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SPU SRIPATUM UNIVERSITY

UNIVERSITY of GREENWICH

LINCOLN UNIVERSITY Te Whare Wānaka O Aoraki

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Welcome Address from President, Sripatum University

Welcome to the fifth volume of International Journal of Management, Business, and Economics (IJMBE). IJMBE is dedicated to increasing the depth of the subject across business disciplines with the ultimate aim of expanding knowledge of the subject. The IJMBE is a thrice peer-reviewed journal published by Graduate College of Management, Sripatum University; University of Greenwich; and Lincoln University.

In retrospect, Sripatum University, one of the oldest and most prestigious private universities in Thailand, was established in 1970 by Dr. Sook Pookayaporn by the name " Sripatum College." The name "Sripatum" meaning "Source of Knowledge Blooming like a Lotus" was conferred on the college by Her Royal Highness the Princess Mother. In 1987, the college was promoted to university status by the Ministry of University Affairs, and has since been known as Sripatum University. The university's main goal is to create well-rounded students who can develop themselves to their chosen fields of study and to instill the students with correct attitudes towards education so that they are enthusiastic in their pursuit of knowledge and self-development.

To strive to be among the best, this third issue of the IJMBE is therefore instrumental for the most important academic growths to extend a high quality tradition in the education field to the world. The journal welcomes the submission of manuscripts that meet the general criteria of significance and scientific excellence, and will publish original articles in basic and applied research, case studies, critical reviews, surveys, opinions, commentaries and essays. It is hoped that this third issue will set a new benchmark in terms of academic publications. Through the support of our Editorial and Advisory Boards, I hope this journal could provide academic articles of the highest quality to all readers.

Dr. Rutchaneeporn Pookayaporn Phukkamarn
President, Sripatum University

Welcome Address from Dean, Sripatum University

It is appropriate to celebrate the continuity of an exciting and esteemed journal. The IJMBE will serve and provide a forum for exchange of ideas among business executives and academicians concerned with Management, Business, and Economics issues. With the rapid evolution of corporate business from international to global in recent years, general business has been one of the areas of greatest added complexity and concern for corporate managers. The IJMBE will be an academic journal combining academic inquiry and informed business practices. It will publish empirical, analytical, review, and survey articles, as well as case studies related to all areas of Management, Business, and Economics. A sentiment often expressed by practitioners is that academic research in general may not be addressing the most relevant questions in the real world.

It is fair to say that the IJMBE will publish high-quality applied-research papers. Nevertheless, studies that test important theoretical works and shed additional light on the issue with some business implications will also be solicited. Each submitted paper has been reviewed by several members of the IJMBE international editorial board and external referees. On the basis, we would like to thank all of them for their support with review process of submitted papers.

I cordially invite papers with theoretical research/conceptual work or applied research/applications on topics related to research, practice, and teaching in all subject areas of Management, Business, and Economics, or related subjects. I welcome paper submissions on the basis that the material has not been published elsewhere. The ultimate goal is to develop a journal that will appeal to both management and business practitioners. I expect the IJMBE to be an outstanding international forum for the exchange of ideas and results, and provide a baseline of further progress in the aforementioned areas.

Assoc. Prof. Dr. Vichit U-on
Dean, Graduate College of Management
Sripatum University

The Editors

Editor-In-Chief

Dr. Ungul Laptaned is an Assistant Professor in the Graduate College of Management, Sripatum University. He graduated with a Ph.D. in 2003 from the University of Nottingham, United Kingdom in the field of Manufacturing Engineering and Operations Management. Ungul has published over 60 proceedings and journal papers; for instances, Industrial Engineering Network, Asia Pacific Industrial Engineering and Management, International Association of Science and Technology for Development, Operations and Supply Chain Management, Intelligent Manufacturing System, Business and Information, etc. He served as a program chair and a steering committee for several domestic and international conferences. He was a journal editor of International Journal of Logistics and Transport, and Thai Researchers' Consortium of Value Chain Management and Logistics Journal, and has consulted for several public organizations and industrial firms on logistics and supply chain management such as Thailand Research Fund, Phitsanulok Province, Public Warehouse Organization, Amatanakorn Industrial Estate, Wyncoast Industrial Park, Iron and Steel Institute of Thailand, Chacheongsao Province, JWD Infologistics Co., Ltd., Kerry Distribution (Thailand) Co., Ltd., TKL Logistics and Supply Chain Co., Ltd., and Ministry of Transport (Thailand).

Associate Editor

Dr. Ioannis Manikas holds a Bachelor in Agriculture and a Master of Science in the field of logistics from Cranfield University. He holds a PhD from the Department of Agricultural Economics in AUTH and his primary interest includes supply chain management, logistics and agribusiness management. Dr Manikas has conducted research for projects regarding supply chain modelling, development of IT solutions for agrifood supply chain management and traceability both in Greece and the UK. He has a wide experience in the elaboration of research proposals under FP6, FP7, and Eurostars-Eureka funding mechanisms; lifelong learning oriented programmes such as Leonardo; and Interregional development programmes such as Interreg III and Interreg IV. His work as a self employed project manager and consultant in the agrifood sector includes the design and development of regional operational programmes; analysis of regional needs and respective development policies focused on rural and food production; definition of funding areas and financing resources; definition of strategic goals for regional development and formulation of respective performance monitoring systems; and assessment (ex-ante, on-going, ex-post) of the implementation of EC and national funding mechanisms in national and regional levels.

