stochastic frontier production function analysis. This study reveals that the technical inefficiency in rice production decreased with increase in farm size. The average technical inefficiency was highest in marginal farms (27.28%) followed by small farms (22.05%). Minimum average and technical inefficiency was observed in medium group. Technical inefficiency in the production of rice is negatively related with farm size.

Jain10 [1985] made an attempt to examine the interaction between farms size, technology and rural institutions to discover their influence on income distribution. The study reveals that in case of traditional crops or where irrigation and HYV seeds have not been used, little differences in per acre yield existed among various farm size groups. But under jointly managed capital intensive irrigation technology, the per acre yield of the rich and middle farmers was much higher when compared to the poor farmers. Family, it was also observed under individual managed labour intensive irrigation technology the per acre yield of the poor farmers was much higher than that of the rich and middle farmers. The study, therefore, suggested that the technology suited for the poor is promoted, income differences can be minimized.

Pritam Singh15 [1970] made an attempt to examine the economic efficiency of different farm-size groups. He tested the significance of various indicators of economic efficiency within the size groups and farm types. He concluded that there is a direct relationship between farm-size and economic efficiency on tractorised farms only. Moreover, the level of economic efficiency is higher on tractor-operated farms, on bullock-operated farms especially medium and large farms.

Debnarayan Sarker and Sudpita De5 [2004] study attempted to examine the extent of efficiency under different types of nature and different farm sizes in two types of villages – Technologically Advanced villages and Technologically Backward villages. This study considering all farm sizes in both the type of villages together, it can be said that except the lowest farm size where all farms are efficient, the proportion of efficient farm increase with the increase of farm size. This analysis shows that the use of high technological inputs in Agriculture is not so important in improving the efficiency level of the farms. This might suggest that only high use of technical inputs like irrigation, HYV seeds, chemical fertilizer per unit of land does not necessarily bring about maximum possible output for a given set of inputs, nor does it only make 'best practice' relationship between inputs and outputs.

Srinivasa Gowda, Basavaraj Bankar, Basvaraj and Hugar26 [1988] studied the productivity differences between small and large farms by analyzing the parameters of their respective production functions. The study revealed that the productivity differences between small and large farms were largely attributable to the existing technology. The author found that the level of output use had a relative significant influence on productivity difference. Large farms were found to have a technological advantage over small farms under irrigated conditions, while the reverse was true under un-irrigated conditions. The study concluded that an improvement in technology appropriate for them but also an increase in their access to the modern agricultural inputs.

Venkatesam Naidu and Venkateswarlu28 [1988] discussed the resource use efficiency on maize farms in Karimnagar district of Andhra Pradesh. They adopted Cobb-Douglas Production Function to study the resource use efficiency of sample farms. The authors identify in the case of maize production, contribution of family labour and total cost of cultivation decrease with increase in farm size. Small farmers used more manures and less fertilizers, whereas medium and large farmers used more fertilizers and less manure. It is also observed that the average yield of hybrid maize was more on small farms and decreased as the farm size increased. Cost of production was the lowest in small farms.

Singh and Pandey25 [1971] studied the resource use efficiency in a dry farming area of Banda district of Utter Pradesh. The study concluded that the farmers are handicapped with inadequacy of growth promoting inputs such as manure, fertilizer and irrigation facilities and are using the conventional input, labour in excessive quality due to non-availability of other non-farmer employment opportunity. The author observed that the new technology of high yielding variety was still in its infancy owing to the un assured irrigation facilities. Therefore, policy for the growth of this dry farming area of crop thriving under low rain-fed conditions and adequate provision for credit and non-farm employment is made for raising the farm productivity and for uplifting the standard of living of the people in the region.

III. Objective of the Study

The following is the objective of the study:

- To study the Agricultural resource use efficiency of input factors in different size-level farms in three revenue mandals of Nellore District, Andhra Pradesh.

IV. Data and Methodology

The following methodology is adopted to study the above objective. The present study extends over Nellore district of Andhra Pradesh. A multistage random sampling design was used. We purposefully selected three mandals, Namely Kaligiri, Muttukur and Pellakur of Nellore District at the first stage and later with help of random sampling ten to twelve villages were selected from each Mandal. After the selection of villages a complete list of agricultural families was prepared. As it is generally believed that the technology was size-based, the list of farmers was further divided into three categories of farms defined as under;

0.00 acres - 2.50 acres : small farms
2.51 acres - 5.00 acres : medium farms
5.01 acres and above : large farms

From the sub-divided list of farmers 15-20 farmers were selected from each village for preparing a sample of 420 farmers taking for Kaligiri, Muttukur and Pellakur mandals. Data was collected for the explanatory and explained variables with the help of survey method through personal interviews of the farmers selected through mixed sampling for this study relating to the agricultural year 2004-2005.

a) *Specification of Variables*

A great deal of caution is essential in the selection, classification and aggregation of input variables used in the production process for studying resources productivity. Different researchers have classified and aggregated farm inputs in different ways suitable for their studies. Various ways of classifying and aggregating input variables in production function studies together with a brief description of variables used as explanatory variables in the present study are giving below.

i. *Bullock-Labour*

Preparation of farm is an important agricultural work and bullock-power have been taken as an explanatory variable by a number of writers. Chaudhari4 [1962], Reddy and Sen20 [2004], Hopper9 [1965] and Radhakrishna16 [1962] have used it in terms of plough unit days consisting of one pair of animal-labour day and one human-labour day comprising one plough unit. While Rajkrishna17 [1964], Badal and Singh1 [2001] specified this variable in terms of bullock-labour days, Robellow and Desai21 [1966] included a labour with a pair of bullocks. Here, we also include one human-labour to a pair of bullocks and specify them in value terms. This done with the help of accounting prices.

ii. *Human-Labour*

Human-labour too, has been used as an explanatory variable in the estimation of production functions either in physical units of time or in value of terms. Shan22 [1969] and Goyal7 [2003] used all human labour while, Hopper9 [1965] and Mathur11 [1960] used all human-labour except those associated with plough unit in value terms. Sharma and Sharma23 [2000], Hanumantha Rao8 [1965], Rajkrishna17 [1964], Singh24 [1975] and Eswara Prasad6 [1988] have used all human-labour in terms of man-days. We also include human-labour as an explanatory variable but from it exclude those labourers who are engaged in traditional irrigation work and are associated with bullock units. Variable is specified in terms of rupees.

iii. *HYV Seeds*

A few writers have used seeds as explanatory variable in their functions. Prasad14 [1973], Debnarayan Sarker and Sudptia De5 [2004] used seeds as a separate explanatory variable in his study terms of expenditure on seeds. We also include seeds in our functions, the prices of seeds are determined at the prevailing market price of the seeds at the seeding time.

iv. *Irrigation*

Assured and effective irrigation which has been one of the most important factors in the production function studies. Rajkrishna17 [1964], Timothy and Krishna Moorthy27 [1990] has specified this variable in terms of expenses on irrigation. We also specify it in the same term. Expenses on irrigation include permanent of wages to labourers used in traditional system of irrigation, water charges paid to the Government for the use of state tube-wells, hire-price of the water received from private tube-wells and pumping sets. Expenses also include accounting prices for the water received from farmers own pumping sets and tube-wells.

v. *Fertilizer*

Fertilizer is one of the most important components in Agricultural Production. Parikh13 [1996] and Shan22 [1969] Mythili and Shanmugam12 [2000] have used chemical fertilizers as separate variable, while Basak and Choudhary2 [1954-1957] has included manure along with chemical fertilizers as an explanatory variable. Yadav and Gangwar29 [1986] considered various categories of chemical fertilizers as independent explanatory variables. In the present study, though category-wise chemical fertilizer is not taken, chemical fertilizers and pesticides and natural fertilizers are specified as separate variables, and taken in value terms. While expenses on chemical fertilizer are the actual expenses, help of accounting price has been taken to determine the expenses on traditional fertilizers, like seen manure, compost burnt of waste goods and cow-dewing.

vi. *Plant Protection*

Plant protection measures are included as explanatory variable. Prasad14 [1973] and Badal and Singh1 [2001] taken them in terms of expenditure on their use. In our study also this variable is specified in terms of actual expenditure.

V. Model Specification

By studying the Marginal Value Products of factors of production, we can assess by their relative importance of factors of production. Marginal Value Product of Xi, the ith input is estimated by the following formula:

$$\mathrm{MVP}\left(X_i\right) = \alpha_i \frac{\mathrm{G.M.}(Y)}{\mathrm{G.M.}(X_i)}$$

Where,

G.M. (Yi) and G.M. (Xi) represent the geometric means of output and input respectively, αi is the regression Co-efficient of ith input.

VI. Results and Discussions

a) Kaligiri Mandal

A comparison of marginal value product and marginal cost of an input gives a valid estimation of its (inputs) efficiency in the allocation production process. Hence, the ratios of marginal value products and factor cost* pertaining to Kaligiri mandal were depicted in table 1 for all six-groups under study.

i. *Small Farms*

From table 1, it is observed that the ratios of Marginal Value Products (MVP) and Marginal Cost (MC) of human-labour, chemical fertilizers and pesticides and other plant protection methods are greater than unity and it indicates the underutilization of the variables. The ratios of bullock-labour, expenditure on tractor, HYV seeds and manures are less than unity, there by indicating over utilization of the said variables. Hence in small farms, the technological input variables chemical fertilizers and pesticides and other plant protection methods were underutilized whereas expenditure on tractor and HYV seeds were over utilized.

ii. *Medium Farms*

The ratios of MVP and MC of the variables – human-labour, chemical fertilizers, manures and pesticides and other plant protection methods are observed to be greater than unity. Hence, the medium size farmers are under utilizing the above factors. The ratios of bullock-labour, expenditure on tractor and HYV seeds are less than unity. Therefore, one can say that the medium size farmers are utilizing bullock-labour, expenditure on tractor and HYV seeds excessively.

Table 1 : Ratios of Marginal Value Products of Input Factor to their Marginal Cost

Inputs	Description of Inputs	Kaligiri Mandal								
		Small Farms			Medium Farms			Large Farms		
		MVP	MC	Ratio	MVP	MC	Ratio	MVP	MC	Ratio
X1	Bullock-labour	0.06701	1.000	0.06701	0.00791	1.000	0.00791	-0.12530	1.000	-0.12530
X2	Expenditure on Tractor	0.14452	1.000	0.14452	0.13400	1.000	0.13400	0.00360	1.000	0.00360
X3	Human-labour	7.26500	1.000	7.26500	1.63974	1.000	1.63974	4.30006	1.000	4.30006
X4	HYV Seeds	0.30344	1.000	0.30344	-0.23134	1.000	-0.23134	0.73035	1.000	0.73035
X5	Chemical Fertilizers	2.99176	1.000	2.99176	6.19703	1.000	6.19703	3.99506	1.000	3.99506
X6	Manures	-0.24488	1.000	-0.24488	6.25136	1.000	6.25136	2.84784	1.000	2.84784
X7	Pesticide and other Plant Protection Expenditure	7.91590	1.000	7.91590	7.32263	1.000	7.32263	11.00172	1.000	11.00172

iii. *Large Farms*

In case of the factors human-labour, chemical fertilizers, manures and pesticides and other plant protection methods, the MVP and MC ratios are found to be greater than unity. It indicates under utilization of human-labour, chemical fertilizers, manures and pesticides and other plant protection methods. The ratios of MVP and MC of bullock-labour, expenditure on tractor and HYV seeds are observed to be less than unity. It is noticed that the excessive utilization of these variables bullock-labour, tractor expenditure and HYV seeds.

In the case of small farms while bullock-labour, expenditure on tractor and HYV seeds are marginally underutilized, use of human-labour, chemical fertilizers and pesticides and other plant protection methods are deficient. Hence the pattern of resource use in small farm needs some modification, particularly, in application of human-labour, chemical fertilizers and pesticides and other plant protection methods which may be increased. In the case of medium farms, bullock-labour, expenditure on tractor and HYV seeds are marginally underutilized, use of chemical fertilizers, manures and pesticides and other plant protection methods are deficient. Hence, the pattern of resource use in medium farms needs some modification in particularly, application of chemical fertilizers, manures and pesticides and other plant protection methods may be increased. In the case of large farms, use of human-labour, chemicals fertilizers, manures and pesticides and other plant protection methods are insufficient. The pattern of resource use in large farms needs some modification, particularly, application of bullock-labour, HYV seeds, expenditure on tractor and they may be raised.

b) *Muttukur Mandal*

A comparison of marginal value product and marginal cost of an input gives a valid estimation of its (inputs) efficiency in the allocation production process. Hence, the ratios of marginal value products and factor cost* pertaining to Muttukur mandal were depicted in table 2 for all six-groups under study.

Table 2 : Ratios of Marginal Value Products of Input Factor to their Marginal Cost

Inputs	Description of Inputs	Muttukur Mandal								
		Small Farms			Medium Farms			Large Farms		
		MVP	MC	Ratio	MVP	MC	Ratio	MVP	MC	Ratio
X1	Bullock-labour	-0.38643	1.000	-0.38643	-1.44425	1.000	-1.44425	8.78303	1.000	8.78303
X2	Expenditure on Tractor	-1.54688	1.000	-1.54688	3.38376	1.000	3.38376	4.88595	1.000	4.88595
X3	Human-labour	6.65293	1.000	6.65293	8.67617	1.000	8.67617	3.80995	1.000	3.80995
X4	HYV Seeds	2.01896	1.000	2.01896	3.03605	1.000	3.03605	0.36465	1.000	0.36465
X5	Chemical Fertilizers	6.58576	1.000	6.58576	0.80261	1.000	0.80261	1.57484	1.000	1.57484
X6	Manures	1.67394	1.000	1.67394	2.46767	1.000	2.46767	0.99087	1.000	0.99087
X7	Pesticide and other Plant Protection Expenditure	3.73766	1.000	3.73766	-0.02256	1.000	-0.02256	8.64797	1.000	8.64797

i. *Small Farms*

From table 2, the ratios of MVP and MC of expenditure on tractor human-labour, HYV seeds, chemical fertilizers, manures and pesticides and other plant protection methods are greater than unity. This indicates the underutilization of these variables. The ratio of MVP and MC of bullock-labour is less than unity, thereby indicating overutilization of these variables. Hence, in small farms the technological input variables – expenditure on tractor, HYV seeds, chemical fertilizers and pesticides and other plant protection methods were underutilized.

ii. *Medium Farms*

The ratios of MVP and MC of expenditure on tractor, human-labour, HYV seeds, chemical fertilizers and manures are greater than unity and this indicates the underutilization of these variables. The rations of MVP and MC is less than unity in the case of bullock-labour and pesticides and other plant protection methods. This indicates that the medium size farmers are utilizing chemical fertilizers and pesticides and other plant protection methods excessively.

iii. *Large Farms*

The ratios of MVP and MC of bullock-labour, expenditure on tractor, human-labour, chemical fertilizers and pesticides and other plant protection methods are greater than unity. It indicates the underutilization of the above variables. The ratios of HYV seeds and manures are less than unity, thereby indicating overutilization of these variables.

In the case of small farms, human-labour, HYV seeds, chemical fertilizers and pesticides and other plant protection methods are deficient. Hence, the pattern of resource use in small farms needs some modification, particularly, application of human-labour, HYV seeds, chemical fertilizers and pesticides and other plant protection methods may be increased. In the case of medium farms bullock-labour, chemical fertilizers and pesticides and other plant protection methods are marginally utilized, use of expenditure on tractor, human-labour, HYV seeds and manures are deficient. Hence the pattern of resources use in medium farms needs some modification, particularly , application of expenditure on tractor, human-labour, HYV seeds and manures may be increased. In the case of large farms, while HYV seeds and manures are marginally utilized, use of bullock-labour, expenditure on tractor, human-labour and pesticides and other plant protection methods are deficient. Hence the pattern of resource use in large farms needs some modification, particularly, application of bullock-labour, expenditure on tractor, human-labour and pesticides and other plant protection methods may be increased.

c) Pellakur Mandal

A comparison of marginal value product and marginal cost of an input gives a valid estimation of its (inputs) efficiency in the allocation production process. Hence, the ratios of marginal value products and factor cost* pertaining to Pellakur mandal were depicted in table 3 for all six-groups under study.

Table 3 : Ratios of Marginal Value Products of Input Factor to their Marginal Cost

Inputs	Description of Inputs	Pellakur Mandal								
		Small Farms			Medium Farms			Large Farms		
		MVP	MC	Ratio	MVP	MC	Ratio	MVP	MC	Ratio
X1	Bullock-labour	1.02091	1.000	1.02091	-2.00063	1.000	-2.00063	0.38195	1.000	0.38195
X2	Expenditure on Tractor	3.55011	1.000	3.55011	-1.02766	1.000	-1.02766	0.00038	1.000	0.00038
X3	Human-labour	4.89704	1.000	4.89704	2.12717	1.000	2.12717	1.61219	1.000	1.61219
X4	HYV Seeds	-0.64578	1.000	-0.64578	4.24052	1.000	4.24052	0.21371	1.000	0.21371
X5	Chemical Fertilizers	-0.88297	1.000	-0.88297	15.43535	1.000	15.43535	7.34598	1.000	7.34598
X6	Manures	9.40139	1.000	9.40139	2.22012	1.000	2.22012	6.35182	1.000	6.35182
X7	Pesticide and other Plant Protection Expenditure	2.05467	1.000	2.05467	-4.06256	1.000	-4.06256	4.41449	1.000	4.41449

i. *Small Farms*

From table 3, we observed that the ratios of Marginal Value Products (MVP) and Marginal Cost (MC) of bullock-labour, expenditure on tractor, human-labour, manures and pesticides and other plant protection methods are greater than unity. It reveals the underutilization of these variables in the production process. The ratios of HYV seeds and chemical fertilizers are less than unity, thereby indicating overutilization of these variables. Hence, in small farms the technological input variables expenditure on tractor and pesticides and other plant protection methods were underutilized and HYV seeds and chemical fertilizers were overutilized.

ii. *Medium Farms*

The ratios of MVP and MC of all variables bullock-labour, expenditure on tractor and pesticides and other plant protection methods are observed to be less than unity and hence the medium size farms are overutilizing the above said variables. Whereas human-labour, HYV seeds, chemical fertilizers and manures are found to be greater than unity. Hence, these variables are underutilized.

iii. *Large Farms*

The ratios of MVP and MC of human-labour, chemical fertilizers, manures and pesticides and other plant protection methods are found to be greater than unity. This indicates underutilization of human-labour, chemical fertilizers, manures and pesticides and other plant protection methods. The ratios of MVP and MC of bullock-labour, expenditure on tractor, and HYV seeds are observed to be less than unity. This indicates that the large size farmers are utilizing bullock-labour, expenditure on tractor and HYV seeds excessively.

In the case of small farms while HYV seeds, chemical fertilizers are marginally underutilized, use of expenditure on tractor, human-labour, manures and pesticides and other plant protection methods are deficient. Hence the pattern of resource use in small farms needs some modification, particularly , expenditure on tractor, human-labour, manures and pesticides and other plant protection methods may be increased. In the case of medium farms while bullock-labour, expenditure on tractor and pesticides and other plant protection methods are overutilized, use of human-labour, HYV seeds, chemical fertilizers, manures and pesticides and other plant protection methods are deficient. Hence the pattern of resource use in medium farms needs some modification, particularly, application of human labour, HYV seeds, chemical fertilizers and manures may be increased. IN the case of large farms use of human-labour, chemical fertilizers, manures and pesticides and other plant protection methods are deficient. Therefore the pattern of resource use in large farms needs some modification, particularly, application human-labour, chemical fertilizers, manures and pesticides and other plant protection methods may be increased and bullock-labour, expenditure on tractor and HYV seeds and are may be decreased.

VII. Conclusions

a) Kaligiri Mandal

In the case of small farms, on the basis of ratios of MVP and MC of the input factors it is found that the pattern of resource use in small farms needs some modifications, particularly, in the application of technological factors. Chemical fertilizers and pesticides and other plant protection methods may be increased where as the application of HYV seeds and may be decreased to obtain more output.

In the case of medium farms, on the basis of ratios of MVP and MC of the input factors, it is found that the pattern of resource use in medium farms needs some modifications, particularly, in application of technological factors – chemical fertilizers and pesticides and other plant protection methods may be increased whereas the application of HYV seeds, expenditure on tractor may be decreased to obtain more output.

In the case of large farms, on the basis of ratios of MVP and MC of the input factors it is noticed that the pattern of resource use in large farms needs some modification, particularly in the application of technological factors. The pesticides and other plant protection methods, chemical fertilizers may be increased and expenditure on tractor and HYV seeds may be reduced to obtain more output.

b) Muttukur Mandal

In the case of small farms, on the basis of ratios of MVP and MC of the input factors it is found that the pattern of resource use in small farms needs some modifications, particularly, in the application of technological factors – expenditure on tractor, chemical fertilizers, pesticides and other plant protection methods and HYV seeds may be increased to obtain more output.

In the case of medium farms, on the basis of ratios of MVP and MC of input factors it is found that the pattern of resource use in medium farms of Muttukur mandal needs some modifications, particularly in the application of technological factors. The expenditure on tractor, HYV seeds may be increased whereas application of pesticides and other plant protection methods, chemical fertilizers may be decreased to obtain more output.

In the case of large farms, on the basis of ratios of MVP and MC of the large farms needs some modifications, particularly in the application of technological factors. The expenditure on tractor, chemical fertilizers and pesticides and other plant protection methods may be increased whereas HYV seeds may be decreased to obtain more output.

c) Pellakur Mandal

In the case of small farms, on the basis of ratios of MVP and MC of the input factors it is found that the pattern of resource use in small farms needs some modifications, particularly in the application of technological factors. The expenditure on tractor and pesticides and other plant protection methods may be increased where as the application of HYV seeds and chemical fertilizers may be decreased to obtain more output.

In the case of medium farms, on the basis of ratios of MVP and MC of the input factors it is found that the pattern of resource use in medium farms of Pellakur mandal needs some modifications, particularly in the application of technological factors. The factors chemical fertilizers, HYV seeds may be increased whereas the application of pesticides and other plant protection methods and expenditure on tractor may be decreased to obtain more output.

In the case of large farms, on the basis of ratios of MVP and MC of the input factors it is found that the pattern of resource use in large farms needs some modifications. The use of chemical fertilizers, pesticides and other plant protection methods may be increased whereas HYV seeds and expenditure on tractor may be decreased to obtain more output.

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Dialectical Model of Marketing versus Trends and Fashions

By Jorge Enrique Garcés Cano

Abstract- Marketing is a completely developing paradigm. In spite of nearly metaphysical, esoteric, anti-scientifically approached trends and fashions are increasingly contributing to identify more elements bringing it closer to the science like a technology. That is, an applied social science by establishing concepts and relations between Strategic and Tactic (operational) issues; its Identification, Creation, Communication and Value-Exchange and Usage- Delivery Processes, and its Functions; this elements, parts or components, and its instruments (tools).

Marketing thought and strategic planning become highly outstanding in a world where the so-called services-simply, intangibles- are progressively weighing in the economical context, inside or outside the capitalist production mode. No matter tangibles or intangibles are merchandized: the dialectic relation between Strategy and Tactics does not change, though particularities in the operational usage of the different variables in the Marketing Mix do. This is another important aspect to keep in mind.

Keywords: capitalism, applied science, merchandizing, business communication, demand, dialectics, dyna-mics, economics, strategy, growth strategy, competiti-veness strategy, positioning strategy, sales managem-ent, marketing, market, needs, strategic marketing objectives, offer, comprehensive product, conditions of satisfaction, customer service, systemic, tactics, techn-ical segmentation, technology, exchange value, use value.

GJMBR-E Classification: JEL Code: M30

DIALECTICALMODELOFMARKETINGVERSUSTRENDSANDFASHIONS

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Dialectical Model of Marketing versus Trends and Fashions

Jorge Enrique Garcés Cano

Abstract- Marketing is a completely developing paradigm[1]. In spite of nearly metaphysical, esoteric, anti-scientifically approached trends and fashions are increasingly contributing to identify more elements bringing it closer to the science like a technology[3]. That is, an applied social science by establishing concepts and relations between Strategic and Tactic (operational) issues; its Identification, Creation, Communication and Value-Exchange and Usage- Delivery Processes, and its Functions; this elements, parts or components, and its instruments (tools).

Marketing thought and strategic planning become highly outstanding in a world where the so-called services-simply, intangibles- are progressively weighing in the economical context, inside or outside the capitalist production mode. No matter tangibles or intangibles are merchandized: the dialectic relation between Strategy and Tactics does not change, though particularities in the operational usage of the different variables in the Marketing Mix do. This is another important aspect to keep in mind. It is evident that this work does not correspond to an empiric investigation, but to a theoretical-conceptual position of rupture; that is, a true theory; the exercises of empiric validation that can be undertaken starting from the well norm in the classic or traditional marketing literature, and it is not objective to the present written.

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Keywords: capitalism, applied science, merchandizing, business communication, demand, dialectics, dynamics, economics, strategy, growth strategy, competitiveness strategy, positioning strategy, sales management, marketing, market, needs, strategic marketing objectives, offer, comprehensive product, conditions of satisfaction, customer service, systemic, tactics, technical segmentation, technology, exchange value, use value.

I. The Marketing P's Theory: A Classic or Traditional Marketing Theory

The academic concept of more diffused and accepted marketing and business wise since Phillip Kotler popularized its use in the 60's of the XX century it is center in the marketing 4P's: in their original version, Product, Price, Promotion and Place, also called "marketing mix", "marketing mixture" or "marketing fundamenta variables". Operative elements that focalized in their transactional aspects and in the technical vision on the tactical short problems, given producers their only reason of being corporate: how to maximize the utilities that appropriated individually.

The widespread 4P's constitute the beginning of the operational emphasis in Marketing. Whether its origin would be attribute to the Works by the Harvard University's professor Neil H. Borden along the 1950's (Borden, 1964). To E. Jerome McCarthy in 1960, or the so-called Copenhagen School, in Europe, which had elaborated a nearly approach by the same time, but through a very different path. It is very well known by everyone that Philip Kotler would be who should develop a role as a releaser and issuer of the McCarthy's ideas, and equally, would secure two opposed elements within this approached here identified as *classic* or *traditional:*

1. On the one hand, marketing is a theoretical body trying to explain processes that the economics had failed to address by itself; and as an applied science-*Technology*-, based on its foundational science (economics), had been using elements

[1] The viewpoints expressed here have been part of the work material in Strategic Marketing, Operative Marketing and International Marketing courses, designed and taught by the author to undergraduate and graduate students in several universities in Colombia and abroad, since 1994 (Garcés, 1994-1995). Evenly, these ones documented in different work places, courses, seminars, trainings, advisories and consultancies, which the author has worked out for several companies, entities, institutions and universities, since 1994; and more recently in Garcés (2003, 2005, 2006 and 2010).

[3] According to Wikipedia "…is a Greek origin word, τεχνολογία, formed by technē (τέχνη, art, technique or craft that can be translated as skill) and logia (λογία, something's study)". That is, "…the set of technical knowledge, scientifically ordered, allowing to design and create goods and services which facilitate the adaptation to the environment and to satisfy the people's essential needs as well as their desires." Therefore, technology is defined as applied science; otherwise, the application of the scientific knowledge from the science- in a specific field or discipline, aiming to improve the life quality of the planet earth inhabitants-not just humans- and its long term sustainability. A relevant epistemological approach for the purposes of this work, because it allow to distinguish basic sciences (i.e.: biology, physics, and economics) from applied sciences or technologies (i.e.: medicine, astronomy, and marketing), or techniques, arts or crafts with these ones could be interconnected (i.e.: advertisement in marketing). Thus, the reduced view about technology as exclusively focused in its results, technological objects, devices, either production and consumption instruments, and even, simple products of the contemporary capitalism, is overcome. According to Marx (1867), technology is neither "good nor evil", and the ethic judgments about it make no sense, since these ones don't self-define the disposition and use given to it-social relation of production referring to both, organizational forms of the means of production, as industrial machines. Itself is capital, as a productivity facilitator in the actual production of use values and, hence, subordinated to the production of plus-values (in turn, a sub-product process).

from Management and Psychology (for a deeper questioning about it, see Garcés 2003, 2005, 2006 and 2010).

2. By the other hand, a marketing process description without any definition about itself, in which the dependent variables remain no established for the marketing model; that is, there is no one responding to the independent ones: Marketing Mix, tactics or operational marketing. Nonetheless, gave this process the largest of the relevancies, perhaps, unintentionally (Garcés 1994-1995 and 2010).

Thus, this fact will mark the beginning of a process still persisting after more than 50 years: academic teaching, marketing advisory and consultancy, and business application, centered and focused on Marketing Mix issues, that is, on the capacity to operate the so-called "Kotler P's", nearly always in an intuitive way and, of course, with a high emotionality.

In the traditional approach of his first 40 years (1962-2002), Kotler indicated: *"...marketing specifically studies how the transactions are created, stimulated, facilitated and valued."* Therefore, he defines the marketing process according to the mechanisms for attending the markets (that is, the demand), based on the company's fundamental decisions: Mission, Objectives and Goals, Growth Strategy and Business Plan. That is, what within a model should be indicated as its parameters; something never explicitly proposed by Kotler, because of which it is only possible to talk about his organizational scheme, instead of an explicit model[4] as such (see Kotler 1967, 1972, 1980 and 1989)[5].

In that organizational scheme, the following processes is define:

1. "identification and analysis of the marketing opportunities"
2. "segmentation and selection of the target markets"
3. "development of a competitive marketing mix strategy"
4. "design of the marketing management systems supporting the marketing approach and control, information and staff"

About this, is necessary to say something as follows, when the scientist stops focusing in the Operational Marketing topics. Either because he believes that the heart is inside "the 4P's" of "a competitive and effective strategy", or because simply these acquire the relevance that the authors granted to the topic starting from Kotler (something that is not necessarily responsibility of Kotler), they are centered in the devises mistaken like "every marketing situation is unique", just as Kotler asserts.

And, consequently, it would be impossible to try to identify, model, construct and track to control, learn and improve, on a set of relations (stable or not along the time). Relations between the so called marketing variables-"the 4P's Strategy"- and some dependent variables to be clearly identified and conceptualized before defining any model; in the case of the Marketing Model, necessarily the real *Marketing Strategic Objectives*.

Notice that despite the excess of marketing writing about what supposedly constitutes the object study in this young paradigm and the numberless definitions that are recorded in marketing text on what constitutes every "variable mix", will fail to establish and, in a clear way, define their relationships. As well as these existent ones to the other possible dependent variables in process, it is not try to construct a mathematical predictive model to the commercial problem address.

Thus, for most of its academic, consultant, professional actors would seem preferable "to guess instead of predict" and even, although in some cases the other variables-the dependent ones-, also appear defined in marketing books as *Market Growth and Participation, Positioning,* and *Competitiveness*, they never are shown identified as such. Nor their possible theoretical relations are explicitly set, with any modeling try for measuring, learning and predicting.

Then, the following queries arise. Whether any one of these identified and questioned topics does not work or are not adequately tied to any marketing model, is not the model useful anymore?; would it be needed to develop another marketing model?; are so many marketing models required as types of organization and situations or *market/product* relations exist, and a valuing and understanding interest raises?. Is the casuistry of every business, the *market/product* relation, an impediment to consider appropriately the parts of a business or marketing model? Or rather, must be it permanently attached to circumstances and consulting firms of the moment, with their *best seller*, waiting for "the ultimate marketing cry", to properly understand and stabilize the objectives and the epistemological focus of this science paradigm?

Definitely, the answer to every one of these queries should be an outright no. Marketing tied to the principles of science and the scientific method has to be develop, no matter if this one is an applied social science: *a technology*. Every organization ought to learn from marketing model to manage its decisions; nevertheless, it is not a model and a "trending"

[4] In science the models can be Descriptive, Predictive or Normative (Decisive); evenly, and in a simultaneous way, they can be verbal, graphic or mathematic. Then, key is to define what type of model should be a clear demand for an applied field of knowledge such as marketing: a technology.

[5] The author has clear and it recognizes that in the most recent works until Kotler decides to abandon and to question the classic or traditional marketing 4P's focus but without a structural rupture with his theoretical foundation (to see Kotler 2001, 2003 y 2005; and Kotler et. al. 2002).

consultant to be required for every kind of organiz-ation and moment.

If it would be like this, think for example about such complex issue as the human body and brain function; and why not, the cosmos. Would require the education of medicine and astronomy experts, respectively; each of them with a "model tailored" for every particular case under observation, analysis, study and operation; that is, the specialization for each *human case* or *star-galaxy* would demand individual intuition and emotionality to the properly certainly attend its knowledge.

And yet worse, if every casuistry invalidate the advances and the development of every one of its models and methods according to science, marketing excuses so far by saying "this one is a social discipline" (at least when it can be seen like that), and they, social fields (especially if applied), are not "accurate". That is a quite arbitrary poor epistemological position, because the general problem in science is not the "accuracy" or inaccuracy with this one can work, but the fact of scientific methods are utilized, or not, to approach knowledge of the phenomenon bein studied (observation, explanation and possible prediction), within a well-defined study field and object.

But, regrettably, in most cases, it is not even accepted that a science paradigm is faced, since most executors conceive marketing as an art, craft, technique (a "gorgeous sophisticated one", but after all, a technique); or simply, a "human activity" which "cannot be" measured, cont-rolled, much less, modeled, to learn from the process.

II. The Continuity of such an Emphasis in the Marketing of the 80's

From McCarthy (1960) to Frey (1961), Lazer and Kelley (1962), Stanton (1964), and Kotler (1967), all of them using pioneer responsibility in relation to the topic, until the heap of writers of marketing books that 70's and 80's arose in the yearsomitted by logical reasons- but whose legacy was to introduce some novel variable forgotten by its predecessors. A that to the incorporate being to the classic or traditional pattern, it would guarantee new magic recipes for "to achieve a strategy of successful, only marketing, winner and profitable".

Although with Bagozzi (1974, 1975A, 1975B, 1977, 1978, 1979 and 1986) and Hunt (1976, 1977, 1978, 1983A, 1983B and 1991) the theoretical interest arises of guiding the nature from this discipline to other aspects, the managerial practice and the ideas of the consultancy of the moment had more echo. The first one opens the debate on the structural error of having been considering their study field in exclusive function of a technical group and centering it in the study of relative individual and social activities to the initiation, resolution and escape of relationship exchange. The second one, clarifying as the central nucleus of the discipline should be the exchange relationship or transaction, to the being a science of the behavior that seeks to explain the relationships between buyers and salespersons.

However, among the 80 and 90 years, the discussion on the strategic bottom of the marketing, the connection with the consumer and its necessities, would be continued relegate in most of works whose interest was centered in demonstrating that the marketing of "4P's" can be extended to all style conditions. This is, all type of products briefcases, organizations, interexchange experiences and in general, to reward the paper of the units interested in offering any ideas, causes and political, cultural, religious activities, etc. The casuistry was appearing and allowing stand out some topic that its discoverer chose (to see the question to such literary fashions in Garcés, 2003, 2005 and 2006).

It is not focus of this work to carry out a historical description around the marketing concept evolution and their critical analysis, topics that are in extensive approached in Garcés, 2010. One can affirm that in sum, Marketing in the same line than other disciplinary fields of *management*, is line up and secured between the 80's and 90's as "management styles and trends":

- The "n" P's of Marketing (extended from 4 initial to 16 by the final 80's)
- The 7 W's of Marketing
- The 4 I's of Service
- The 4 C's of Marketing (or supposedly, of Customers)
- The "9 Kotler-points" of a successful company
- The 10 rules of the quality service
- The 10 rules of the efficacious research
- The 22 marketing immutable laws
- The "McKinsey 7-S Framework"
- The 7 success keys of the marketing champions or maxi-marketing
- The 4 faces of the massive individualization
- *Marketing One to One*
- *Holistic Marketing*
- *Megamarketing*
- *Hypermarketing*
- *Neuromarketing*
- Etc., etc., etc. It is impossible to list them all.

To the interior of the paradigm, Ildefonso Grande (1992) and Jean-Jacques Lambin (1987) represented an interesting change of focus. They shared a marketing view like a applied social science, whose starting point is the economic theory, and seriously questioned those hypotheses of the neoclassic economic theory[6] which lead to place emphasis on supply factors and implicitly centered marketing in their

[6] For deepening about these issues, see Garcés (1992 and 2012).

operational issues, even among several wide affirmations about the role of the "consumer needs" in the business decision making. Even worse, where all aspects of the marketing process ended up being defined as "strategy", from the tactic marketing P's to a technique, tool or instrument like the market segmentation.

This element, in addition to the need for constructing and working with predictive models and separating the strategic from operational issues, constituted undoubtedly a significant progress in the development of this young paradigm. Then, it can be said that the first explicit models, which establish relations between strategic and tactic elements, are there in marketing process (Lambin, 1987), and equally, a concern for defining statistical mechanisms and mathematical models to learn of the process (Grande, 1992).

By the 2000 year, Kevin J. Clancy and Peter C. Krieg emphasized the importance of two of the three *Marketing Strategic Objectives*, by showing that companies should marketing managers focus their business models on:

1. *To construct strong marks*: to position in a clear brief way and with great power marks, something clearly resumed from the Al Ries and Jack Trout ideas and concepts (see the positioning concept in Ries and Trot, 1990).
2. *To compete by taking appropriate choices*: to construct a competitive advantage with strategies having as starting point the scientific information, instead the managers' intuition, an issue also resumed from Michael Porter's approaches (see the concept of competitiveness and competitive advantage in Porter 1979, 1982 and 1990).

According to Clancy and Krieg (2000), the *marketing managers* and their bosses don't know, don't have a clear connection between their possible *inputs*-the operation of the so called marketing mix variables-, to their *outputs*-the results of the commercial process-; consequently, they are permanently led to operate with:

- Empirical and intuitive defenses.
- Assumptions about reality, without models based on real information on markets and y probabilistic measures.
- Impossibility to quantify, measure, monitor and can learn of the marketing process.

Their conclusions are overwhelming: the needed to tune the marketing process from a scientific view with "a mathematical model which establishes such relations and allows finishing the intuitive practices". That is what they define as a *counterintuitive marketing or,* to their view, a summation of *Science and Art*:

- *Science*: model, rigorous analysis, errors and associated probabilistic measures, and impeccable databases.
- *Art*: creativity and dreams focused in market reality, instead of their managers' emotions.

As a corollary of the above, they suggest the next need:

1. Back to consumer, "if we some time have been there", said the authors.
2. Establish a mathematical model relating the largest possible number of variables instead of paying attention only on the operational ones.
3. Define the marketing plan with a previous clear conceptualization of every one of its elements, parts and components.
4. Implement (work out), without allowing subjectivity is above scientifically validated information.
5. Track: measure, control, learn and redefine the strategy beginning with the tactical management (feedback audit).

This means that, by the first time in the brief marketing history, some people from the academy and the consultancy within the *Sanhedrim* dared to put into question the approaches defined from the *establishment* of the pyramid of knowledge, that have hitherto been enjoying the status of "universally accepted" by groups of academics and consultants worldwide followers. And, even, questioned with relevant information the supposed well marketing function in the developed countries, especially in the north American economics, since their numbers and analyses is precisely addressed with data from leading companies in the USA.

It is not less worthy, however, to recall that this fact had been put into question already by Jean Paul Sallenave in "La *Teoría L: Manual de Antigerencia*" (1995). The same possibility to merge these arguments with those of Day and Wind (1980), Webster (1981, 1988, 1992, 1994),Day and Wensley (1983, 1988), Carlzon (1987),Day (1990, 1992, 1994A, 1994B, 1995, 1996, 1999, 2000A, 2000B), and Day and Van den Bulte (2002), along with the approach of Grönroos (1983, 1989, 1990 and 1995), and Gummesson (1987 and 1991).

All of these elements configure a clear break line itself of classical and traditional marketing paradigm. One recovering to the consumer and the long-term relation construction and pressing a new marketing definition and publication by the director board of the *American Marketing Association-AMA. "Marketing is a function of the organization and a set processes addressed to create, communicate and distribute value among the customers, and to direct the integral relations with customers, so the organization*

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and its stakeholders are mutually benefited" (AMA, 2004)[7].

Paradoxically, in this "latter" definition keep latent the next topics: 1) Marketing is, above all, an organizational function, as accounting, purchases, etc., are. 2) It is define in terms of a set of processes. 3) The 4P's disappear for the first time, but also the concepts of exchange and satisfaction. 4) The new keywords, those that would trendy are Value and CRM[8]. Finally, 5) it is spoke of mutual benefits.

There fit the following questions: Are, then, the exchange as a loose action or the transactions as continuous events, the key element to unify the marketing concept? Is the key to be born as a private business activity, whose directors were interested in solving problems of interruption in the circuits of sales and distribution, typical of a world in crisis, overproduction and war? ¿Are the actions and interests of that who supplies what determine its nature, in front of an actor who ultimately is still assumed as "passive and manipulated", the costumers?

III. Dialectical Model of Marketing by Jorge Garcés (1994-1995)

It is initially necessary to establish that as well, the economy is a social science dealing with the study of the social relations of production, distribution, accumulation and consumption, between different economic agents[9]. Marketing materializes as an applied science (nonetheless, a social one), in the study of those aspects determining the relationship between suppliers and demanders, to ensure the processes of value units exchange, which are generated in markets. That's, it's circumscribed to the identification of some of the economic aspects determining production and consumption, to ensure the exchange of value unitsuse and exchange- between supply and demand; not necessarily of equivalents, as asserted by neoclassical-neoliberal theory.

From the author´s dialectical and social-historical perspective, it is not possible to validate the existence of real business marketing or any other kind of social practice with the same object of study, before the great crisis of overproduction and the subsequent Great Depression of the 30's in the past century. It makes no sense to talk about its presence in the entrepreneurial activity, or conceptually in the academic one, within a world of pre-capitalist social relations of production, distribution, accumulation and consumption. Much less in the social-historical contexts of the primitive communism of the first *Homo Sapiens*, in the slaveholder world of Greco-Roman society of Plato and Aristotle, or in the feudal order with their courts, kings, glebe serfs and *droit du seigneur*.

Actually, it is also not possible to raise such a social activity in the early stages of evolution to the capitalist production mode that Marx (1867) did identify under simple reproduction of capital conditions. Stage up to which the state of progress and development of the productive forces make possible even the validation of the Say's equation-all supply creates its own demand-. That is, structural conditions with permanent excesses of demand over supply, in which the resource endowments and installed capacities are insufficient to meet the consumption aggregates (for deepening this issue, see Garcés 2007, 2008, 2010, 2012A and 2012B).

In sum, what sense makes to consider marketing in a society in which everything to be decided to produce will be automatically absorbed by markets-by the demand- and will passively accommodate to its production conditions itself. That is, all the pre-capitalist economical formations and even, the first stages of evolution and transformation of the present capitalist production mode, which Marx would identify to the simple capital accumulation processes, in which permanent excesses of demand over supply are validated? Marketing would be not required there, as being conceptualizing in this work.

This historical reality is the refereed as marketing here. A socially generalizable, extensible and necessary category, given certain advance and development of the productive forces within the capitalist production mode; a phenomenon that can be objectively observed and measured as a technology or applied science, rising since the strengthening of the worldwide expansive phase of capitalismglobalization of production-, with its processes self-sustained of growth, accumulation and work productivity increases. There is where the development of marketing comes alive, whose preliminary identification of historical antecedent only makes sense in the period comprised between the late XIX century and the early XX (for an extension about the origins of its ideas on the first neoclassical theories in the XIX century, as well as on its concept historical evolution, see Garcés, 2010).

Now it can proposed the challenge to define marketing linked to an integral and human economic theory, when the focus is the guiding role of demand and consumers in markets, just as the laid down in Marx (1867) and Keynes (1936) works. In concrete, which a theoretically and empirically validating the actual market orientation, placing the consumer as the central actor of

[7] It was modify in 2007: *"Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large."* Unbelievably it was change in 2012, but by July 2013, it returned to this version: https://archive.ama.org/Archive/AboutAMA/Pages/DefinitionofMarketing.aspx.

[8] Customer Relationship Management.

[9] Unlike the neoclassic/neoliberal argument, accepted by all the writings of the classic or traditional marketing, according to which economics is the *shortage science*, studying how optimize some supposed technic production factors, whose limitations are established among scarce land, capital and work endowments; the "butter capital" of which Robinson (1959) talked about.

the exchange process in general, for all organizations styles. In a particular view, that of the strategic-operational commercial or marketing model, both, aspects equally relevant as a constitutive part of a non-neoclassic marketing theory, as the one constructed by the author since 1994.

This applied social science also utilizes the history-the information on the exchange relation- as its central analysis method, in order to construct consumer behavioral models allowing for being permanently learning about this relation that established in markets, between producers and consumer. When it is understood how these factors determining supply and demand of tangible and intangible products behave over the time, it can, based on such an information, to develop strategies and tactics whose relation must necessarily be addressed to the prediction, under the central uncertainty principle in markets, instead of an automatic guarantee of supposed "equilibria" between supplies and demands. With calculated error margins, reasonable risk levels and success-associated probabilities higher than those provided by the pure chance (50-50) and intuition, both aspects highly permeated by the emotion sickening and hindering the clear exercise of the scientific method.