Guest Editor

Dr. Gilbert Nartea is an Associate Professor in the Faculty of Commerce, Lincoln University, New Zealand. Dr. Nartea graduated a Master's Degree from New England and a Ph.D. from Illinois, USA. He is a senior lecturer in Finance. His teaching interests are in the area of investments, futures and options, and finance, futures and options. The area of research interests area asset pricing, investment management, decision-analysis and risk management, and microfinance and poverty alleviation. He has published several papers in such journals as of Property Investment and Finance, International Journal of Managerial Finance, Asian Journal of Business and Accounting, Australian Journal of Agricultural and Resource Economics, Pacific Rim Property Research Journal, Review of Applied Economics, Review of Development Cooperation, American Journal of Agricultural Economics, and Journal of the American Society of Farm Managers and Rural Appraisers.

Foreword

Welcome to the 3rd issue of the 5th volume of International Journal of Management, Business, and Economics (IJMBE), the Editors received a number of papers from different countries such as France, Germany, India, Jordan, México, Sweden, Thailand, and Vietnam. The received papers encompassed many areas of marketing, banking, economics, insurance and risk management, industrial and operation management, strategic management, and international and global business management. After the review process, a total of ten manuscripts were selected for publication.

The first paper is examined by *Angsaya Siepong*. Their paper is entitled "*A Framework for Sustainable Development Performance and Corporate Sustainability through Collaborative Corporate-Community Practices: A Case of Thailand Green Industry*". This study proposes a framework for collaboration between private business organizations and communities for pragmatic sustainable development projects, and discusses some of those examples discovered through field interviews and builds models around them.

The second article is authored by *José G. Vargas-Hernández*, and named as "*Institutional Capital on Trade-Marketing and Environmentally Sustainable Development Policy Making: A Research Model Based on Critical Analysis of NAFTA*". The aim of this study is to critically analyze the implications in terms of the relationship between cooperation, conflict and institutional capital, as well as their interactions with trade–marketing and environmentally sustainable development policy making under the framework of NAFTA.

The third article is conducted by *Junyang Shao and Inga-Lena Darkow*, and is entitled "*Process-Based Relational View: A Framework for Buyer-Supplier Interfaces*". The paper integrates the relational view into the investigation of sourcing process, discusses the interaction along a commonly defined sourcing process, and derives propositions concerning the strategic interaction, interaction degree and impacts of buyer-supplier relationships on the sourcing process.

In the fourth article, entitled "*Increasing Custom Satisfaction Through the Integration of Customer and Commercial Logistics Processes"* conducted by *Matthieu Lauras, Vérane Humez, Uche Okongwu, and Lionel Dupont*. The aim of this paper is to present a methodology, based on existing research, to manage bulk orders. This preliminary research should lead to the development of a specific AATP based on a multi-criteria analysis.

The fifth article is authored by *Mikael Tates, Renato Ciganovic, Imad Alsyouf, and Omar Al-Araidah*, and is entitled "A Model for Assessing Cost Effectiveness of Facility Layouts: A Case Study". The paper presents a model for assessing cost effectiveness of facility layout alternatives. The paper provides a generalized layout evaluation procedure for manufacturing companies. Further research is required to customize the proposed procedure for evaluating alternative service facilities.

In the sixth article, entitled "*International Certifications Facing the Challenge of Exports and Internationalization of the Agro Industry of Mexico in the APEC Countries*", is written by *Mirta Aurora Aceves Arce and America Ivonne Zamora Torres*. The primary function of non-tariff barriers is to safeguard the welfare of countries and their inhabitants. In the case of international certifications, it is concluded that there is evidence that they do not contribute to exports and the internationalization of agro-industry products in developing economies

Article number seven is written by *Nilubon Sivabrovornvatana*, and is entitled "*The Use of Component Analysis Determines the Marketing Mix (4Ps): The Case of Home and Residence in Bangkok and its Vicinity*". This research aims to study the level of opinions on the marketing mix of home and residential customers, as well as investigate the 4P weight on marketing mix elements. The weight of the observed variables on the marketing mix elements was studied.

The eight article is conducted by *Ramnath Narayanswamy*, and is entitled "*The Search for Self-Revelation Must Inform Leadership Development Inner Development Key to Nurturing Leaders"*. This paper suggests that four attributes need to be firmly anchored upon the management agenda not in the distant future but in the here and now. What is missing in mainstream discourse on leadership development are the insights that can be found in ancient Indian wisdom.