This elements allows indicating that, marketing being a social science and behaving as such, it cannot and should not get away those game rules defined for science in general which permit to take it apart from non-science or anti-science; not to use the name that more easily define the phenomenon: esotericism. And also, being an applied science, it cannot be academically nor organizationally allowed that everyone conceptualizes and defines to his arrangement the relations extant between the different parts constituting its application model, when that who intervenes at least takes the job up to explicitly formulate a model; otherwise, trends end defining his north and academic and entrepreneurial orientation.

Yet worse, it would be ending to accept the esoteric idea that its practical application is ruled by a commonly understood supposed principle of "relativity", according to which, as affirmed by some authors, "in marketing everything depends on everything" and, therefore, its exercise is much more depending on something called "common sense" that of another thing.

That is, intuition is stronger than the validated information. Any strategy works provided it is "well supported". Anything action constitutes "a strategy" there is no difference between strategy and tactics, because "a tactics is simply a more micro strategy". Hence, there is neither difference between the elements constituting the one and the other, or if established, it is irrelevant in the entrepreneurial world. So "doing marketing" is to operate a cluster of "marketing mix" activities, related to product, price, *promotion*-meaning communication, instead of incentive for the final consumer-, or *place*-meaning distribution, instead of "lieu".

In sum, it cannot permitted the low conceptual level of the pure empiricists to continue attacking the possibilities of marketing development. And spreading a view which it is possible to label now like anti-scientific and, mostly, overtly esoteric, because of their incapacity for defining and constructing models something general- with predictive intentions-from the science perspective- and some mathematical relations established for every relation *market/product*, within any kind of organization-the casuistry-.

The marketing graphic model shown in Figure 1 has been developed around 1994-1995, based on the dialectical view of the described process. An integral model constructed according to science and its method, in which the phases, components, elements and functional interactions between their diverse parts, are verified and visualized from an integral or holistic perspective, same will be referred here as a *dialectical marketing dimension*.

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Marketing Dialectical Vision Jorge E. Garcés C., 1995

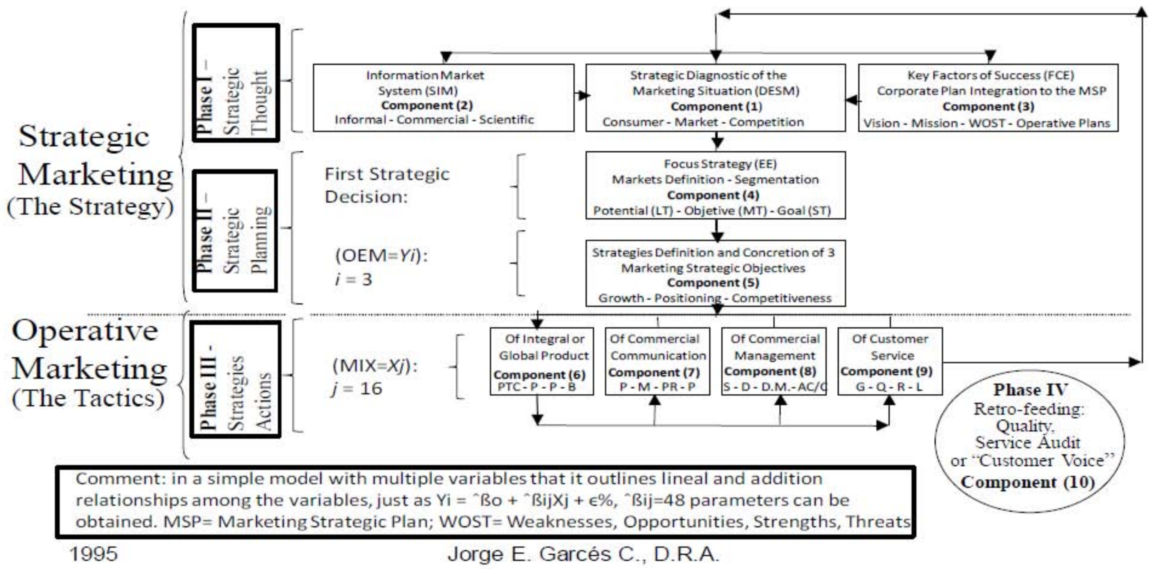

Figure 1 : Dialectical View of Marketing

In a dialectical view that incorporates the dynamic-being itself movement- it is try to identify the movement of each one of the elements or parts that compose it, and to understand the real scenario in which leaves devel-oping the construction of relationships with long-term customers. The concept of profitability with which its achievements are revised overcomes or it overflows the pecuniary vision, individualist and of short-term, of the neoclassicist-neoliberal paradigm.

In the graphic model (see Figure 1) the strategic marketing (phases I, and II, components 1 to 5) precedes the operative marketing (phases III, and IV, components 6 to 10). At the same time, strategic marketing includes since it requires the visualization and identification of its viability from the phases of strategic thought (phase I) and strategic planning (phase II); thus, this theoretical approach emphasizes two aspects:

1. Strategic marketing-*the strategy*- is possible where the dialectical relation extant between strategic thought (phase I in the model with components 1 to 3 in Figure 1), strategic planning (phase II in the model with components 4 and 5), and strategies actions or tactics (phase III in the model with components 6 to 9), is identified and attended. All of these aspects will be explain later.
2. Although there are short-term strategic issues[10], the real strategic marketing cannot be confused with the design of short-term *strategies actions* (that is, *tactics*), under the usage of the different operational marketing mix variables, emphasis utilized by almost every one of the classic and traditional marketing, including Lambin (1987). Since, from the perspective assumed here, these are simple tactics or operations, just constituting the independent variables of the model, and the strategy, as the set of its dependent variables. Marketing requires additional mid and long-term approaches, which will be explain later.

The Figure 1 model must be understood as the systemic development of commercial processes of thought (phase I), planning (phase II) and strategies actions (phase III). These latter, tactics, operations, activities and necessary tasks and enough to conquer, bring closer, seduce and market retain-the demand-with briefcase of products or solutions-the supply-, satisfying the consumer needs and consequently, consolidating the permanence and rentable growth of any kind of organization in such a market. That is, developing, monitoring and tracing the history of a long-term *market/product* relation, ensuring the permanent feedback by means of the functional operation of a quality system, service audit or "customer voice" (phase IV, component 10).

Something that only will be possible as sustainable relations with some consumer groups, who may be call *customers,* will be establish along the time, in whose process the consumer is both point of departure as the arrival. It is about processes allowing to

[10] In this multivariate model is about the short-term growth and market participation strategy that is embodied and made explicit for measurement in time with the first of the three *Marketing Strategic Objectives* (OEM in Spanish) indicated in the component 5, Figure 1. The other two strategies and OEM are mid-term positioning and long-term competitiveness, marking a clear difference to the classic or traditional model with one single dependent variable, not explicitly presented so by its authors.

identify, create, communicate and deliver value units; subjective or use value, on the demand side, and change or objective value, as material support of the ability to create from the producer, on the supply side.

It is impossible to make an extensive presentation of the referred model, since it is out this work focus; some annotations are just worked out on the diverse phases, components and elements constituent of the same (see Figure 1), which are much better explained by Garcés (1994-1995 and 2010). In the marketing strategic thought phase (phase I), three key components make evident to be solve:

1. The Strategic Diagnostic of the Marketing Situation (DESM in Spanish), component 1 in Figure 1, a *sine qua non* condition to the strategic planning (phase II, components 4 and 5) and strategies actions or tactics (phase III, components 6 to 9) processes, minimizing the error probabilities. In sum: 1) Analysis of the macro-environment variables. 2) Analysis of the sectorial structure whose macro-determination will depend on the size and strategic position of the organization in the sector (monopoly grade). 3) The consumers' analysis in the category (not only customers in the organization). 4) Analysis of the external channels (sales and distribution) or strategic commercial partners (if there were them). 5) The suppliers' of all type analysis. 6) Other publics' of interest analysis. 7) Analysis of the internal variables that define possible strengths or weaknesses. Synthesis through the *Diagnostic Womb*[11].
2. The Information Market System construction (SIM in Spanish), component 2 in Figure 1 like a unique continuous and structural mechanism of assessment and for ensuring permanent measurement processes and, hence, an increasing decline of intuitive-emotional decision-making. Their three big components, *grosso modo*, are the administration and systematic diffusion of: a) informal information (casuistry); b) commercial information (all the internal-external indicators and their interactions); c) formal or scientific information (articulation of the markets investigation in all their possible modalities, to the internal databases and the rest of the business indicators).
3. The Key Factors of Success definition (FCE in Spanish) [12], component 3 in Figure 1, a technique guaranteeing the alignment of the organizational strategy to the marketing strategic plan, as an additional mechanism of internal pressure for directing to market-in abstract-, and consumer-in short-. In this model, it is a technique designed by the author to assure a long-term integration and alignment of the corporate strategic planning like as a marketing strategy. The validation element with regard to this component is very simple: are they or not the strategic-tactical plans of all the organization support areas in the internal value chain, being design in arrangement and function of the expectations of the strategic marketing planning? Are clear the indicators to the half contribution grade or affectation to the execution or nonfulfillment of the negotiated standards and agreed under the consumer's demands?

In marketing strategic planning phase II (components 4 and 5 in Figure 1), the first step of the process is a clearly identify, according to the previous diagnostic phase, the stable consumption groups with which there is interest for constructing *market/product* relations, within their different relationship and time units contexts. That is, the first marketing strategic decision as shown in the component 4 of the Figure 1: a Focusing-Approach- Strategy (EE in Spanish). The Markets Definition required a strategic clarity on profiles (qualitative indication), sizes (quantitative indication), and dynamics of the markets to assist on time: a) short-term, the goal markets; b) medium-term, the objective markets; and c) long-term, the potential markets. A deviation in such a sense is unequivocal sign of lack market orientation.

The technique to use is Marketing Segmentation. There, this is not strategy, but simply a technique, instrument or tool of the economic-administrative sciences can be uses in process, to determine in theirs three dimensions[13] the markets to be attend in long-term (Potential Market), mid-term (Objective Market) and short-term (Goal Market).

Second step consisting in the qualitative definition of the three (3) which themselves are marketing strategies:

1. Growth Strategy in short-term, and their related one, the strategy to win market participation (OEM 1 in Component 5, Figure 1).
2. Positioning Strategy in mid-term (OEM 2 in Component 5, Figure 1).
3. Long-term Competitiveness or Competitive Advantage Construction Strategy (OEM 3 in Component 5, Figure 1).

Following their qualitative identification their quantification is indispensable with achievement efficacy or result indicators, that enable measurement and tracking over time. That is, their concretion like as dependent or *output* variables of the integral marketing

[11] Mathematical instrument designed by Garcés (1994-1995) for the DOFA quantitative treatment.

[12] In administration, management and marketing literature, a similar term is in use, but not the same. It is call *Critical Factors* (of Failure?). It does not complete the function that it is assign in a dialectical model.

[13] After its qualitative identification, a market must be simultaneously quantify in three dimensions: number of prospects (P), number of product units (Q) and monetary value ($).

model (Yi); the explicit form of the commercial strategy through these three (3) *Strategic Marketing Objectives* (OEM in Spanish), component 5 in the Figure 1: Market Growth and Participation OEM in short-term (Y1); mid-term Positioning OEM (Y2); and long-term Competitiveness OEM (Y3)[14].

Finally, the strategies actions of marketing phase III (components 6 to 9, Figure 1) or tactic-operational- marketing, comprising the tactics, operations, actions, activities, tasks, etc.[15], which must be verified according to their higher or lower level of relevance and contribution to the real OEM previously defined. These tactics are the independent or *input* variables of the marketing model (Xj) that can now defined themselves having clarity on what is expect to achieve. They have been identify by utilizing and re-organizing some of the elements of the classic or traditional Marketing Mix (MIX in Spanish), components 6 to 9 in Figure 1 and here are shown cluster as statistic factors or groups of control variables, in order to they can be easily comparable[16]:

1. *The integral or global product* (component 6 in Figure 1), including decisions and investments in product technical characteristics (X1), prices (X2), packing (X3), and brands (X4).
2. *The commercial communication* (component 7 in Figure 1), corresponding to advertisement (X5), merchandising (X6) and other ways of direct communication (no media broadcasting), public relations focused on business (X7), and customer *promotion* (X8) within the Spanish meaning of short-term incentives to consumer.
3. *The commercial management* (component 8 in Figure 1), related to traditional channels for sales (X9), physical-geographical distribution channels (X10), direct marketing campaigns (X11), and virtual-alternative or complementary-sales or distribution- channels (X12). And, finally,
4. *The customer service* (component 9 in Figure 1), with campaigns and reactive and proactive programs for managing: after-sales guarantees and services (X13); quick questions about petitions, complaints, procedures and claims (X14); repair, retention and recovery customer plans (X15); and maintenance, satisfaction and loyalty (X16)[17]. This group of variables is clearly absent in the classic or traditional marketing model.

It can be close from *this Dialectical Model of Marketing* (Garcés, 1994-1995), like any other kind of science model that the difference between strategic and operational objectives are in the dialectic relation extant, as defined before, between strategy and tactics. The operational objectives are subordinated to the strategic ones, but, likewise, the strategic ones incorporate, direct from their conception and pose the own viability of the operational ones. Whereas the strategic ones are the *output* process variables, and the second ones are the *input;* that is, talking instrumentally, the first ones (the OEM in Spanish) will always be dependent variables within a marketing model (Yi=3); meanwhile the second ones (the MIX in Spanish) will correspond to its independent variables (Xj=16).

It this being an applied science-a technology-, in addition to the graphic and verbal models required its representation summarized as a mathematical model; an abstraction and synthesis of reality, allowing to simplify the phenomenon to be observed for its categorization, study and measurement along the time.

Thus, for simplification and explanatory ease, a matrix system for simple linear regression can be use, such as that shown below[18]:

[14] Diverse are the possible measurement of effectiveness indicators to use for tracing each of the OEM.

[15] The classic or traditional marketing, the management, and even Lambin (1987), take more than 50 years conceptualizing them and defining them like as "strategies".

[16] In this case, they being the process operational variables, the indicators tracing their execution necessarily measure their productivity or efficiency (not of effectiveness); and thus, their degree in which they contribute to the achievement of the real indicators of efficacy or results: the OEM (in Spanish).

[17] All time related to this variables reference are to the concrete concept to customers, it is not the abstract concept of consumers and buyers. That is, among all the possible set of consumers having interaction with the supply, that part which has qualified itself as such and has transform by its own from a simple initial, eventual, fortuitous buy, to an objective change relation, measured according its seniority, frequency and economic value along the time. Logically, as change value to the offer, a measure of its present net value.

[18] In a market reality, within any kind of relation *market/product* to be studied, the marketing variables model will not always wield a linear and aggregative relationship condition, such as the indicated here to just synthetize. It would not reasonable to assume always absence of co-linearity and multi-co-linearity between the same ones, both easement elements for modeling, rather than empiric validity. Similarly, it is quite probable that variables as the OEM (Yi) so the MIX (Xj) present covariance between them; therefore, for modeling them, it would result even more appropriate to establish the relations through a complete system of structured equations, in which some causality conditions could be better fixed for making less restrictive the proposed model. Nonetheless, this subject overcomes the interests and aims of this assay.

$$\boxed{Yi = \hat{}\beta o + \hat{}\beta ij Xj + Error}$$

$$\boxed{Y1 + Y2 + Y3 = \hat{}\beta o + \hat{}\beta 1\,(X1Y1) + \hat{}\beta 2\,(X2Y1) + \ldots + \hat{}\beta 16\,(X16Y1) + \hat{}\beta 17\,(X1Y2) + \hat{}\beta 18\,(X2Y2) + \ldots + \hat{}\beta 32\,(X16Y2) + \hat{}\beta 33\,(X1Y3) + \hat{}\beta 34\,(X2Y3) + \ldots + \hat{}\beta 48\,(X16Y3) + \epsilon\%}$$

Such as indicated in the verbal model description, there are here three dependent (Yi=3) and 16 independent (X j=16) variables. The first ones are the real three marketing strategies concreted through the OEM-in Spanish- (Y1, Y2 and Y3); andthe second ones, to the set of the 16 tactics (X1 to X16), listed in their four variables groups (MIX in Spanish); all, whose terms were identified already.

ˆβo is the parameter indicating the proportion of results (OEM in Spanish) that cannot be explained by the marketing tactics used (MIX in Spanish), that is, totally exogenous, random and uncontrollable factors loading on the strategies. The ˆβij correspond to a 48 linear unbiased parameters or estimators allowing to identify the mathematical correlations extant along the time, between each pair of dependent (OEM) and independent (MIX) variables; finally, ϵ% identifies an acceptable error degree or level, own of the very exercise of scientific modeling19[19].

In addition to the decision of the analyst on the quality and quantity of the data base it use, it must not lose sight to another factors that can lead to practical and reductionist economistic approaches:

- As well as all dependent variables show covariance between them, some independent variables present strong covariance with other of their same nature; for example, price versus customer promotion.
- Some correlations can be positive in short-term, for example, price and customer promotion versus growth, and simultaneously show negative correlations at mid-term: price and customer promotion versus positioning.
- There are also in the model effects of self-correlation, with lag phenomena along the time; thus, a marketing program, this with any investment emphasis in the advertisement variable, a constant in the business performance of the past 50 years, could generate impacts on the OEM (in Spanish), which could not always be verified in short-term (one year).
- Models required be construct with relevant and opportune information; even within the best marketing conditions, they work under scenarios of uncertainty and associated margins of calculated-reasonable- error.
- Finally, and for all the above, the mechanisms of prediction are not infallible and their sole aim is to support business decision making with tools overcoming intuition and pure random; it must be remembered that there is a big difference between predict, forecast or estimate, event itself of science and its method, and guess, a clear field of anti-science.

From the ability of marketing analysts or scientists to study, model and understand such relations, it will depend the possibility to obtain a higher probability of achievement in the marketing plans implementation. A long-term securing of such relationships between producers and consumers is a task of marketing in its casuistry, whether it will be for local, national or international application. It is something that cannot be address without a continuous tracing to the history of such exchange interactions and relations, not only mediated and guided by pecuniary objectives and profit maximization, with short-term individual appropriation. This is the only serious way to combat and remove the generalized practice of *intuitive marketing*, trends and any other esoteric approaches.

It should not be improvise to the swaying of the circumstances, feeding on all kinds of organizations the idea that, and the people behavior is like that and this is supposedly "unpredictable", the best is to take advantage of the great experience of either business experts or a famous consultant. The low level of conceptualization, lack of strategic clarity, randomness excess, assessment or testing without measurement-without learning from the experience-, are notorious norms of the entrepreneurial style and *classic or traditional* marketing, plagued empiricist presentations camouflaged of science.

Especially in *Latino-Managements* (paraph-rasing Sallenave, 1995), which not only impress certain immaturity biases and low development to marketing organizations, but these impressions project in other of its activities such as. First, improvisation in the planning of budgets of income and expenditure. Second, deficiencies in the staff selection processes, mainly in leadership positions who have technical relevance. Third, little or no orientation to teamwork, which is reinforced in the selection process very oriented to assessment of individual qualities and aptitudes in

[19] It is the error (ϵ%) obtain in the regression, associated to the quantity and quality of the data series in years, utilized to obtain the parameters of the regression. In this case, the matrices to the annual series with the indicators of the results obtained in the three strategies (OEM) and their corresponding investments in the 16 marketing mix variables (MIX). For example, for a 10 years historic, it would be a matrix-vector to 19*10 (190 data), to obtain the 48 parameters (ˆβij) in the regression (an excellent degree of freedom level).

general, to ensure stars in the territory. Fourth, belief that they are, the leaders, who "define the aims" (almost like feudal lords) and their subordinates must follow the foot of the letter without step out of line (as if They Were serfs glebe), which results in low levels of *empowerment*.

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Factors Influencing Consumer Buying Behaviour: A Case Study

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Abstract- Globally, the term, 'marketing' is not a new phenomenon. It has become the focal point of any business. No commodities can move from a production point to a consumption point without putting the marketing machinery at work. The consumers aim at attaining optimum consumer surplus, be it durables or non-durables, while making such purchases to satisfy their wants. Conversely, the marketers do constantly strive for maximization of profit margin for their survival and growth in the long run. These twin paradoxical ends (producers and consumers) must reach a compromise at a point entailing a profitable and satisfactory exchange of goods. For this reason, the marketers do continually rely on research studies about the dynamic consumer behaviour to position their product planning and development strategies to meet the requirements efficiently. There are innumerous factors inducing their buying behavior of consumers even in brand preferences of durables. This complex consumer buying behaviour does, therefore, necessitate a critical investigation by the researchers in every nook and corner of the world. In India, many studies have been undertaken by various researchers on varied products in fits and starts.

Keywords: consumer buying behaviour, nagaland, durables, marketing mix, decision making process, brand preferences.

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Factors Influencing Consumer Buying Behaviour: A Case Study

E. Thangasamy [α] & Dr. Gautam Patikar [σ]

Abstract- Globally, the term, 'marketing' is not a new phenomenon. It has become the focal point of any business. No commodities can move from a production point to a consumption point without putting the marketing machinery at work. The consumers aim at attaining optimum consumer surplus, be it durables or non-durables, while making such purchases to satisfy their wants. Conversely, the marketers do constantly strive for maximization of profit margin for their survival and growth in the long run. These twin paradoxical ends (producers and consumers) must reach a compromise at a point entailing a profitable and satisfactory exchange of goods. For this reason, the marketers do continually rely on research studies about the dynamic consumer behaviour to position their product planning and development strategies to meet the requirements efficiently. There are innumerous factors inducing their buying behavior of consumers even in brand preferences of durables. This complex consumer buying behaviour does, therefore, necessitate a critical investigation by the researchers in every nook and corner of the world. In India, many studies have been undertaken by various researchers on varied products in fits and starts.

Focus of this paper is to analyze the consumer buying behaviour of the selected durable goods in Nagaland, to examine the factors inducing the buying behaviour of the consumers, and to suggest appropriate measures to the marketers for designing a right marketing mix to match the tastes and preferences of consumers in the State.

Keywords: consumer buying behaviour, nagaland, durables, marketing mix, decision making process, brand preferences.

I. Introduction

Economic Growth and Development of any prospering country highly depends on its enterprise development. Any enterprise can flourish only so long it is capable of retaining its current profits and creating avenues for additional future profits. Profit earning competence is sustainable only for a firm which is adopting an effective marketing strategy in providing appropriate marketing mix (product, price, promotion and physical distribution) to prospective customers for its products. Suitable marketing mix endeavour does originate from launching of products by a firm. Thus, the product, be it durable or non-durable, becomes the core component of any marketing programme. Meanwhile, it is challenging for any marketing manager to formulate and implement an apt strategy for marketing his products in a highly competitive (domestic or foreign) market. It becomes more complex in the ultimate consumers' markets as compared with industrial markets owing to size of the potential target markets and number of prospective customers. Hence, a firm has to have a bird's eye view on its product life cycle right from the stage of launching to saturation for skimming the cream from its business venture. This demands the marketers to remain alert and active all the time for winning permanent customers in the consumer market.

In India, from the customers' point of view, it is noticeable that a consumer belongs to a family in a society. The family constitutes members who largely involve in purchases of durables. During the process of decision making, their buying behaviours are highly influenced by cultural factors, social factors, personal factors and psychological factors. This paper is an attempt to analyze the consumer buying behaviour of durables, to examine the factors inducing the consumer buying behaviour and to suggest suitable measures to the marketers for designing a right marketing mix for the consumers in Nagaland.

II. Rationale for the Study

In order to understand how consumers make actual buying decisions, the marketers must identify who makes the buying decisions. They should also constantly be watchful into what types of buying decisions are made and the steps involved in consumers' decision making process in a social unit (family). Consumers' decision making varies with the types of buying decision and the nature of products. The decisions to buy soap, a cricket bat, a television and a new car are all very different. Hence, complex and expensive purchases, especially of durables, are comparatively to involve more buyer deliberations and more participants. Even the degree of differences among brand preferences of the products do mostly rest on the degree of buyers' involvement and influence in decision making process within the family. Besides, it is also very essential to investigate why the consumers buy durables and what are the factors inducing them to make such purchases. On one hand, this analysis will lead the marketers to precisely comprehend the needs and tastes of the target market and signal the manufacturers to manufacture such products suitably. On the other hand, it is also equally important to study

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the role of family members, especially the husband and wife, including the children. In Indian contemporary society, though the women population constitutes more than half of the total population, yet many research studies reveal that male members are more dominant in a family than females. This scenario, thus, necessitates the researches to sharpen their contemplations towards the role of women within a family in multifaceted decision making processes. Of such important household decisions, the role and influence of women in making purchases of durable goods in a family have, thus, become a focal point for s systematic and scientific enquiry.

In the North Eastern Region, the State of Nagaland does not conform to the general perception of women's status in India. Apart from traditional practices that have generally cared for women and the girl child, the State has successful achievements in the fields of literacy, increasing sex ratio, health and entrepreneurship development. This scenario also does stimulate the researchers to undertake investigations on this front. Hence, this present study will certainly ascertain the truth to prop up better understanding of the roles of women in diverse household decision making processes, especially in purchase of durables. Simultaneously, in turn, the marketers will be able to develop and distribute an appropriate marketing mix to suit the tastes and preferences of the consumers in the State.

III. Literature Review

Alice E., Courtney, & Sarah W.,(1971)have surveyed different magazines to study the role of women in magazine advertisements and found that the print advertisements rarely showed women in working roles. They appear independently only for inexpensive purchases and for expensive purchases men are brought into advertisements.

Davis., (1971) has proposed a multi-trait-multi method approach for determining convergent and discriminant validity for the measurement of purchase influence. His findings show relatively high correlations between the Blood and Wolfe index and seven automobile decisions for both husbands and wives.

Harry Davis L., (1970) has selected automobile and furniture to study the dimensions of husband and wife roles in consumer purchase decision to analyze the extent of husband's and wife's agreements in their perception of roles. His study revealed that there is an inverse relationship between influence in automobile purchase decision and influence in the purchase of furniture.

James C., (2012) studied the feminine role and family purchase decisions in selected durables, Refrigerator, Two Wheeler, Washing Machine and Television. Her study revealed that women play a dominant role in purchase of refrigerator and washing machine whereas husbands' domination in purchase of television and two wheeler does exist concurrently.

Jeffrey (1971) in his studies states that one of the key variables in studying the role of risk handling in the consumer decision process is self-confidence. When making problem solving purchase choice decisions, low self-confidence consumers would be defensive or indecisive.

Joseph N. Fry and Fredrick H. Siller (1970), in their study, compared elements of the purchase decision processes of working and middleclass housewives under the relatively controlled condition of a simulated shopping behaviour. Comparison of search, brand preference and deal sensitivity measures for the two social classes reveal a fairly high degree of similarity in observed behaviour during the shopping simulation.

IV. Objectives of the Study

The chief objectives of the study are;

- to analyze the consumer buying behaviour of the selected durable goods in Nagaland
- to examine the factors inducing the buying behaviour, especially in brand preferences, of the consumers, and
- to suggest appropriate measures to the marketers for designing the right marketing mix to match the tastes and preferences of the consumers in the State

V. Research Methodology

The present study is an empirical in nature. Hence, it is based purely on primary data. The primary data has been collected with the help of a structured interview schedule. Although, sizeable secondary data had also been used to meet the requirements of the study. The households of the three, out of eleven, major districts of Nagaland viz., Kohima, Dimapur and Mokokchung do constitute the population or universe from where primary data have been collected. In this study, the middle class households purchasing the durable goods are the sampling units for the survey. The study, being empirical, a sample size of 300 respondents have been considered by drawing purposively 100 units (respondents) from each district. The respondents were selected on the basis of simple random sampling without replacement from selected blocks/wards of the districts. The elements in the sampling unit include only married women, above the age of 15 and below the age of 60, who are living with their husbands with or without children. The researcher had interviewed the respondents directly to collect the data. Besides, due care had also been taken to include the women with various socio-economic backgrounds to make the sample representative. The selected durables for the study include Television, Refrigerator, Washing

Machine, Four Wheeler and Furniture. The cost of the four wheeler ranging from Rs.1 lakh to Rs.3 lakh only had been taken for the purpose of the study as it is affordable for middle class families. The data so collected had been classified, coded and tabulated as per the requirements of the study. Then, the data had been analyzed with the help of appropriate statistical tools such as percentage, mean, average, etc.

VI. Limitations of the Study

This study has been undertaken only in three districts of Nagaland. The remaining eight districts of the State are, therefore, kept outside the purview of the study. Under this investigation, more focus has been given on marketing aspects rather than sociological dimensions. Hence, all the members in a family, including women, are considered as consumers. All other cultural, inter and intra tribal influences do not fall under this enquiry. The influence of women in purchase decisions of the selected durables, television, refrigerator, washing machine, four wheeler and furniture is considered. Similar studies on the influence of other members of a family, taking any other durables, can be carried out for promoting the understanding of their roles in making such decisions. Divorced and separated women and widows are excluded from the purview of the study. This study does, thus, pave a way for future directions of the research to add more literature to the growing body of knowledge in the field of marketing management.

VII. Analysis and Interpretation

The primary data so collected on consumer behaviour of the selected durables, especially while making brand preferences, reasons for their buying durables, sources of purchase etc., had been tabulated, analyzed and interpreted for drawing meaningful inferences there-from.

VIII. Consumer Buying Behabiour of Durables

Consumer behaviour is the study of how individuals, groups and organizations select, buy, use and dispose of goods, services, ideas or experiences to satisfy their needs and wants. The consumers purchase various durables for varied reasons and purposes. The chief reasons for the consumers' buying durables in Nagaland are tabulated in Table 1;

Table 1 : Reasons For Buying Durables N=300

Reasons for purchase of Durables							
Necessity	Social Status	Comfort & Convenience	To Gain Knowledge	To avoid Unnecessary expenditure	To Save Time	To Increase Assets	To Maintain Autonomy
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
226 *(75.33)	2	38	6	12	16	0	0
42	2	128*(42.66)	6	24	60	14	26
14	14	62	26	30	96 *(32.0)	12	42
2	30	24	50	62	36	22	84*(28.0)
2	20	24	40	76*(25.33)	50	38	48
4	42	14	44	66	28	76	28
2	90	6	52	28	6	80*(26.66)	34
8	100 *(33.33)	4	76*(25.33)	2	8	58	38
Rank I	Rank III	Rank II	Rank VII	Rank VII	Rank IV	Rank VI	Rank V

*Source: Field Survey * Figures in parentheses indicate the percentage*

The analysis from Table 1 exhibits that necessity tops the list of reasons, as responded by 75.33% of the sample respondents, for purchase of the selected durables. Thereafter, comfort and convenience becomes the second most important cause for making such purchases, revealing 42.66%, followed by social status (33.33%), time saving (32%), maintenance of autonomy (28%), increasing assets(26.66%), gaining knowledge (25.33%) and avoiding unnecessary expenditure (25.33%).

IX. Sources for Purchase of Durables

Purchase of any commodity (durable or non-durable) is not feasible for an individual without source of income or purchasing power. As compared with non-durable items, the purchase durables are more expensive as it involves larger outlay. The sources for consumers' buying the durables in Nagaland are depicted in Table 2;

Table 2 : Sources For Purchase Of Durables N=300

Source	Television	Refrigerator	Washing Machine	Four Wheeler	Furniture
Personal Savings	288*(96%)	264*(88%)	264*(88%)	226*(75.33%)	266*(88.66%)
Borrowed Money	0	4*(1.33%)	10*(3.33%)	18*(6%)	0
Instalments	6*(2%)	12(4%)	12*(4%)	48*(16%)	14*(4.66%)
Gift	6*(2%)	20*(6.66%)	14*(4.66%)	8*(2.66%)	20*(6.66%)

Source: Field Survey Figures in parentheses indicate the percentage*

The analysis from Table 2 depicts that personal savings are the prime sources for purchase of all the selected durables. It is evident that the highest percentage of respondents responded positively against the source, 'personal savings' for their purchases of the durables i.e. 96% for buying Television, 88.66% for buying Furniture, 88% for buying both the Refrigerator and Washing Machine and 75.33% for buying Four-Wheeler. Notably, about 48% respondents have consented that they have purchased Four-wheelers on installment basis whereas the source of 'borrowed money' appears to be mute in making such purchases.

X. Factors Inducing the Buying Behaviour

Normally, a Consumers' buying behaviour is influenced by cultural, social, personal and psychological factors. Multifarious factors stimulating the buying behaviour of consumers in Nagaland are presented in Table 3;

Table 3 : Factors Inducing The Buying Behaviour

N=300

Inducement Factor	Television	Rank	Refrigerator	Rank	Washing Machine	Rank	Four Wheeler	Rank	Furniture	Rank
Advertisement	66	II	76	II	94	I	58	I	58	II
Previous experience	110	I	90	I	78	II	40	III	86	I
Friends	24	V	24	V	24	V	36	V	20	V
Relatives	26	III	30	III	46	III	42	II	28	IV
Goodwill of the Manufacturer	24	V	18	VI	28	IV	38	IV	52	III
Reputation of the Retailer	12	VI	26	IV	8	VI	10	VII	10	VI
Retailers' Recommendation	2	VII	0	VII	0	VII	14	VI	0	VII

Source: Field Survey

The analysis from Table 3 reveals that, based on ranking the influences, previous experience is the most inducing factor, especially while making brand preferences for purchase of television, refrigerator and furniture which ranks first comparatively. In purchase of Washing machine and Four-wheeler, advertisement factor has the greatest influence among the buyers. Similarly, the retailers' recommendation in purchase of television, refrigerator, washing machine, and furniture is the least stimulating factor; rather it does not induce the buyers at all while making brand preferences in such purchases.

XI. Findings of the Study

The key findings emerged out of the present study are;

- Necessity tops the list of reasons, as responded by 75.33% of the sample respondents, for purchase of the selected durables.
- Comfort and convenience becomes the second most important cause for making such purchases, revealing 42.66%, followed by social status (33.33%), time saving (32%), maintenance of autonomy (28%), increasing assets(26.66%), gaining knowledge (25.33%) and avoiding unnecessary expenditure (25.33%).
- Personal savings are the prime sources for purchase of all the selected durables.
- Highest percentage of respondents responded positively against the source, 'personal savings' for their purchases of the durables i.e. 96% for buying Television, 88.66% for buying Furniture, 88% for buying both the Refrigerator and Washing Machine and 75.33% for buying Four-Wheeler.
- About 48% respondents have consented that they have purchased Four-wheelers on installment basis whereas the source of 'borrowed money' appears to be mute in making such purchases.

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- Previous experience is the most inducing factor, especially while making brand preferences for purchase of television, refrigerator and furniture which ranks first comparatively.
- In purchase of Washing machine and Four-wheeler, advertisement factor has the greatest influence among the buyers.
- The retailers' recommendation in purchase of television, refrigerator, washing machine, and furniture is the least stimulating factor; rather it does not induce the buyers at all while making brand preferences in such purchases.

XII. Suggestions and Recommendations

As a result of analysis, the current scientific enquiry puts-forth the following suggestions and recommendations;

- Establishing new outlets, especially for essential durables, in the selected districts may be ensured to lubricate the wheels of the giant distribution channel. Extending after-sale services, whenever and wherever necessary, will certainly add new feathers to this marketing phenomenon and make it colourful.
- Ensuring Comfort and Convenience by making the right durables available at the right time at the right place for the consumers will boost their sales volume. In turn, the profit margin of the firm is anticipated to magnify with augmentation of satisfaction of the consumers.
- Hire purchase and Installment system may be encouraged to facilitate the aspirant buyers of the selected durables. This will entail credit purchases of those durables.
- Retailers may assist the consumers honestly by providing/disseminating the reliable information about the durables on sale. This will enhance loyalty and trustworthiness among the consumers towards the retailers' recommendation of the products.

XIII. Conclusion

Consumer decision making varies with the type of buying decision. Comparatively, complex and expensive purchases, like durable procurements, are likely to involve more buyer deliberations and more participants. The degree of differences and preferences among brands is highly determined by the degree of buyers' involvement in decision making. Varied factors induce the consumers invariably to make brand preferences among the durables such as advertisement, previous experience, retailers' recommendation etc. Hence, a study on the consumer buying behaviour, especially of durables, becomes very essential. Such attempts do throw more light on how the consumers select, buy, use and dispose of goods, services, ideas, or experiences to satisfy their needs and desires. In turn, the investigations will provide clues for the firms to develop new products, product features, prices, channels, messages and other marketing mix elements. As inferred from the current study, launching of more reliable outlets for the durables in the State of Nagaland will ensure comfort and convenience for making such purchases by ensuring brand preferences. Identification of the most and least inducement factors has, thus, become worthy for consideration by the marketers for designing an appropriate marketing mix to entail optimal consumer satisfaction in the State. These dynamic marketing endeavours will certainly lead a firm to comprehend the consumer buying behaviour of durables better. Identifying the reasons for purchase of durables, inducement factors for brand preferences, sources of their purchase etc., do provide clues constantly to the marketers for formulating apt strategies to augment their profit margin by satisfying the consumers with the best marketing mix concurrently and recurrently.

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Les Facteurs Stimulant L'achat Des Consommateurs A Le'gard Des Produits Contrefaits: Cas Des Me'dicaments Dans La Ville De Dschang-Cameroun

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Abstract- The phenomenon of counterfeiting and its consequences to the enterprises and the brands is a disaster which is very interesting in all economies. We are propose to determine the factors that are must often prominent on the behavior of the consumers on what concerns the buying of counterfeit drugs. In effect, this study was realized at the base of an interview of the sample of 250 persons. We have had as variables dependent the frequency of buying was .the frequency of buying was explained by four principal constituent who were used like variables who explained the behavior of consumers vis a vis the counterfeit to know the knowledge of the counterfeit product .The satisfaction, the motivation. Each constituent understood a certain number of variables all the spirit of the literature review. Experienced from the methodology of Mallet (2004) we proceeded to and analyses of two level to know descriptive and explanation. We have carried out the test by multinomial logistic regression, the reasoned that the frequency of buying of drugs which are of the daughting quality is significantly influence bye the knowledge of the product, the satisfaction of the illness, the motivation of the buyer.

Keywords: behavior of the consumers, countereiting and pharmaceutical drug.

GJMBR-E Classification: JEL Code: M39

LESFACTEURSSTIMULANTLACHATDESCONSOMMATEURSALEGARDDESPRODUITSCONTREFAITSCASDESMEDICAMENTSDANSLAVILLEDEDSCHANGCAMEROUN

Strictly as per the compliance and regulations of:

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Kayou Tayou Clémence [α], Ndeumen Angèle Ghislaine [σ] & Mba Fokwa Arsene [ρ]

Abstract- The phenomenon of counterfeiting and its consequences to the enterprises and the brands is a disaster which is very interesting in all economies. We are propose to determine the factors that are must often prominent on the behavior of the consumers on what concerns the buying of counterfeit drugs. In effect, this study was realized at the base of an interview of the sample of 250 persons. We have had as variables dependent the frequency of buying was .the frequency of buying was explained by four principal constituent who were used like variables who explained the behavior of consumers vis a vis the counterfeit to know the knowledge of the counterfeit product .The satisfaction, the motivation. Each constituent understood a certain number of variables all the spirit of the literature review. Experienced from the methodology of Mallet (2004) we proceeded to and analyses of two level to know descriptive and explanation. We have carried out the test by multinomial logistic regression, the reasoned that the frequency of buying of drugs which are of the daughting quality is significantly influence bye the knowledge of the product, the satisfaction of the illness, the motivation of the buyer. Then we should react on the factors in order to reduce and eliminate the frequency of buying. We have noticed that the satisfaction is the most determine variable which push the users to consume the counterfeit products.

Keyswords: behavior of the consumers, countereiting and pharmaceutical drug.

I. Introduction

La mondialisation, le développement des nouvelles technologies, les besoins de soin des populations et la rentabilité financière rapide ouvrent les portes à la contrefaçon.

Historiquement, les copies de produits concernaient le papier monnaie et les produits de luxe: faux billets, faux polos, faux bagages, faux parfums, fausses œuvres d'art. Puis avec les évolutions techniques et technologiques, la contrefaçon s'est orientée vers les produits manufacturés tels que les pièces mécaniques, les matériels informatiques, les logiciels et les médicaments. Ainsi, avec la révolution indusindustrielle et le développement de la chimie, l'augmentattion forte de la demande de la demande de soin et surtout la guérison des maladies infectieuses, la pharmacie est passée de l'artisanat officinal à la structure industrielle. Le médicament est devenu un produit attractif car c'est une valeur économique.

De nombreuses variables expliquant l'achat de produits contrefaits ont été identifiées en marketing.Certains de ces déterminants relèvent du consommateur en personne. Ils sont de nature socio démographique comme l'âge, le genre, le niveau d'éducation et de revenu (Ang et al., 2001 ; Bloch et al., 1993) ou de nature psychographique, comme l'estime de soi (Bloch et al., 1993), qui peuvent avoir une influence indirecte sur le comportement d'achat des produits contrefaits.

D'autres déterminants concernent directement les attributs du produit et peuvent avoir une influence directe sur le comportement d'achat des produits contrefaits, qu'ils soient intrinsèques comme la qualité perçue (Cordell et al., 1996 ; Nia et Zaichkowsky,2000 ; Wee et al., 1995) ou extrinsèques comme le prix ou la marque (Cordell et al., 1996 ; Nia et Zaichkowsky, 2000)., de la satisfaction retirée d'achats antérieurs de contrefaçons (Tom et al., 1998), du lieu d'achat (Bloch et al., 1993 ; Cordell et al.,1996 ; Tom et al., 1998) et du risque perçu du produit (Cordell et al.,1996). L'utilisation régulière de médicaments de qualité inférieure ou contrefaits entraîne un échec thérapeutique ou favorise l'apparition d'une résistance; mais dans bien des cas elle peut être mortelle. Ces conséquences négatives réduisent ainsi la satisfaction du consommateur. L'objectif de cet article est de déterminer les facteurs qui stimulent l'achat des médicaments contrefaits.

II. Revue de la Littérature

a) *Développement théorique*

La théorie «Means-end chain»permet aux responsables du marketing d'avoir une meilleure connaissance des motivations qui guident le comportement d'achat des consommateurs (Gutman, 1982). Elle suppose que la motivation de consomm-

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ation est déterminée par la façon selon laquelle le consommateur relie le produit à lui-même.

Dans ce modèle, les attributs du produit sont des moyens, «means», par les quels le consommateur peut retirer des bénéfices lui permettant d'atteindre ses fins, «ends». Autrement dit, les consommateurs réalisent leurs propres objectifs à travers les caractéristiques du produit perçues comme étant importantes et engendrant des conséquences positives satisfaisant leurs propres valeurs (Viot et al, 2004).

La théorie «means-end chain» suggère que les consommateurs perçoivent les attributs du produit en termes de conséquences. Ces conséquences peuvent être soit positivement perçues en tant que des bénéfices à retirer soit négativement perçues comme étant des risques à éviter. En d'autres termes, le modèle «means-end chain» permet d'expliciter le lien entre les besoins des consommateurs et les caractéristiques du produit et à déterminer leurs motivations d'achat. Pour comprendre l'intérêt du consommateur dans l'achat du produit, il est nécessaire de comprendre le but qu'il cherche à atteindre à travers cet achat (Zaichkowsky, 1999).

Théorie de l'action raisonnée développée par (Jacoby et al 1972) associe l'attitude à un processus de traitement cognitif de différent attribut d'un produit ; selon ce modèle le comportement d'un individu s'achève par son intention à effectuer ou à adapter ce comportement[1] .

La robustesse de la théorie de l'action raisonnée a été amplement démontrée (Grossman et al, 1988, cités par Morrin et al, 2000). Elle néglige cependant le fait que nos comportements ne sont parfois que partiellement volontaires, ou bien, qu'ils sont dépendants du contrôle que nous pensons avoir sur nos actes. C'est pour remédier à ces insuffisances que Green et al (2002) proposent une théorie du comportement planifié. Elle conserve les éléments de la théorie de l'action raisonnée tout en incluant le contrôle comportemental perçu par le sujet comme antécédent des intentions comportementales. Le contrôle comportemental perçu sera lui-même déterminé par les croyances qu'a le sujet concernant ce contrôle. Ces croyances, bien entendu, peuvent parfois se révéler être des illusions de contrôle. Les intentions de l'individu d'émettre un comportement donné constituent le facteur central de la théorie du comportement.

b) Revue De La littérature Empirique

L'influence de nombreuses variables personnelles sur l'attitude à l'égard de la contrefaçon a été démontrée. Parmi celles-ci, l'éthique est une variable qui a pris de l'importance dans les recherches centrées sur le comportement du consommateur. Elle a été définie comme une recherche du bien vivre et du bien faire, fondée sur une disposition individuelle à agir de manière constante en vue du bien d'autrui et dans des institutions justes (Ricoeur, 1979). On peut supposer que cette variable constitue un déterminant de l'attitude à l'égard de la contrefaçon.

Il a été démontré que les personnes qui se considéraient comme intègres avaient une attitude défavorable à l'égard de la contrefaçon (Ang et al., 2001) et que les consommateurs qui sont moins respectueux de la légalité achetaient plus volontiers des contrefaçons que les autres (Cordell et al., 1996).

L'effet du prix a également été démontré pour des pratiques proches de la contrefaçon : le piratage de CD (Tom et al., 1998) et l'achat d'imitations, c'est- à-dire de marques de distributeurs et de produits ressemblants mais ne constituant pas des contrefaçons (D'Astous et Gargouri, 2001). Le prix est le principal déterminant du Le prix est le principal déterminant du piratage de CD et la sensibilité au prix est positivement reliée à l'intention d'acheter des imitations.

Nous ne pouvons cependant pas hâtivement assimiler les CD[2] aux médicaments; puis qu'il est clair que Selon Bielen et al (2006), la qualité du produit est un facteur qui a une influence sur la décision d'achat du consommateur,

Les résultats contradictoires peuvent s'expliquer par le fait que le consommateur n'est pas toujours à même d'évaluer l'écart de qualité entre le faux et l'original En effet, les produits originaux se distinguent souvent des produits contrefaits par leur qualité supérieure.

L'information constitue un facteur très important dans la décision d'achat du Consommateur. Elle est capitale, car les consommateurs ne peuvent pas la percevoir directement du produit contrairement au goût d'après Hilton et al (2004). Plus un consommateur reçoit de l'information crédible sur un produit, plus il acquiert de la connaissance envers ce produit, plus il se sent confiant et sera plus disposé à l'acheter.

Quant à Phall et al. (2008), ils ont montré que plusieurs types d'informations ont des répercussions notables sur la décision d'achat des consommateurs.

Les résultats tirés de l'analyse de régression montrent qu'une meilleure connaissance des produits influence positivement l'achat.

En fait, les consommateurs ont besoin d ' être bien éclairés 'par rapport aux médicaments contrefaits et d ' avoir des informations pertinentes sur la ou les composantes de ceux-ci.

[1] Le comportement du consommateur est l'ensemble d'actes des individus directement reliés à l'achat et à l'utilisation de biens économiques et de services, ceci englobant les processus de décision qui précèdent et déterminent ses actes.

[2] Disque compact

Il s ont également besoin de bien comprendre les allégations inscrites sur les étiquettes. D'ailleurs, étant donné que les consommateurs accordent de plus en plus d'importance à leur santé, l'accès à une information plus crédible pourrait permettre de stimuler la promotion des produits pharmaceutiques et d'établir un sentiment de confiance.

Les résultats de Gentry et al. (2001) font ressortir également que le niveau d'éducation, lesexe, l'âge, la présence d'enfants et l'existence de personnes malades dans la famille influencent significativement le comportement d'achat des consommateurs à l' égard de ces médicaments. Comme autre résultat, on note l'existence d'une corrélation positive entre le niveau de connaissances des médicaments contrefaits et l'éducation.

En résumé, cette revue de littérature indique que les perceptions des bénéfices santé, la qualité perçue, les suppléments à base de plantes, le niveau de revenu, le prix, l'accès à une information crédible, la lecture de l'étiquette, le niveau de connaissance des médicaments et les facteurs sociodémographiques (l'âge, le sexe, le niveau d'éducation) influencent la probabilité d'achat.

III. Methodologie

a) Echantillonnage

i. Population de l´étude et source des données

La population étudiée dans notre travail est l'ensemble de personnes majeures vivant dans la ville de Dschang. Dans l'impossibilité de recueillir les informations auprès de chaque personne, nous avons opté de travailler avec un échantillon suffisamment représentatif de la population. Pour y parvenir, nous avons pris pour unité statistique le chef de ménage .Celui-ci pouvant être remplacé par un de ses membres majeurs. C'est-à-dire, un seul questionnaire est administré par ménage etrempli de préférence par son chef qui est généralement le prescripteur dans l'acte d'achat des médicaments.

ii. Méthode d'échantillonnage adoptée

Nous avons adopté la technique d'échantillonnage par choix raisonné[3]. En effet, nous avons administrés nos questionnaires à deux cent soixante-dix personnes généralement les chefs de ménage dont les habitations sont situées le long des principales rues des principaux quartiers de la ville de Dschang.

iii. Le choix de l'instrument de collectes des données

Dans cette partie, nous allons expliquer la manière dont notre outil de recherche a été construit et ensuite nous exposerons en détail chaque partie du questionnaire.

a. La construction du questionnaire

Le questionnaire a été construit en tenant compte de l'ensemble des variables détecté dans la revue de la littérature et pouvant influencer le comportement d'achat des consommateurs face aux médicaments contrefaits.

Le questionnaire a été soumis à une vérification et un pré-test avant son élaboration finale, ceci afin de vérifier la pertinence et la validité des questions au niveau de la forme et du fond. Ce test a été mené auprès de 20 ménages. Par la suite, des corrections ont été effectuées, ce qui a permis d'obtenir une version finale qui a été utilisée pour l'enquête.

b. la structure du questionnaire

Lequestionnaireprésentéàl'annexecomprendvingtquestions organisées en quatre parties: identification du répondant ;l' habitude d'achat des médicaments du répondant ;saperception de la contrefaçon des médicamentset la sensibilité de celui-ci à certains facteurs influençant (positivement ou négativement) l'achat des médicaments contrefaits.

- *Identification du répondant*

Cette premièrepartieduquestionnaireestcomposéedecinqquestions (QI, Q2, Q3, Q4 et Q5) etapourobjectifde nous renseigner sur les variables sociodémographiques de chaque répondant.

- *Habitude d'achat des médicaments,*

Les questions Q6, Q7, Q8, Q9 et Q10 nous donnent les informations relatives aux lieux d'achat (pharmacies et marchés illicites) et la fréquence d'achat des médicaments sur ces lieux ; mettant ainsi en exergue l'habitude d'achat des consommateurs pour les médicaments en général

- *Les informations générales sur la contrefaçon des médicaments et sa perception par le répondant*

Cette troisième partie du questionnaire regroupe six questions (Q1l, Q12, Q13, Q14, Q15 et Q16). ces questions nous permettent d'apprécier le niveau de connaissance sur le phénomène de contrefaçon des médicaments, la perception de l'efficacité des médicaments des divers lieux (pharmacies et marchés illicites) et enfin l'attitude du répondant sur la contrefaçon des médicaments en générale

- *La sensibilité du répondant à certains facteurs influençant (positivement ou négativement) à l'achat des médicaments contrefaits.*

Cette dernière partie du questionnaire est constituée des questions, Q17, Q18, Q19 et Q20. Les deux premières questions de cette partie renseignent sur la perception du risque lié à l'utilisation des médicaments contrefaits alors que les deux autres montrent le degré d'influence de certains facteurs dans la motivation à l'achat des médicaments contrefaits. L'échelle de Likert de 5 points allant de « pas du

[3] L'échantillonnage par choix raisonné est une méthode d'échantillonnage non aléatoire car tous les individus n'ont pas la même chance d'être choisi.

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tout important» à « très important» est utilisé à cet effet.

Cette même échelle est utilisée aux questions Q5, Q8, Q13, Q14 et Q18 selon diverses appréciations. En effet, elleadéjàétéutilisée par plusieurs chercheurs à l'instar deHuang, Leeet Ho (2004)afindemesurerl'attitude desconsommateursenverslesmarchésillicites.Il s'agitalorsd'uneéchelledontlavaliditéetla fiabilitéaétéadmise.

c. Description des variables

Dans le cas de cette recherche, nous avons jugé nécessaire de grouper les facteurs stimulant l'achat des consommateurs à l'égard des médicaments contrefaits en 3 grandes composantes pour en faire les variables indépendantes.Cesfacteur ssont ceux obtenus de l'enquête exploratoire. Ce sont:

- La connaissance du produit
- La satisfaction
- Les motivations.

La variable dépendante est la fréquence d'achat.

A chacune de ces variables correspondent des items. Un ou Plusieurs items (questions) sont nécessaires pour expliquer chaque variable.

b) Méthode de traitement des données

i. *Le dépouillement du questionnaire*

Avant d'effectuer le dépouillement du questionnaire, nous avons au préalable prévu pour effectuer ce travail une grille de codification dans laquelle sont codifiées les informations. Ainsi il est définit un code pour chacune des variables et éventuellement pour chacune des modalités de ces variables. (Voir tableau 1)

Nous avons procédé par la suite à une relecture systématique du contenu de tous les questionnaires pour éliminer ceux qui étaient incomplets, vérifier la lisibilité des réponses, s'assurer de la pertinence et la cohérence des réponses à partir de certaines questions filtres. A l'issu de cette investigation 227 questionnaires ont été retenues pour notre analyse; soit un pourcentage de 84, 07%

Au départ notre échantillon étaitconstitué de 270 répondants, en éliminant les questionnaires manquant d'informations ou ayant des valeurs aberrantes nous nous retrouvons avec 227répondants au final.

Tableau 1 : Tableau du codage des variables

Syntaxe	Codage
Sexe	Sexe
Ages	Ages
Situation professionnelle	Sipr
Niveau d'étude	Nive
Lieu d'achat des médicaments	liac
Fréquentation des autres lieux de vente de médicaments	frau
La part de dépense de santé sur les dépenses totales	pard
Connaissance de l'existence des médicaments contrefaits	saco
Possibilité de retrouver les médicaments contrefait en pharmacie ou sur les marchés illicites	poco
Jugement sur l'efficacité des médicaments vendu sur les marchés illicites	juil
Fréquence d'achat des médicaments sur les marchés illicites	frac
Jugement sur l'efficacité des médicaments vendu dans les pharmacies	juag
Sanctions juridiques relative à l'achat des médicaments sur les marchés illicites	Saju
Risque de se faire mal juger par son entourage	Risa
Risque que le médicament peut être nocif ou inefficace	Risb
Risque lié aux sentions encourues	Risc
Risque lié à l'absence d'un suivi crédible par le vendeur	Risd
Niveau général des risques liés aux utilisations des médicaments	nige
Prix relativement faible	prix
Faible estime de soi	esti
Disponibilité des médicaments	disp
Qualité de service	qual
Possibilité d'achat en détail et sans obligation de présenter une ordonnance	poss
Satisfaction antérieure	sati
Consultation non payante	cons
Ordre d'influence du prix	opri
Ordre d'influence pour faible estime de soi	oest
Ordre d'influence pour disponibilité des médicaments	odis
Ordre d'influence pour qualité de service	oqua
Ordre d'influence pour la possibilité d'achat en détail	opos
Ordre d'influence pour la satisfaction	osat

Ordre d'influence pour la consultation	ocon
Lutte contre la vente des médicaments sur les marchés illicites	luti
Efficacités des campagnes anti-contrefaçons	Juca

Source : auteur

ii. *Les différentes relations à tester*

Ces modèles mettent en relation une variable dépendante avec une ou plusieurs variables explicatives. Pour notre étude nous commençons par donner les relations fonctionnelles entre nos variables dépendantes et nos variables indépendantes et par la suite suivra le modèle logistique proprement dit.

- relation fonctionnelle entre la fréquence d'achat et connaissance du produit

Frac= f (liac, frau, saco, poco)

- relation fonctionnelle entre la fréquence d'achat et la satisfaction

Frac= f (pard, juil, juag)

- relation fonctionnelle entre la fréquence d'achat et motivation

Frac= f (prix, esti, disp, qual, poss, sati, cons, opos, osat, ocon, opri, oest, odis, oqua)

- relation fonctionnelle du comportement d'achat

A partir des moyennes arithmétiques des items correspondant à chaque composante, des indices synthétiques des composantesconnaissances du produit (coco), satisfaction (cosa), motivation (como) ont été utlisés pour faire l'estimation globale de la fréquence d'achat comme suit :

Frac= f (coco, cosa,, como)

iii. *spécification du modèle*

Ce modèle est inspiré de Mallet (2004). Dans une modélisation logistique à K modalités, la probabilité d`occurrence de la modalité j s`écrit :

$$P(Y=j|i)=\frac{e^{(XB(j,0))}}{\sum_{j=0}^{j=K} e^{(XB(i,0))}}$$

Où Y est la variable expliquée, X le vecteur de variables explicatives, j une modalité correspondant à la variable expliquée et i une modalité correspondant à la variable explicative.

IV. Presentation Des Resultats

Les résultats comportent une partie descriptive et une autre partie explicative.

a. *Analyse descriptive*

i. *Description numérique*

Notre analyse descriptive a reposé sur l'AFC et cette AFC[4] nous a permis de réduire nos infos d'un espace de 34 axes à un espace à deux axes principaux de valeurs propres respectives ;

Y1=2,678

Y2=2,438

Nous avons ensuite recherché les items les plus déterminants de nos principales composantes à savoir; la connaissance du produit (Liac, Frau,Saco et Copo.), la satisfaction (Pard,Juil,Frac,Juag), enlevez le risque preçu (frac, saju, ris, nige, luti, juca) et les motivations (…Opo, Luti) à parti de nos 2 axes principaux comme le montre le tableau ci-dessous.

[4]Analyse Factorielle des Correspondances car toutes les variables sont qualitatives.

Tableau 2 : Analyse exploratoire

Variables(items)	sexe	ages	sipr	nive	liac	frau	pard	saco	poco	juil	frac	juag
Axe1(vecteur propre)	-0.0450	-0.3563	-0.0955	0.3278	0.0540	0.2160	-0.0293	0.1828	0.0050	0.0709	-0.0812	0.1035
Axe2(vecteur propre)	0.1310	-0.1546	-0.0670	0.0030	0.2924	-0.0763	0.0712	-0.0276	0.0616	0.2560	-0.2145	-0.0209
Variables(items)	saju	risa	risb	risc	risd	nige	prix	esti	disp	qual	poss	sati
Axe1(vecteur propre)	-0.0944	0.1585	-0.1040	0.2357	-0.2206	0.1499	-0.2284	0.2072	-0.0299	0.2479	-0.1974	0.0912
Axe2(vecteur propre)	0.1220	-0.1120	0.0493	0.0141	0.0100	-0.0406	0.2992	0.2681	0.4398	0.3015	0.2019	0.1266
Variables(items)	cons	opri	oest	odis	oqua	opos	osat	ocon	luti	juca		
Axe1(vecteur propre)	0.0742	-0.1518	0.1786	-0.0644	-0.2998	0.0193	-0.1358	0.0530	0.0142	0.1990		
Axe2(vecteur propre)	-0.4261	-0.0149	0.0219	0.1627	-0.0078	0.1670	0.2825	-0.0794	-0.2089	-0.1819		

Source : auteur à partir du logiciel stata

Concernant notre première composante qui est la connaissance du produit contrefait; elle est expliquée par les variables (Liac, Frau, Saco et Poco).

Lorsque nous comparons les valeurs des vecteurs propres de ces 4 variables sur nos deux axes principaux nous constatons que la variable Liac est plus expliquée par l'axe 2. La variable Frau est plus expliquée par l'axe1 ainsi que Saco et Copo par l'axe 2. De tous ces 4 variables, celle qui a la plus grande valeur propre est la variable Liac; donc c'est cette variable qui explique le plus la connaissance du produit contrefait. Donc le lieu d'achat de médicament permet de conclure sur la connaissance ou non du produit contrefait par les usagers.

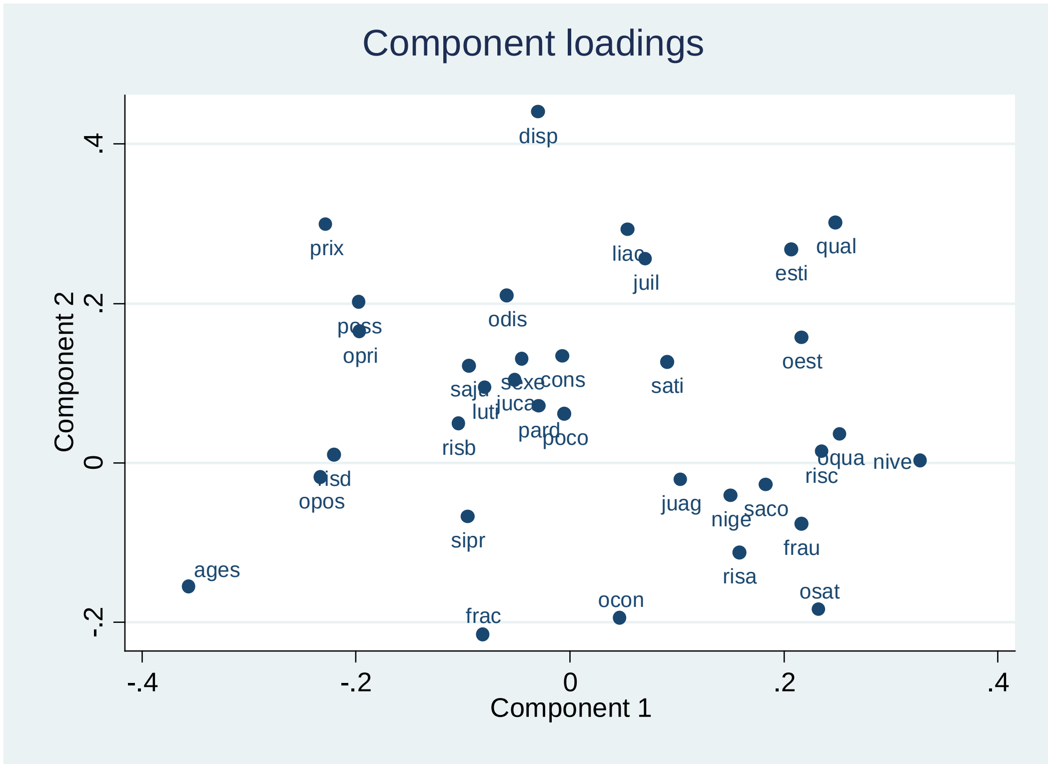
Pour ce qui est de la deuxième composante à savoir la satisfaction, elle est expliquée par les variables (Pard, Juil, Frac, Juag), Lorsque nous comparons une fois de plus les valeurs des vecteur propres de ces 4 variables sur nos deux axes principaux nous constatons que la variable Juil. ; qui a la plus grande valeur propre est plus expliquée par l'axe2,suivie de la variable Pard .La variable Juag qui a la plus grande valeur sur l'axe 1est le plus expliqué par cet axe. Ensuite De tous ces 4 variables, celle qui a la plus grande valeur propre est la variable Juil; donc c'est cette variable qui explique le plus la satisfaction des médicaments vendus sur le marché illicite. Donc l'opinion des consommateurs portant sur efficacité du médicament vendu sur les marchés illicites permet de conclure sur la satisfaction de ces produits.

L'ultime composante qu'est la motivation est expliquée par les variables (Nife, Opo, et Luti).la variable nife est constituée de 7 items ainsi que la variable Opo.Lorsque nous comparons les valeurs des vecteurs propres de ces 3 variables sur nos deux axes principaux, nous constatons que la variable Disp est la plus expliquée par l'axe 2 car ayant la plus grande valeur sur cet axe. Ensuite viennent les variables qual, prix, esti, Sati et poss. La variable oqua a la plus valeur suivie de osat, oest et oqua; et est la plus expliquée par l'axe1 et par conséquent la plus grande valeur propre de tous les valeurs des variables suscitées est la variable Disp. Donc c'est cette variable qui explique le plus la motivation à l'achat des médicaments sur le marché illicite. A cet effet la disponibilité des médicaments permet de comprendre la motivation qu'à un consommateur lors des prochains achats des médicaments sur ce marché illicite.

ii. *Description graphique*

Pour corroborer les résultats que nous avons eu ci-dessus concernant la description numérique, nous avons utilisés le graphique ci-dessous;

Figure 1 : Nuage de variables rapporté sur deux axes



Source : auteur à partir du logiciel stata

La composante connaissance du produit de la contrefaçon est expliquée par l'item LIAC qui expliquée le mieux par l'axe2 a le plus long vecteur que les variables Frau, Copo, et Saco. De même la satisfaction qu'apporte ces médicaments est expliquée par l'item juil qui expliquée le mieux par l'axe2 a le plus long vecteur que les variables Pard, Frac et Juag. Pour terminer la motivation à l'achat des médicaments sur les marchés illicites expliquée par l'item DISP qui expliquée le mieux par l'axe2, a le plus long vecteur que les variables Opo, et Luti.

b. Analyse explicative

i. *Test de corrélation de Rho de Spearman*

L'analyse explicative consiste à faire les tests d'hypothèses. Dans un premier temps nous allons faire le test de corrélation de Spearman pour vérifier que les variables tels que le sexe,l'âge la situation professi-onnelle et le niveau d'étude aient oui ou non une relation directe avec nos deux principales variables dépen-dantes que sont; la fréquence d'achat et le risque. Cette analyse est résumé dans le tableau qui suit;

Tableau 3 : Test de corrélation de Rho de Spearman

	FRAC		NIGE	
VARIABLES (items)	Spearman Rho	prob>/t/	Spearman Rho	prob>/t/
SEXE	-0,0356	0,5938	-0,0438	0,511
AGES	-0,0015	0,9821	-0,0699	0,2944
SIPR	0,1086	0,1025	-0,0941	0,1577
NIVE	0,0967	0,1464	0,0319	0,6325

Source : auteur à partir du logiciel stata

Tous les coefficients de corrélation de Spearman calculés sont très inférieures à 1 en valeur absolu et ne sont pas significatif lorsqu'on compare les probabilités calculées au seuil de signification de 5% (si la probab-ilité est supérieure au seuil de signification choisi <5%>, le coefficient correspondant à la variable n'est pas significatif) .Cela montre qu'il y a une relation quasi inexistence entre nos deux variables dépendantes Frac et Nige et les variables; sex, ages, sipr et nive.

Cette faible corrélation nous fait rejeter ces variables dans nos explications.

Dans un second temps il est question pour nous de procéder à une régression logistique multinomiale parce que nous disposons des variables dépendantes nominales à plusieurs modalités.

ii. *Relation entre la variable Fréquence d'achat et les différentes composantes*

a. *Relation entre la fréquence d'achat et la composante connaissance du produit*

Tableau 4 : Frac= f (liac, frau, saco, poco) Variable dépendante : frac

Modalités	Variables ou items	Coefficient significatif à 5%	Probabilité	Stat calculée Z
Jamais 1	/	/	/	/
Faible 2	/	/	/	/
Moyenne 3	LIAC	-1,142852	0,003	-2,96
Assez élevée 4	LIAC	-1,553622	0,001	-3,31
Très élevé 5	/	/	/	/
Prob > Chi2=0,0033				
Pseudo R2=0,0548				

Source : auteur à partir du logiciel stata

Si laprob (probabilité) >5% le coefficient de la variable n'est pas significatif; si Prob< 5% le modèle est globalement significatif. Nous constatons que relativement à la connaissance du produit contrefait, la probabilité d'acheter moyennement les produits contrefaits diminue avec la connaissance du mauvais lieu d'achat. De même la probabilité d'acheter à une fréquence assez élevée les médicaments contrefaits diminue (signe négatif de la variable LIAC) avec la connaissance du mauvais lieu d'achat. La fréquence d'achat est belle et bien déterminée par la composante connaissance du produit.

b. *Relation entre la fréquence d'achat et la composante Satisfaction*

Tableau 5 : Fra= f(pard, juil, juag) Variable dépendante : frac

Modalités	Variables ou items	Coefficient significatif à 5%	Probabilité	Stat calculée Z
Jamais 1	/	/	/	/
Faible 2	/	/	/	/
Moyenne 3	PARD	0,2939392	0,029	2,18
Assez élevée 4	PARD	0,4068876	0,012	2,52
	JUIL	-0,520113	0,003	-3,2
Très élevé 5	JUIL	-1,18555	0,005	-2,79
Prob > Chi2=0,0000				
Pseudo R2=0,0678				

Source : auteur à partir du logiciel stata

Relativement à la composante Satisfaction, la probabilité d'acheter les médicaments contrefaits à une fréquence moyenne augmente avec les bons revenus (revenus élevés).

En outre la probabilité d'acheter les médicaments contrefaits à une fréquence assez élevée augmente avec les meilleurs revenus et diminue avec la mauvaise efficacité des médicaments.

La fréquence d'achat est belle et bien déterminée par la composante satisfaction.

c. *Relation entre la fréquence d'achat et la composante Motivation*

Tableau 6 : Frac= f(prix, esti, disp, qual, poss, sati, cons, opos, osat, ocon, opri, oest, odis, oqua) Variable dépendante : frac

Moda lités	Variables ou items	Coe fficient significatif à 5%	Proba bilité	Stat calculée Z
Jamais 1	OPRI	-0 ,2552657	0,039	-2,06
Faible 2	/	/	/	/
Moyenne 3	QUAL	-0,2490078	0,041	-2,05
Assez élevée 4	/	/	/	/
Très élevé 5	SATI	1,306667	0,047	1,98
Prob > Chi2=0,0431				
Pseudo R2=0,1228				

Source : auteur à partir du logiciel stata

Relativement à la composante Motivation, la probabilité de ne jamais acheter les médicaments sur le marché illicite diminue avec les mauvais prix; c'est-à-dire que lorsque le prix augmente, la probabilité de ne jamais acheter augmente. La fréquence d'achat est belle et bien déterminée par la composante motivation.

d. *Relation entre la fréquence d'achat et les trois composantes (connaissance du produit, Satisfaction, et Motivation)*

Tableau 7 : Frac= f(coco, cosa, enlevez cori, como) Variable dépendante : frac

Modalités	Variables ou items	Coefficient significatif à 5%	Probabilité	Stat calculée Z
Jamais 1	/	/	/	/
Faible 2	/	/	/	/
Moyenne 3	Cosa	0,3021399	0,001	3,28
	Como	-0,0469101	0,027	-2,21
Assez élevée 4	Coco	-0,8067802	0,003	-2,94
Très élevé 5	Cosa	0,505091	0	4,28
Prob > Chi2=0,0000				
Pseudo R2=0,0900				

Source : auteur à partir du logiciel stata

Relativement aux trois composantes, la probabilité d'acheter les médicaments contrefaits à une fréquence moyenne augmente avec la Satisfaction, diminue avec la démotivation.

En outre relativement aux trois composantes, la probabilité d'acheter les médicaments contrefaits à une fréquence assez élevée diminue avec la connaissance du mauvais produit, augmente avec la Satisfaction des usagers. La probabilité d'acheter les médicaments contrefaits à une fréquence très élevée augmente avec la Satisfaction des usagers.

Nous constatons que la satisfaction est la variable la plus déterminante qui pousse les usagers à consommer les produits contrefaits.

V. Conclusion

Au terme de cet article qui nous a permis de faire une investigation sur le plan théorique et empirique afin d'une part de comprendre le comportement des usagers de produits douteux spécifiquement les médicaments contrefaits; d'autre part de faire une analyse théorique et empirique du phénomène de la contrefaçon, nous-nous sommes fixer pour objectif de: déterminer les facteurs qui stimulent l'achat des médicaments contrefaits.

Sur le plan théorique le comportement d'achat en faveur d'un produit peut dépendre des facteurs principaux tels que la connaissance du produit, la satisfaction du client, le risque perçu pour ce qui est d'un produit douteux, la motivation des usagers. Ces facteurs ont été détaillés par des variables qui peuvent les déterminer sous forme de questionnaire administré afin que par un dépouillement ces facteurs et les variables qui les déterminent puissent être codés et prêter à une analyse empirique.

Sur le plan empirique, l'analyse descriptive nous révèle quela composante connaissance du produit de la contrefaçon est expliquée par l'item LIAC qui expliquée le mieux par l'axe2 a le plus long vecteur que les variables Frau,Copo,etSaco. De même la satisfaction qu'apporte ces médicaments est expliquée par l'item juil qui expliquée le mieux par l'axe2 a le plus long vecteur que les variables Pard, Frac et Juag .Pour terminer la motivation à l'achat des médicaments sur les marchés illicites expliquée par l'item DISP qui est expliquée le mieux par l'axe2 a le plus long vecteur que les variables Opo, et Luti .

De l'analyse explicative il ressort que la fréquence d'achat des médicaments de qualité douteuse est significativement influencée par la connaissance du produit, la satisfaction du malade, la motivation de l'acheteur. Donc il faut agir sur ces facteurs pour réduire voire éliminer la fréquence d'achat.

D'autre part nous précisons que pour agir sur ces facteurs en vue d'une modification du comportement d'achat, il faudra tenir compte: du lieu d'achat pour savoir si l'usager connait le médicament contrefait; de la part de dépense de santé sur le revenu moyen,du Jugement sur l'efficacité des médicaments vendu sur les marchés illicites pour modifier la satisfaction de l'usager ; del'influence du prix , la qualité de service , la Satisfaction antérieure pour modifier la motivation des usagers. Etant donné que la satisfaction que les consommateurs des médicaments contrefaits est apparente, les consommateurs doivent savoir que l'achat des médicaments dans un lieu autre que la pharmacie les expose à tous les dangers.

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Annexe

REPUBLIQUE DU ENLEVEZ CAMEROUN — REPUBLIC OF ENLEVEZ CAMEROON

Paix – Patrie — Peace – Fatherland

MINISTERE DE L'ENSEIGNEMENT MINISTRY OF HIGHER SUPERIEUR EDUCATION UNIVERSITE DE DSCHANG UNIVERSITY OF DSCHANG FACULTE DES SCIENCES ECONOMIQUES FACULTY OF ECONOMICS ET DE GES-TION AND MANAGEMENT FOR ENLEVEZ MULAIRE DU QUESTIONNAIRE ADRESSE AUX MENAGES

Questionnaire De Recherche

Ce questionnaire élaboré dans le cadre d'un travail de recherche portant sur le thème **«les déterminants du comportement d'achat des consommateurs des produits contrefaits: cas des médicaments dans la ville de Dschang - Cameroun »** vise à collecter des données dont nous vous garantissons la confidentialité et qui ne seront utilisées qu'à des fins scientifiques. Entantquerépondant, séparez les mots sur toute la ligne votreparticipation àcetterechercheseraitgrandement appré-ciée. . **Merci pour votre collaboration.**

1-Sexe : ☐ Féminin ☐Masculin

2-Age : ☐20 – 30ans ☐31 – 40 ans ☐41 – 50 ans ☐51 – 60 ans ☐plus de 60 ans

3-situation professionnelle : ☐sans☐emploi ☐employé ☐autonome autres (à préciser)……………………..

4- Niveaux d'étude; ☐n'a pas été à l'école ☐primaire ☐secondaire ☐ supérieur

5- comment jugez-vous la part de votre dépense de santé sur votre revenu moyen ?

☐Très faible ☐Faible ☐ moyenne élevée ☐très élevée

6-A quel lieu achetez- vous le plus souvent les médicaments ?

☐Pharmacies (des hôpitaux ou de la ville) ☐ marchés illicites (poteaux, kiosques, boutiques ou ambulant)

Pourquoi :……
……………………………………………………………………………………………………

7-Fréquentez-vous aussi les autres lieux de ventes des médicaments (ceux non sélectionnés à la question précédente) ?

☐Oui

Si oui dans ☐quelle circonstances :……………………………………………………………………………...................................

8- À quelle fréquence achetez-vous les médicaments sur les marchés illicites (par rapport à vos achats globaux des médicaments) ?

Non

☐ Nulle (jamais) ☐ faible ☐moyenne ☐assez élevée ☐très élevée

9- selon vous, qu'est ce qui permettrait d'empêcher à un consommateur d'acheter les médicaments sur les marchés illicites ?………..

10-comment jugez-vous les campagnes anti-contrefaçons des médicaments ?

☐ Inefficace ☐ peu efficace ☐moyennement efficace ☐assez efficace ☐ très efficace

11-savez-vous qu'il existe des médicaments contrefaits? (C'est-à-dire des médicaments qui sont les

imitations? ☐Oui ☐Non

12-D'après vous, où a-t-on plus de possibilité de retrouver les médicaments contrefaits :

☐ Pharmacies (des hôpitaux ou de la ville) ☐ marchés illicites (poteaux, kiosques, boutiques ou ambulant)

11-savez-vous qu'il existe des médicaments contrefaits? (C'est-à-dire des médicaments qui sont les imitations? ☐Oui ☐Non

12-D'après vous, où a-t-on plus de possibilité de retrouver les médicaments contrefaits :

☐Pharmacies (des hôpitaux ou de la ville) ☐ marchés illicites (poteaux, kiosques, boutiques ou ambulant)

13-Comment jugez-vous en général l'efficacité des médicaments vendus sur les marchés illicites (poteaux, kiosques, boutiques, ambulant ou tout point non agrée)

☐ Non efficace ☐ peu efficace ☐passablement efficace ☐assez efficace ☐ très efficace

14- Comment jugez-vous en général l'efficacité des médicaments vendus dans les pharmacies (des hôpitaux, de la ville où tout point agrée) ?

☐ Non efficace ☐peu efficace ☐passablement efficace ☐ assez efficace ☐très efficace

15- Existe-t-il des sanctions juridiques pour les consommateurs relatives à l'achat des médicaments sur les marchés illicites ?

☐Oui ☐ Non

16-D'après vous, faut-il lutter contre la vente des médicaments sur les marchés illicites ? Oui Non

Pourquoi :…………………………………………………………………………………………………

17- Classer par ordre d'influence décroissante (du plus grave au moins grave), les risques suscités qui freinent votre volonté d'achat des médicaments sur les marchés illicites.

a- se faire mal jugé par son entourage

c- à cause des sanctions encourues

b- ces médicaments peuvent être nocifs ou inefficaces

d- absence d'un suivi crédible par le vendeur

1er……., 2ièm …………., 3ièm…………………..,4ièm……………(Relevez les lettres correspondantes)

18- Quel est votrepointdevuegénéralsur le niveau desrisquesliésauxutilisationsdeces médicaments ?

☐Nul ☐faible ☐moyen ☐ assez élevé ☐ très élevé

19- selon vous, quel est le niveau d'importance de chacun de ces facteurs motivateurs à l'achat des médicaments sur les marchés illicite

NO	FACTEURS	Pas du tout important	Peu important	Moyennement Important	important	Très important
1	Prix relativement plus faible					
2	Faible estime de soi					
3	Disponibilité des médicaments					
4	Qualité de service					
5	Possibilité d'achat en détail et sans obligation de présenterune ordonnance					
6	Satisfaction antérieure					
7	Consultation non payante					

20-Classer par ordre d'influence décroissante (du plus important au moins important), les facteurs cités à la question 19 qui motivent votre volonté d'achat des médicaments sur les marchés illicites.

1er……...,2ièm ……, 3ièm……., 4ièm………, 5ièm………..…, 6ièm………7ièm ……(Encercler les numéros correspondants)

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Facebook Addiction: A Study of Big-Five Factors and Academic Performance amongst Students of IUB

By Shanayyara Mahmood & Umer Farooq
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Abstract- Purpose of study: Social networking sites have gained fame over the past few years. People have started to use them regularly. One Such site is Facebook which has become the centre of attention and has created an urge to explore certain issue among the researchers. This study investigates the affect of personality variables on face book addiction and if it has any negative effect on the student academic performance.

Methodology Applied: Survey research method was employed. Questionnaires were distributed among students using in the department of Management Sciences. Valid questionnaires (n=150) were filled and returned.

Findings and results: Regression analysis was used to analyze the data. Extroversion, neuroticism and Openness to experiences are all positively correlated to FBA. Also, there is negative relationship between FBA and Academic performance.

Keywords: big five factor model, facebook addiction, academic performance.

GJMBR-E Classification: JEL Code: M30, M39

FACEBOOKADDICTIONASTUDYOFBIGFIVEFACTORSANDACADEMICPERFORMANCEAMONGSTSTUDENTSOFIUB

Strictly as per the compliance and regulations of:

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Shanayyara Mahmood [α] & Umer Farooq [σ]

Abstract- Purpose of study: Social networking sites have gained fame over the past few years. People have started to use them regularly. One Such site is Facebook which has become the centre of attention and has created an urge to explore certain issue among the researchers. This study investigates the affect of personality variables on face book addiction and if it has any negative effect on the student academic performance.

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Findings and results: Regression analysis was used to analyze the data. Extroversion, neuroticism and Openness to experiences are all positively correlated to FBA. Also, there is negative relationship between FBA and Academic performance.

Originality of the study: Overall, this research explains that extroversion ahs play a major role in determining Facebook Addiction and that there is no significant relationship between academic performance and Facebook Addiction.

Keywords: big five factor model, facebook addiction, academic performance.

I. Introduction

The web has considerably enhanced the capacity for people to interact with one another without the limitations of their location. Also, it has widened the amount of associations that any person may keep on at a time. For free and accessible interaction over the web, social networking sites (SNS) have gained significant importance. One of the fastest growing SNS site is Face book, it has over one billion active users around the globe and 584 million people use it daily on the average. Ellison and others suggest that the basic statistical portion of people ranging between eighteen to twenty-four years is increasing at a rate of seventy-four percent annually.

Facebook has gained unparalleled fame and is presently the 2nd most often used and visited website on the web, capturing an audience of over 606 million according to Gonzalez (2011). In Australia, the zeal to use face book is noticeable, almost half the population is reported to be active users. (*Gonzalez, 2011*). It is not shocking to find that face book has impacted the social-networking of the people, keeping these figures in mind. As an example, a variety of studies have evaluated that Face book use is related to enhance sociability. (*Burke, Marlow, & Lento, 2010; Steinfield, Ellison, & Lampe, 2008*). Also, recently a qualitative study suggested that Face book is also dynamical in the manner people communicate and accompany each other according to Richardson & Hessey, 2009.

Although face book use has its implications, there is a definite gap of thorough empirical research in the area. One of the reasons could be that face book is comparatively a new social advent and intrinsically, there has been restricted chance for preliminary analysis. However, within the last 2 years, a growing range of analyzers have recognized the importance of this kind of research, and are finding measures towards distinguishing the categories of individuals who are facebook users. (*Hargittai, 2008; Raacke & Bonds-Raacke, 2008; Sheldon, 2009; Tufekci, 2008*). So as to effectively come through this objective, some research-hers have centered on the link between Facebook use and varied aspects of personality traits. (*Amichai-Hamburger, 2002; Buffardi & Campbell, 2008;, Mehdizadeh, 2010; Ross et al., 2009; Sheldon, 2008*). In keeping with Amichai-Hamburger (2002), this type of analysis is important as ''personality may be extremely pertinent in deciding behavior on the web.''

The actual purpose behind the creation of face book was to provide a social tool for students to maintain their relationships related to university. But today, high school and college students have preferred Facebook as the priority social-networking site. Among college students, looking for someone who does not use face book is a formidable task Ellison et al reports that in 2007, 94% of Undergraduate students in the United States accounted for being face book users. In addition to the large scale use of face book by college students, the average time they spend on face book is also on the rise. In January 2012 a total of more than ten billion min/day were amassed by users logged on to facebook on their personal computers. In comparison to January 2011, and January 2012 the accumulated min/day and the average min/user per day escalated by 57% and 14% respectively.

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With the growing fame of Facebook among students, many of the researchers have started to focus on the reasons that can be relevant to the excessive use of Face book. One of the approaches used it to see the affect of personality traits on using face book. One objective of this research is to examine if there is a relation between personality variables and face book. (*Ryan,T and Xenos S, 2011*).

Known that a large number of students use Facebook and the quantity of time that they are spending logged on to Facebook, the issue raised is whether using Facebook negatively affects the performance of students at their academic level. The question arises as whether Facebook use negatively impacts academic performance. Till now, the research on the association between time devoted to Face book and academic performance has generated differentiated results. Another purpose of the sudyis to investigate if there is a negative association between Facebook addiction and academic performance as investigated by Ryan and Xenos in 2011.

a) Research Objectives

The key objectives of this study are:

- To analyze the impact of big five factor model on face book addiction
- To analyze the relationship between face book use and academic performance of students.

b) Hypotheses

H1: Face book Addiction is positively correlated with extroversion.

H2: Agreeableness negatively affects Face book Addiction.

H3: High Openness to experience positively affects Face book Addiction

H4: Conscientiousness is positively associated to Face book Addiction.

H5: Neuroticism positively affects level of Face book addiction.

H6: Face book Addiction and Academic Performance are negatively correlated.

c) Outline Of The Study

This study consists of 7 chapters. The design of the study has started with the start of research questions:

II. Literature Review

a) Social-networking sites and Facebook

Internet socializing has come to the forefront as an integral aspect of young adult life Within the public, the highest ratio of computer and internet users belongs to the adolescent and young adult group, their usage constituting mainly of academic purposes (46%), emaling/Instant Messaging (36%) and PC gaming (38%) (De Bell & Chapman 2006). Boyd and Ellison (2008) investigated that Social Networking Sites have provided the most recent platform for fashioning up of public or private profiles and using them for connecting with people in their networks.

SNS have emerged as online services letting people to 1) be part of a system and to fabricate a public or semi-public profile within it 2) make up a list including other people with a common connection 3) track their own and others' connection lists within the setup.

Facebook, a Mark Zuckerberg innovation for aiding residential college and university students to interact with other residence hall occupants is a notable example. It is described as ''an online directory that interacts students through social networking at college and university level" (*Zuckerberg, 2005,*) Millions of users are subscribed to social websites such as MySpace and the far more preferred Facebook. The far-stretching popularity of facebook has made people question about its implications on the lives of college students. (*Stephens & Torres, 2005*).

b) Facebook

With over 800 million users, face book is one of the most famous SNS. As much as seventy languages are provided on the website. Recently, with the advent of smart phones, people are always on the go, they log on to Face book without needing a personal computer and check their profiles. There are almost 475 mobile operators worldwide that are involved in the promotion of face book. According to Facebook Press 2012, presently, 350 million people access face book through their phones.

c) Why the Temptation?

Levy (2010), investigated that face book has been growing amazingly from 2008 to June 2009. He stated that face book grew at a rate of 157% with approximately 208 million active users. If face book were a country, it would have been the fifth largest with respect to population, even bigger than Russia and Japan, this comparison was given when it hit the mark of two hundred million users while a video was also launched showing this race.

An online profile is made on face book where users can 'add' friends and can post or comment on each others' profiles. Also, personal information is required while creating an account including information like religious and political views, relationship status and favorite music etc. Every individual has the capacity to upload photos they like on their profiles. This creates a variety of profile showing some private information as well. (*Ellison, Steinfield and Lampe, 2007*).

With numerous individuals utilizing these destinations, showing data and pictures which could be seen as private to a lot of people, businesses have begun to exploit this. Numerous managements now utilize long range informal communication destinations like an educational module vitae to figure out if the competitor is suitable for the occupation. It is clear that a ton more could be told around an individual than essentially having photographs and status' on an informal communication site.

d) The Big Five and Facebook Use

A person's characteristics can be seen as their inclinations or preferences producing a specific mindset when faced with different scenarios. Ajzen, J. (1988) The generally acknowledged model of personality is the Five-Factor Model (FFM), coming out as the most agreed upon postulation on this matter. John, O. P., Naumann, L. P. and Soto, C.J. (2008).The FFM proposes that an individual's personality traits are weighed up by five determinants: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. John, O. P., Naumann, L. P. and Soto, C.J. (2008). Every single one of these factors blend various features that in the past were employed across multiple domains with restricted rewards. These fundamental trends are intrinsic and progress throughout life, shaping up thoughts, feelings and actions. McCrae, R.R., and Costa, P.T. (1987).

Ross et al. (2009) and Amichai-Hamburger and Vinitzky (2010) examined particularly the interrelation of the Big Five factors and Facebook usage. Their outcome suggested that multiple factors are related to the distinct patterns of Facebook usage. For example, extraverts normally have bigger friend lists (Amichai-Hamburger and Vinitzky, 2010), and join more Groups1 (Ross et al., 2009), compared to introverts. Additionally, people having greater neuroticism are likely to use the Wall2 (Ross et al., 2009) more than those who are emotionally stable. According to Ross et al. (2009) a possible explanation for this is that posting on the Wall gives them a chance to take their time for devising messages and responses. Therefore, minimizing the risk of accidental revelations about personal information.

Regardless of the forecast that extraverts would spend more time on Facebook in contrast to conscientious individuals, Ross et al. (2009) or Amichai-Hamburger and Vinitzky (2010) were not able to find a considerable link between Facebook usage and the Big Five factors. In reaction to this, Ross et al. (2009) claimed that perhaps the Big Five were not specific enough to exhibit the subtleties concerning Facebook usage.

Neuroticism pertains to one's emotional stability. Anxiousness, anger, grief and inability to handle stress are key features of high neurotics. Stability, good stress management and self control are signs of low neuroticism. Facebook provides a stage for those who are high on neuroticism to make attempts for displaying themselves as appealing as they can. Moore, K. and McElroy, J.C., (2012), then again were providing them with more time to evaluate what they are going to say contrary to a face to face situation. Consequently, such people tend to use Facebook for prolonged durations

Extraversion refers to a person's degree of sociability and outgoingness. A hallmark of extraverts is their enthusiastic attitude for the outside world, and can be put forward as friendly, energetic, confident and showing optimism. On the other hand, introverts are reserved, lack enthusiasm and are less optimistic. The link between Facebook usage and extraversion has seen two contrary suggestions being brought forward. The first state that as Facebook is a way to reach out to contacts made off-line, extraverts are likely to spend more time on it. The second proposition suggests that because introverts do not communicate as effectively in person, Facebook enables them to make up for this as explained by Moore, K. and McElroy, J. C., (2012).

Openness to experience is concerned with the degree of a person's desire to look into new circumstances or conditions. Individuals who display a liking to experiences show affinity for diversity, fresh encounters and curiosity of the mind. Those who are not very intrigued by new experiences are likely to be cautious, prefer stability and do not have the same mental curiosity. The provision of fresh ideas about connecting to people and opportunities for additional experiences may be why people scoring high in openness favor spending more time on Facebook. (*Amichai-Hamburger, Y., and Vinitzky, G. (2010*).

Agreeableness refers to the magnitude to which a person favors and practices collaboration with others. Those who are agreeable have been noticed to be more cordial, social, and affectionate and trusting while disagreeable individuals show harshness, are less cooperative and more likely to engage in arguments. Individuals with high scores on agreeableness have more chances of involvement in relationships but there is a lack of conclusive evidence that they would do the same online. Less Facebook use decreases the likelihood of having to interact with people, so those scoring low on agreeableness prefer to spend less time online.(*Ross, C., Orr, E., Sisic, M., Arseneault, M., Simmering,M., and Orr, R.(2009*).

Conscientiousness signifies the traits of being disciplined, cautious and having strong willpower. Such people show restraint over their desires and are structured, hard-working and strain to achieve their targets. Unconscientious individuals on the other hand are more susceptible towards acting on their impulses, are disordered and often delay their work. High scorers on conscientiousness are not likely to spend a lot of time on Facebook as they might see this as a diversion from their path to complete the goals set out for them. (Moore, K. and McElroy, J. C., (2012).

Despite Facebook's widespread popularity, the topic of Facebook usage and its correlation to personality types has seen considerable research just in the previous few years. A high number of these studies have prioritized the various activities performed on Facebook instead of the time spent online.

When assessing students of Undergraduate and graduate levels, Ross et al. proposed that there was a link between personality variables and a few features of Facebook usage. According to them extraverts were more inclined to join Facebook groups as opposed to introverts. People high on neuroticism declared the Wall as their most favoured part of the website. Openness to experience was linked to a greater degree of socializing via Facebook. The authors themselves expressed their surprise at the lack of notable conclusions associated with personality variables in the recent study. Amichai, Hamburger and Vinitsky observed that extravert students had more Facebook friends but differed with Ross et al., by stating there was no appreciable relationship between being an extravert and joining more groups.

Ross et al. and Amichai Hamburger Vinitsky were unable to detect a link between the amount of time spent online and personality variations. Ryan and Xenos proposed that extraverts tend to spend more time on Facebook. Moore and McElroy supposed that the kinds of Facebook usage are strongly connected to personality variations. Introverts are assumed to have smaller social networks. Highly conscientious people are inclined to utilize the Wall far less often, whereas agreeable persons seek to post material about them on it.

The single component having a significant link to usage time was neuroticism. Hughes et al. stated that the likelihood of using Facebook was more in high neuroticism. Extraversion, conscientiousness and openness had no pronounced effect on Facebook usage. Any affiliation between particular activities on social networking websites and degree of neuroticism was ruled out by Muscanell and Guadagno. However, they proposed a relationship of particular types of usage with openness, agreeableness, conscientiousnes and extraversion.

e) Personality Characteristics of Facebook Users

Parikh and Gupta (2010) referred to Funder (2001) in their book to characterize the significance of identity characteristics, they agreed that "a people trademark example of thought, feeling, and conduct, together with the mental components – concealed or not – behind those examples". (Parikn & Gupta, 2010, p187).in basic terms, identity is the thing that makes an individual diverse or like others. Numerous specialists have utilized the Neo-Five Factor Inventory by Costa and Mc Crae to measure the diverse identity qualities.

The ones which are perceived in the Costa and Mc Crae model are extroversion (sum and power of interpersonal collaborations), neuroticism (level of passionate alteration and precariousness), openness to encounter (seeking after and liking different sorts of experience), good faith (control, regulation and heading of objectives and motivations) and amenability (the sort of communications an individual likes to have with others) (Costa & Widiger, 2002). In the study by Wilson, Fornaiser and White (2010), 'Mental Predictors of Young Adults' Use of Social Networking Sites', they expected to test the part of identity and respect toward oneself in the setting of adolescent grown-ups and their levels of Social Networking.

Their discoveries demonstrated that extroverted individuals reported more elevated amounts of Facebook use and addictive tendencies as stated by wilson et al, (2010) These results indicate that socializes need boundless contact with the virtual world and "companions" for a high incitement and a huge informal community. It additionally demonstrated members who scored low on principled invested an expanded measure of time on Facebook, this is thought to be down to the way that rather than study they are stalling on Facebook. The openness attribute had no impact on SNS utilization and this is thought so in light of the fact that interpersonal organizations are no more "another" creation. Suitability and neuroticism were found to have no effect on Facebook use stated by Wilson and others (2010).

In the study by Amichai-Hamburger and Vinitzky (2010), they discovered a critical correspondence between identity and Facebook utilization. They found that social butterflies emphatically related with the amount of Facebook companions the client has and that "individuals with low or abnormal amounts of neuroticism were slanted to impart more essential data than individuals to direct levels of neurocitism".(amichai-Hamburger et al, 2010).

Besides to this they uncovered that people with more excellent openness to encounter utilized a greater number of characteristics from the individual data area than people with easier levels of openness to encounter. Ten Traits connected with "extraversion" incorporate amiability, emphaticness, garrulity and being dynamic. Those high in extraversion have a tendency to show an inclination for interpersonal connection and social movement as investigated by Borman & Motowidle, 1993). In the study by Davies, French and Keogh (1998) they discovered extraversion to absolutely correspond to self-beguiling improvement which is "having a swelled, yet sincerely held Self-portrayal". (Davies et al, 1998) Findings by Kristof-Brown, Barrick and Franke (2002) indicated that extraverted people make more amazing utilization of self advancement. This connections once again to Wilson et al (2010) discoveries that extravert identities have a noteworthy positive association with Facebook use, socializers use Facebook as an outlet for headway toward oneself.

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f) Technological Advancement, Social networking and Academic Performance

Studies have investigated the common effect of innovation on scholastic accomplishment and improvement of youngsters and adolescents. Positive and negative impacts of innovation on accomplishment have been archived. Espinosa, Laffey, Whittaker, and Sheng (2006) explored the part of engineering in right on time youth improvement utilizing information from the Early Childhood Longitudinal Study. The findings showed that get to help the taking in capability of the learners, yet the creators forewarn that folks ought to support the instructive utilization of engineering to enhance scholarly accomplishment. Lei and Zhao (2005) examined the specifics of access, recognizing that amount is not as essential as quality regarding innovation utilization and person accomplishment. When the nature of innovation utilization is not nearly observed or guaranteed specifically, machine utilization may accomplish more damage than great to understudy accomplishment in school. Also, innovation that was found to have a positive effect on scholastic accomplishment, or engineering with instructive worth, was not prominent and utilized less every now and again. Studies have likewise reported no connection between workstation utilization and scholarly accomplishment. Case in point, no relationship was found between time used on the workstation at home and GPA in an example of young people (Hunley, 2005).

Different authors have discovered that recreational Internet utilization is emphatically associateed with hindered scholarly execution (Kubey, Lavin, & Barrows, 2001). More or less 10–15% of study members reported feeling not being in complete control of their Internet utilization, and that it has harmed their schoolwork. People who reported Internet-brought on schoolwork issues were found to have used five times a bigger number of hours online than the individuals who did not, and they were likewise fundamentally more inclined to report that their Internet use made them stay up late, get less rest, and miss classes. Despite the fact that not particularly specifying FB, the creators presume that it is less the Internet that causes these issues as the new social chances of the Internet. Understudies who reported scholarly issues were more inclined to utilize the Internet for constant social exercises, for example, IM and visit rooms. Kubey and partners note that this social utilization are what hold people hostage, particularly late around evening time. Particular to FB use, Vanden Boogart (2006), in an unpublished Master's proposition, discovered that substantial FB use (i.e., more of an opportunity used on FB) is seen around learners with easier GPA's, albeit no control variables were executed in the study.

Then again, Kolek and Saunders (2008) found that there was no connection between Facebook utilizes and GPA as a part of a specimen of learners from an open North-east research college. All the more as of late, an exploratory study reported a negative relationship between FB utilization and scholastic accomplishment as measured without anyone else's input reported GPA and hours used contemplating for every week (Karpinski & Duberstein, 2009). Once more, this study just executed one control variable (i.e., learner status as either undergrad or graduate), and neglected to control for other bewildering variables, for example, college major. This information from the study will be re-examined and displayed in the momentum paper focused around proposals and criticism from different analysts. In light of the previously stated study, an alternate gathering of specialists utilized the exploratory discoveries as a springboard for a production where no relationship was found between FB use and GPA (Pasek, More, & Hargittai, 2009). Notwithstanding, the general agreement is that more research needs to be carried out, and that the addressed relationship between SNS and scholastic execution remains generally unreturned.

g) Facebook and Academic Performance

Compelled examination has been headed related to the association between Facebook usage and academic execution. A critical some piece of the work that does exist may be found in unpublished unique duplicates. For example, Vanden Boogart in a Master's hypothesis uncovered that staggering Facebook usage is seen in individuals with less demanding Gpa's.

Karpinski and Duberstein and Kirschner and Karpinski reporting findings on studies using the same data set, investigated whether bigger measures of Facebook usage may be related to a diminishment in academic execution around school understudies. They uncovered a negative relationship between Facebook utilizes and reported to oneself measures of GPA and hours utilized inspecting for consistently as a part of an example of student and graduate researchers heading off to a considerable state financed school in the Midwest United States.

Amazingly, they found that the time deployed on the web did not fluctuate much around individuals and that contrary to the confirmation; learners acknowledged that time devoted to Facebook did not influence their academic execution. The delayed consequences of their study set off a media stir and their proposal that "the negative aftereffects of Facebook use can caution administrators to uncover methodlogies to purpose of repression access realizing better educational execution." Kirschner and Karpinski perceive that there are a lot of hindrances with their study and call for more careful studies to be guided using diverse dismemberment strategies, for instance, backslide or structural scientific proclamation exhibiting.

Kolek and Saunders suggested that they discovered no association between Facebook utilization and scholastic execution. Pasek et al. were extremely incredulous of past examination indicating to discover a negative relationship between Facebook utilize and GPA because the specimen was not illustrative of school learners on the loose, the measure of utilization were inclined and the studies did not mull over control variables. They led three multiple studies that incorporated a cross-sectional instance of one thousand and sixty freshmen at a vast University in Illinois. They were unable to discover a hearty negative assocation between evaluation points and the usage of Facebook in any of the three studies. They presume that "rather than late staggering and unverified news reports that Facebook utilization brings down scholarly execution, results show that the two variables are possibly relevant.

III. Research Methodology

a) Research Design

Malhotra and Birks, (2007), explain the procedural framework within which a research is conducted as a research methodology. Survey approach was used through the use of questionnaire. Quantitative approach was adopted while developing the questionnaire. This choice was imperative necessity in this research design not only due to the exploratory nature of the study itself but also because, to thoroughly understand and analyze a phenomenon, circumstance, or issue by sampling a cross-section of the overall population at a certain point in time, it is the most suitable method (Robson 1993).

b) Hypotheses

H1: Face book Addiction is positively correlated with extroversion.

H2: Agreeableness negatively affects Face book Addiction.

H3: High Openness to experience positively affects Face book Addiction

H4: Conscientiousness is positively associated to Face book Addiction.

H5: Neuroticism positively affects level of Face book addiction.

H6: Face book Addiction and Academic Performance are negatively correlated.

i. *Theoretical framework*

The theoretical framework depicted in Figure 1, shown below, depicts that Big Five Factors will have an influence on Facebook Addiction that will be negatively related to academic performance.

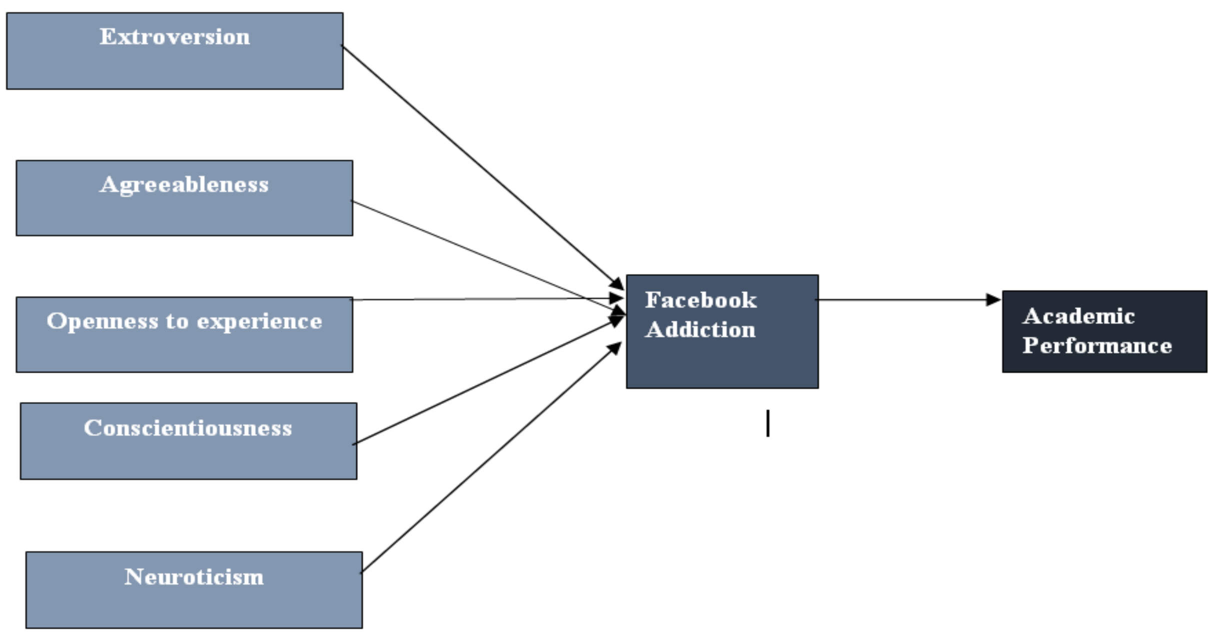


Figure 1 : Research Framework

c) Data Collection

A sample of 150 respondents were asked to participate in a self-administered questionnaire, in order to collect the data for understanding the situation about the affect of big five personality traits and facebook usage on academic performance. The population for the current research is facebook users in the department of Management sciences, the Islamia University of Bahawalpur, Pakistan.

The current study uses a non-probability sampling technique that is convenience sampling. A sampling technique that collects the significant information from the conveniently available sample study is known as convenience sampling (Zikmund, 1997). This type of sampling is normally helps in collecting large number of completed surveys speedily and with economy (Lym *et al.*, 2010).

d) Instrument and Measures

The survey instrument contains two sections. Section 1 includes different personal and demographic variables. This section will obtain the respondent's information about gender, age, income, education and status. Section 2 includes the latent variables that are important in the current study. This section of the study is developed based on the past literature and already used questionnaires (Annexure).

The scales of the study were adopted from the previous literature and published studies. The first five variables of the study were Neuroticism, Extroversion, Agreeableness, Openness to Experience and Conscientiousness, commonly known as the Big Five Factor Model. The second variable was Facebook Addiction and the third variable used was Academic Performance measured by the total percentages.

e) Data Analysis Techniques

A lot many researches on relationship marketing have based their study on quantitative technique and by analyzing the statistical results they present upon analysis. The recent times however have seen the latest studies being based on both qualitative and quantitative data analysis (Burke and Onwuegbuzie, 2004). This is a more integrated way and is convenient for dealing with the respondents who are often busy and have a short span of free time to fill out research questionnaires. Data was entered, edited and analyzed by using Software's, SPSS version 16 and Microsoft Excel 2007 by applying following techniques: mean, standard deviations, frequency, percentages, Cronbach‟s alpha, Correlation and Multiple Regression.

i. *Mean*

Used as a measure of central tendency, arithmetic mean is equivalent to the total of all the values divided by the total number of vales.

ii. *Standard Deviation*

A measure of the dispersion of a set of data from its mean. The extra distance between the data, the more is the deviation. SD is calculated as the square root of variance.

iii. *Cronbach's Alpha*

This was run to investigate the internal reliability of the instrument. The value of Cronbach's Alpha was 0.845 which is above the standard value suggested by (Nummally, 1978) of 0.70. It means that our instrument is reliable and we can apply different statistical tests and interpret the results with confidence.

iv. *Correlation Analysis*

Pearson correlation was run to check the association of variables with each other and if any observed variable has perfect covariance with any other variables, which are observed in the study.

v. *Correlation Coefficient*

The Coefficient of Correlation, also known as the Correlation Coefficient, is the strength of a relationship, measured linearly, between two variables. This measure can range from -1 to 1. If the Coefficient of Correlation is equal to:

- 1 – Suggests a perfectly negative correlation.
- 0 – No correlation either positive or negative.
- 1 – Suggests a perfectly positive correlation.

vi. *Regression Analysis*

A statistical tool for approving the associations amongst variables. Moreover, regression analysis helps one understand how the specific value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are constant — that is, the average value of the dependent variable when the independent variables are fixed. Linear regression is used as the tool for analysis.

IV. Results and Analysis

a) Profile of the Respondents

The following table presents the personal and demographic information such as gender, age, education level and status.

Table 1 : Gender of the Respondents

Gender	Frequency	Percentage
Male	79	52.7
Female	71	47.3

A total of 150 valuable responses were received. It was tried to have equal representation of both the genders. 79 males while 71 females responded well. One of the reasons is that in Pakistan, a higher number of males attend university more than females due to the setup of our society.

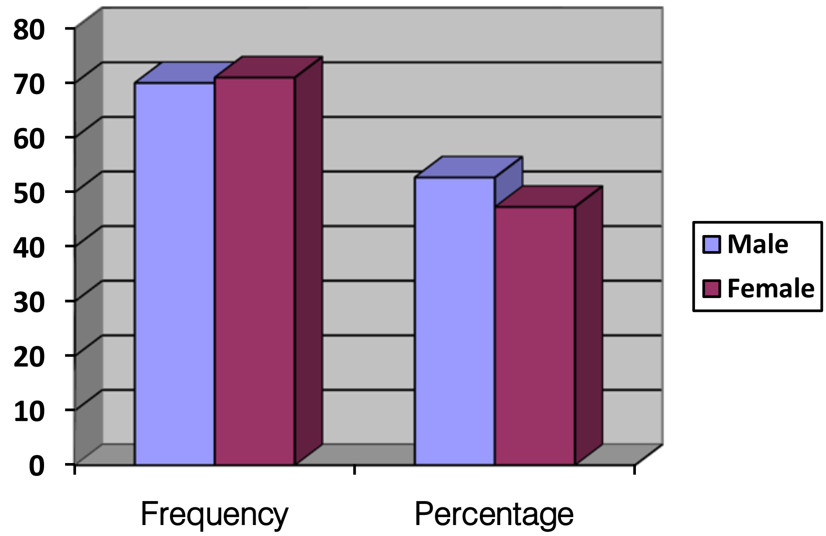


Table 2 : Age of the Respondents

Age	Frequency	Percentage
Below 20 Years	26	17.3
20-30 Years	115	76.7
30-40 Years	7	4.7
Above 40 Years	2	1.3

Most of the respondents are between ages 20-30 years which is the common age for students doing Bachelors. The number of such respondents is 115 while below 20 years of age are 26 out of the 150 respondents.

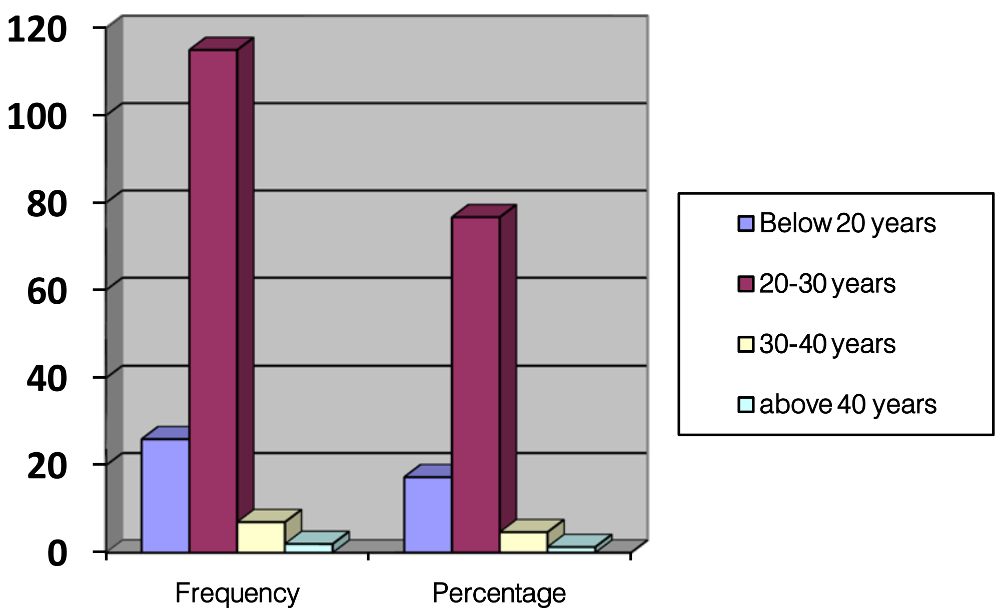


Table 3 : Qualification of the Respondents

Education	Frequency	Percentage
Intermediate	10	6.7
Bachelors	106	70.7
Masters	22	14.7
MS/MPhil	12	8.0

It could be noted from the above table that the highest frequency is of the students doing bachelors, that is 106 out of a total of 150 respondents. This could be because people in Pakistan prefer studying till Bachelors than any other level of education. 22 respondents are doing masters and only 12 are enrolled in MS/Mphill programs.

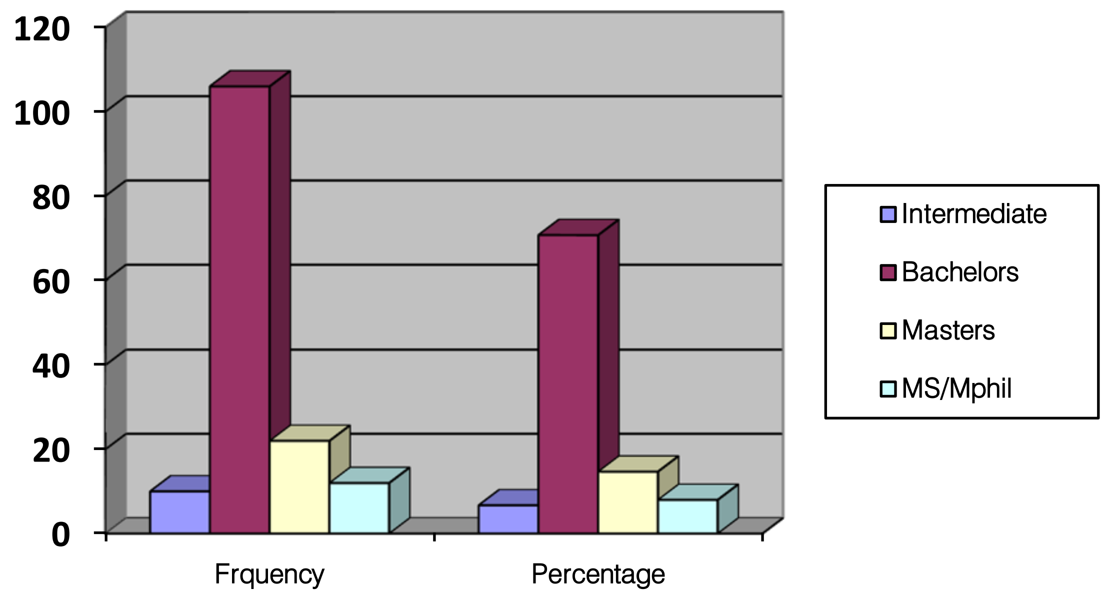


Table 4 : Income of the Respondents

Income	Frequency	Percentage
Below Rs 10,000	67	44.7
Rs.10,000-15,000	34	22.7
Rs.15,000-20,000	15	10.0
Above Rs.20,000	34	22.7

It could be seen in the above table that majority of the students have income below Rs.10,000 that is around 45% as students in Pakistan do not have a separate e means of earning and they majorly depend on pocket money or their savings.

b) Reliability analysis

Table 5 : Reliability Analysis

Cronbach Alpha	No. of items
o.845	43

To check the internal reliability of the instrument, Cronbach's alpha was run. The value of Cronbach's Alpha comes to 0.845. Which is above the standard value proposed by (Nummally, 1978) of 0.70 this shows that our instrument is reliable and we can confidently apply different statistical tests and interpret the results with confidence (table 5).

Table 6 : Mean and Standard Deviation

Descriptive Statistics

	Mean	Std. Deviation	N
Extroversion	2.99	0.625	150
Agreeableness	3.43	0.665	150
Openness to experience	3.1	0.655	150
Conscientiousness	3.43	0.658	150
Neuroticism	2.95	0.634	150
Average Face book	2.84	0.777	150

The table describes the mean and standard deviation of the Big five factors and Face book Addiction.

c) Correlation analysis

Table 7 : Correlations

		Extroversion	Agreeableness	Openness to experience	Conscientiousness	Adjustment	average facebook
Extroversion	Pearson Correlation	1	.259**	.449**	.307**	.418**	.240**
	Sig. (2-tailed)		.001	.000	.000	.000	.003
	N	150	150	150	150	150	150
Agreeableness	Pearson Correlation	.259**	1	.325**	.376**	.068	-.067
	Sig. (2-tailed)	.001		.000	.000	.407	.417
	N	150	150	150	150	150	150
Openness to experience	Pearson Correlation	.449**	.325**	1	.295**	.416**	.204*
	Sig. (2-tailed)	.000	.000		.000	.000	.012
	N	150	150	150	150	150	150
Conscientiousness	Pearson Correlation	.307**	.376**	.295**	1	.264**	-.027
	Sig. (2-tailed)	.000	.000	.000		.001	.742
	N	150	150	150	150	150	150
Adjustment	Pearson Correlation	.418**	.068	.416**	.264**	1	.218**
	Sig. (2-tailed)	.000	.407	.000	.001		.007
	N	150	150	150	150	150	150
average facebook	Pearson Correlation	.240**	-.067	.204*	-.027	.218**	1
	Sig. (2-tailed)	.003	.417	.012	.742	.007	
	N	150	150	150	150	150	150

***. Correlation is significant at the 0.01 level (2-tailed).*

**. Correlation is significant at the 0.05 level (2-tailed).*

i. *Interpretation of correlation*

To check the relationship between variables and to find whether any observed variable has covariance with any other variables, Pearson correlation was applied. The correlations are showing the relationships between variables of the Big Five Factors and Face book Addiction. Extroversion is significant at r (150) = .240, $p < 0.05$, Agreeableness and Conscientiousness are both negatively correlated to FBA at r (150) = -0.067 and -.027, $p > 0.05$ respectively. Neuroticism is significant at r (150) = 0.218, p = 0.007.

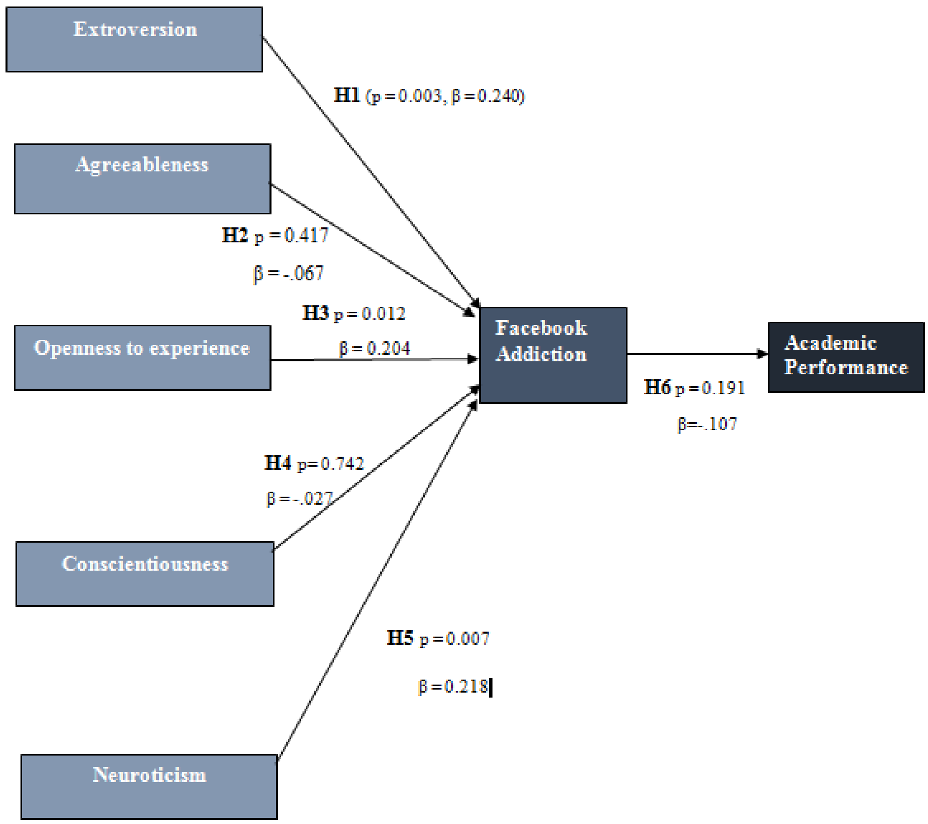
ii. *Linear regression analysis*

Table 8 : Regression analysis

Hypothesis	Model Variables	Adj R^2	F	Beta	t-value	P-value	Results
H1	Ext → FBA	0.051	0.051	.240	3.010	0.003	Significant
H2	Agr → FBA	-.002	0.663	-0.067	-.814	0.417	Insignificant
H3	Open → FBA	.035	6.429	0.204	2.536	0.012	Significant
H4	Consc → FBA	-.006	0.109	-0.027	-0.027	0.742	Insignificant
H5	Neu → FBA	.041	7.368	0.218	2.714	0.007	Significant
H6	FBA → Acd.Per	.005	1.727	-.107	-1.314	0.191	Insignificant

(FBA=FACEBOOK ADDICTION)

iii. *Structural Model*



d) Hypothesis Testing

i. *Hypotheses 1*

The hypotheses postulate that Face book Addiction is positively correlated to extroversion. High extroversion has high chances of being addicted to Facebook.

The hypothesis developed is as below:

H1: Face book Addiction is positively correlated with extroversion.

Here, the value of R2 is 0.051, depicting 5.1% of variance in overall evaluation of Facebook Addiction which is described by predictor variable (Extroversion). The value of f-test is 9.063 showing the model goodness of fit. T value is greater than +2 indicating a positive relationship between variables. Hence H1 is accepted (β=0.240, $p<0.05$). The results show there is a positive, significant relationship between extroversion and Face book Addiction. *(Hughes, D.J., Rowe, M., Batey, M. and Lee A., (2012)*

ii. *Hypotheses 2*

The second hypothesis developed is as follow:

H2: Agreeableness negatively affects Face book Addiction

According to the results of the study, there is a negative, insignificant relationship between agreeableness and face book addiction. (β= -.067, $p>0.05$). This means that there is negligible relevancy between the two variables. *(Moore, K. and McElroy, J.C., (2012).*

iii. *Hypotheses 3*

H3: High Openness to experience positively affects Face book Addiction.

Results depict that there is a positive significant relationship between openness to experience and Facebook addiction (β=0.204, $p<0.05$). The value of t is greater than +2 indicate that there is a positive relationship between variables and thus, H3 is validated. This is in accordance with the previous researches as *(Moore,K and McElroy, 2012).*

iv. *Hypotheses 4*

The next hypothesis discusses the relation between FBA and Conscientiousness. It is as below:

H4: Conscientiousness is negatively associated to Face book Addiction.

Highly conscientious people are not addicted to Facebook. The hypothesis is rejected on the basis of a statistically insignificant relation between conscientiousness and FBA. (β= -.027, $p>0.05$). *(Ross, C.Orr,E., Sisic, M., Arseneault, M., Simmering., and Orr, R.(2009).*

v. *Hypotheses 5*

The hypothesis assumes that there is a positive relation between neuroticism and face book addiction.

H5: Neuroticism positively affects level of Face book addiction.

The hypothesis is accepted on the basis of a positive relation between FBA and Neuroticism (β= 0.218, $p < .05$). The t value is also greater than +2 and F=7.368 tells the goodness of the model. This is supported by the research done by Moore,K and McElroy, (2012).

vi. *Hypotheses 6*

H6: Face book Addiction and Academic Performance are negatively correlated.

The measure of academic performance taken was the academic percentage of students of the department of Management Sciences, IUB. The results depict that there is no relationship between Face book (. β= -1.07, p>0.05). The hypothesis is statistically insignificant This result supports the findings of Vanden Boogart, Karpinski and *Duberstein, Kirschner* and *Karpinski* and *Junco,* (2010).

V. Discussion

This paper measured the affect of the Big Five Factor Model on student Facebook addiction and the affect of that on Academic performance. It was measured by providing the respondents a semantic differential type of questionnaire and the Bergen Facebook Addiction Scale. Of the traits variables incorporated in the BFFM, extraversion was found to be highly significant to FBA suggesting that people who are extroverts and outgoing spend a lot of time using and thinking about Facebook. This is supported by the results of Ryan and Xenos and Moore and McElroy who also found a positive association between extraversion and Facebook use but is opposing to the findings of Ross et al, Amichai-Hamburger and Vinitisky and Hughes et al. who found no association involving Extraversion and Facebook use. People who are social, cheerful, talkative and active are referred to as extroverts. Our study confirms the possibility of such people being prone to use excessive facebook and become addicted to it. Furthermore, our results also show the positive relationship between facebook addiction and both neuroticism and openness to experience. It is quite true that users who are not emotionally stable tend to be more engaged in such activities in order to get rid of their problems. Also, those who are looking for newness and innovation are engaged in more Facebook use which is understandable. Conscientiousness was also found to have no significant relationship with FBA. As people who are conscience are closer to the ethical and moral values of the world and have the knowledge of right and wrong thus, the hypothesis was not accepted. However, there was no relationship found between student's academic performance and Facebook Addiction. This is supported by the research done by Vanden Boogart, Karpinski and Duberstein, Kirschner and Karpinski and Junco and is dissimilar to the results of Kolek and Saunders and Pasek et al.,. The verity that the answers in this study lend support to the negative relationship between Facebook Addiction and Academic performance suggests that more research is reasonable to not only authenticate these findings but to gain a better insight of how Facebook Addiction affects academic performance. No relationship between personality variables and academic performance was found.

VI. Limitations

While the reason for this research was exploratory in character, there remain various constraints.

- First, the respondents were selected from a solitary scholarly foundation and may not be illustrative of the bigger scholar populace. Self-report measures scholastic exhibitions were gathered.
- A more steady system might be to gain real learner GPA and an exact measure of Facebook utilization.
- A better measure might be to record the time used on genuine exercises on Facebook and explore how these exercises are identified with scholastic execution.
- Other data, for example, how frequently the scholars were on Facebook while concentrating on may shed all the more light on why scholastic execution was easier for people who invested more of a chance on Facebook.
- There were cost constraints as being a student it was not possible to conduct research on a vast scale.
- Also, limited time was provided for conducting the research and we had to finish it within a specified time frame.
- The sample size was limited, only 150, which may have resulted in the inability to collect a large pool of people with varying personalities.
- Variations in the results could be because no such previous research has been done on Pakistani nationals and there was limited resource material available.
- Respondents were not from other areas of interest which may have affected the results somehow.

VII. Recommendations and Conclusion

The research could be conducted on a major scale in order to get some valuable results. Also, a validate measure of BFF should be used which is easily comprehended by the respondents Ample time should be provided to the research scholar to conduct such type of research. The study should be carried on a vast scale using a large sample size in order to validate results and analysis. It should not be restricted to the boundaries of any city or institution as every individual has a separate identity and personality traits that differentiate them so it might also affect the findings of the research.

Academic performance could be measured in terms of other variables apart from just percentage to increase the validity. It is seen that with the passage of time, the use and demand for social networking sites is increasing thus, there is a constant need to explore and work on this area as it is of significant importance in the demanding world of today. Also, there is a growing concern among parents about their children scoring low on tests due to excessive Facebook use so such as study should not just be confined to one country rather it should also be implemented in Pakistan.

The real ramifications of this study are the finding that Facebook use is adversely identified with scholastic execution. The way of the relationship may be significantly more perplexing than the basic supposition that learners who invest more of a chance on Facebook likewise invest less time considering and finishing scholarly work. Time on Facebook may supplant exercises that are not of a scholastic nature however none the less may have an effect on scholarly execution, for example, up close and personal correspondences with associates or the amount of hours that people rest. More research ought to be led to investigate how time used on Facebook is identified with the life style of scholars and how the different aspects of a learner's life style are identified with scholarly execution. This may shed light on what sort of mediations may be taken to help understudies whose association with Facebook may put them at scholarly hazard.

Additional research is required to figure out what exercises people participate in while on Facebook, the amount time they use on every movement and whether those distinctive exercises impact scholastic execution. It may not be the aggregate time used on Facebook that is the most vital measure but instead the time used on specific exercises on Facebook that have a more straightforward impact on scholastic execution. Recognizing the distinct exercises might likewise give a wealthier environment to study how identity variables influence Facebook use.

The trouble directing this exploration is that most studies depend on report toward oneself measures of time used on Facebook and the sorts of exercises that the subjects participate in. With current innovation, the capacity exists to catch this information electronically additionally raises significant security issues.

All in all, the finding that the time used on Facebook is adversely identified with people's scholastic execution is of noteworthy imperativeness. The use of Facebook is broad among people and reviews recommend that the measure of time that scholars use occupied with social networking is expanding every year. In the event that this relationship holds, it may be normal that numerous people won't perform at their scholastic potential. A superior understanding of the elements that impact Facebook use and the part that Facebook use plays in scholastic execution may highlight on what moves may be made to help scholars attain their potential.

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Annexure

Questionnaire

Facebook Addiction: A Study of BIG Five Factors and Academic Performance amongst Students of IUB

Dear Respondent

This study is being conducted by Ms. **Shanayyara Mahmood**, BBA 8th student at **Department of Management Sciences**, The Islamia University of Bahawalpur. The major objective of the study is to explore the impact of different variables on academic performance. Students from the Department of Management sciences, IUB are selected for the said study. I assure you that any response you make will remain confidential and only used for study purpose.

Please read the following statements and mark accordingly.

Name: ______________________________ **(Optional)**

Gender: ☐Male ☐Female

Age: ☐Below 20 years ☐20-30 years ☐30-40 years ☐Above 40 years

Qualification: ☐Inter Bachelor ☐Masters ☐MS/M. Phil ☐PhD ☐Other

Income: ☐Below Rs.10, 000 ☐Rs.10,000-15,000 ☐Rs.15,000-20,000 ☐Above Rs.20,000

Last Examination marks: ______________________________

CGPA (if applicable): ________________________________

Previous Academic percentage: _________________________

The Big Five Locator

Instructions : On the given scale, indicate which statement best describes your personality. Mark '3' for neutral. E.g, 5 for eager and 1 for calm.

1.	Eager	5 4 3 2 1	Calm
2.	Prefer Being with other people	5 4 3 2 1	Prefer Being Alone
3	A Dreamer	5 4 3 2 1	No Nonsense
4	Courteous	5 4 3 2 1	Abrupt
5	Neat	5 4 3 2 1	Messy
6	Cautious (careful)	5 4 3 2 1	Confident
7	Optimistic	5 4 3 2 1	Pessimistic
8	Theoretical	5 4 3 2 1	Practical
9	Generous	5 4 3 2 1	Selfish
10	Decisive	5 4 3 2 1	Open ended
11	Discouraged	5 4 3 2 1	Upbeat (cheerful)
12	Exhibitionist (show-off)	5 4 3 2 1	Private
13	Follow Imagination	5 4 3 2 1	Follow Authority
14	Warm	5 4 3 2 1	Cold
15	Stay Focused	5 4 3 2 1	Easily Distracted
16	Easily Embarrassed	5 4 3 2 1	Don't Give a Darn
17	Outgoing	5 4 3 2 1	Cool
18	Seek Newness	5 4 3 2 1	Seek Routine
19	Team Player	5 4 3 2 1	Independent
20	Preference for Order	5 4 3 2 1	Comfortable with Chaos (confusion)
21	Distractible(easily disturbed)	5 4 3 2 1	Unflappable (composed)
22	Conversational	5 4 3 2 1	Thoughtful
23	Comfortable with Ambiguity	5 4 3 2 1	Prefer Things Clear-Cut
24	Trusting	5 4 3 2 1	Skeptical
25	On Time	5 4 3 2 1	Procrastinate (delay)

Facebook Addiction Scale

Instructions: Score on the following basis

1 : Very rarely, 2: Rarely, 3: Sometimes, 4: Often, 5: Very often

Spent a lot of time thinking about Facebook or planned use of Facebook	1	2	3	4	5
Thought about how you could free more time to spend on Facebook	1	2	3	4	5
Thought a lot about what has happened on Facebook recently	1	2	3	4	5
Spent more time on Facebook than initially intended	1	2	3	4	5
Felt an urge to use Facebook more and more	1	2	3	4	5
Felt that you had to use Facebook more and more in order to get the same pleasure from it	1	2	3	4	5
Used Facebook in order to forget about personal problems	1	2	3	4	5
Used Facebook to reduce feelings of guilt, anxiety, helplessness, and depression	1	2	3	4	5

Used Facebook in order to reduce restlessness	1	2	3	4	5
Experienced that others have told you to reduce your use of Facebook but not listened to them	1	2	3	4	5
Tried to cut down on the use of Facebook without success	1	2	3	4	5
Decided to use Facebook less frequently, but not managed to do so	1	2	3	4	5
Become restless or troubled if you have been prohibited from using Facebook	1	2	3	4	5
Become irritable if you have been prohibited from using Facebook	1	2	3	4	5
Felt bad if you, for different reasons, could not log on to Facebook for some time	1	2	3	4	5
Used Facebook so much that it has had a negative impact on your job/studies	1	2	3	4	5
Given less priority to hobbies, leisure activities, and exercise because of Facebook	1	2	3	4	5
Ignored your partner, family members, or friends because of Facebook	1	2	3	4	5

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Fellows

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- The “FARSS” is a dignified title which is accorded to a person’s name viz. Dr. John E. Hall, Ph.D., FARSS or William Walldroff, M.S., FARSS.

FARSS accrediting is an honor. It authenticates your research activities. After recognition as FARSB, you can add 'FARSS' 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.

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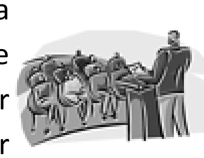

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You may join as member of the Editorial Board of Global Journals Incorporation (USA) after successful completion of three years as Fellow and as Peer Reviewer. In addition, it is also desirable that you should organize seminar/symposium/conference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

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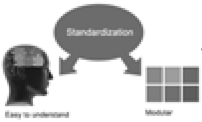
The FARSS can go through standards of OARS. You can also play vital role if you have any suggestions so that proper amendment can take place to improve the same for the benefit of entire research community.

As FARSS, 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.



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The FARSS 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 FARSS, 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.

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MARSS accrediting is an honor. It authenticates your research activities. After becoming MARSS, you can add 'MARSS' 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.

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As MARSS, 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.

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The MARSS 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 MARSS, 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.

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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).

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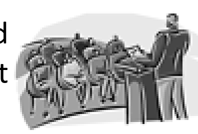
The author fees of such paper may be waived off up to 40%.



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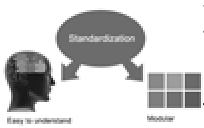

After nomination of your institution as "Institutional Fellow" and constantly functioning successfully for one year, we can consider giving recognition to your institute to function as Regional/Zonal office on our behalf.
The board can also take up the additional allied activities for betterment after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

The following entitlements are applicable to individual Fellows:

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Note :

"

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(h) Brief Acknowledgements.

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

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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.

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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.

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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.

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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.

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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.

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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

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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 <u>definite statistics</u> - 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.

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- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

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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:

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- 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.

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- 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.

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- 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.

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- 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.

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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.
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- 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

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- 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.

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- 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

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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."
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- 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.

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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

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