Article number nine is entitled "*Creating Holograms: Virtual Media Teaching Technology in Nursing*", and is examined by *Santirach Lertmanee, Palphol Rodloytuk, and Chintana Leelakraiwan*. The objective of this article is to describe the invention process of the hologram and to examine the quality of hologram. Such invention process includes designed hologram box, designed prism, designed animation and inserted voice.

Last but not the least, the article entitled "*The Development of Logistics Industry and Logistics Service in Vietnam*" is examined by *Thu Anh Nguyen*. The report reviews the essential position of logistics for imports and exports Vietnam goods which helps many enterprises to meet the requirements of more customers and brings the overall economy toward in the global market.

It is hoped that you will enjoy reading these articles and that they will generate responses and discussions that will help advance our knowledge of the field of Management, Business, and Economics. The Editors and the Editorial Board of the IJMBE would like to welcome your future submissions to make this journal your forum for sharing ideas and research work with all interested parties.

Ungul Laptaned
Editor-In-Chief

Ioannis Manikas
Associate Editor

Gilbert Nartea
Guest Editor

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Abstract

Based on insights gained from interviews with seven corporate and civic leaders of represented firms from the Thailand-based Green Industry sector, and drawing on the theories of Corporate Social Responsibility/Stakeholder Relations Management, this study proposes a framework for collaboration between private business organizations and communities for pragmatic sustainable development projects. The interconnectedness between all those who depend on the world's natural resources for sustainability provides a basis for mutual interests that can be safeguarded through shared values, voluntary initiative, and through examples that are being set by corporate and civic role models. This paper discusses some of those examples discovered through field interviews and builds models around them.

Keywords: Collaborative Corporate-Community Practices, Corporate Sustainability, Green Industry, Roles Model, Sustainable Development Performance

1. Introduction

This paper draws on insights gained from interviews with practitioners in the industry (Green Industry campaign) in Thailand who have developed a voluntary partnership with their communities to propose a model for sustainable development performance, particularly in developing countries, through corporate-community partnerships. Based on the insights gained, this paper argues that such voluntary partnerships lead into amalgamation of shared values of the partners which facilitates sustainable development performance and corporate sustainability. The organic nature of this type of partnership and evolution of shared seems to be a preferred means to government-imposed regulations of safeguarding the natural resources.

Due to the belief for regulations in some measure, there seems to be a preference. On the part of private business organizations to taking voluntary steps, that do not stifle innovations, but achieve the same results desired by government regulations. Such is the case of sustainability of natural resources. However, the key question is whether these voluntary steps work? The current study addresses this question and contributes to the debate by highlighting some concrete achievements in the field that have been made possible through the voluntary partnering of private organizations with the communities in which they exist. The primary objective of this study is to provide such lessons and highlight the exemplars of green industry firms in Thailand. It also focuses on the roles played

by responsible business/corporations that enhance the relational network with society/stakeholders; and how such relationships are effective in improving the quality of life of community. Based on the insights, this paper argues that the relationship between business-society (corporations and community) that results from such collaborative practices could constitute a platform model for corporate sustainability (thereafter, CS) and sustainable development performance (thereafter, SDP), as well as lead to reinforcing a better quality of life and wellness of the society where they belong.

The rest of the paper is organized as follows. First, it discusses previous studies and review the extant literature. It articulates a corporate role model by drawing a framework for sustainable development performance and corporate sustainability pertaining to the literature. Next, it discusses methodology and the findings in the field obtained through interviews with exemplar leaders among Green Industry firms in Thailand. It also offers a comprehensive outlook and pathways of the quality of life of community based on the findings, and the descriptions of corporate ambitions toward sustainability by examining their initiated practices. Last, it is followed by discussions, implications for managers and policy makers, concluding remarks and recommendation for future study.

2. Literature Review

A rich body of research conducted within the past decade supports the positive roles played by responsible leaderships that are embedded in a network of stakeholder relations (Maak and Pless 2006, Pless and Maak 2012). The concept of business-society relationships has also contributed to understanding how corporate and societal groups are interconnected towards sustainable development (SD) (Konrad et al. 2006, Steurer et al. 2005). Building upon the interrelationships of both business-society (Steurer et al. 2005) and leader-stakeholder concepts (Pless and Maak 2012), a leader's roles can be described as responsible leadership or role model of leading business corporations in society (Maak and Pless 2006). On the other hand, the concerned stakeholder groups within multiple levels society can be considered influential factors on the social dimension of SD (Steurer et al. 2005, Banerjee 2002).

The leading roles of responsible corporations serve as a sense of purpose that is guided by their vision to sustain the natural environment and to maintain a relationship with their stakeholder groups. These actions, it has been argued, deliver the "triple-bottom-line" performance, that is it leads to sustainable development performance (SDP) with acceptable economic (financial) outcomes, as well as environmental integrity and social equity (e.g. Elkington 1998, Maak and Pless 2006). The awareness of both environmental and social issues results in steps being taken to reduce environmental damages as well as improve social development (Konrad et al. 2006, Ihlen 2009). Even though these activities are autonomous, they involve roles played by corporations and global stakeholder societies (Maak and Pless 2006) that aim towards SDP.

Studies have shown that several corporations around the world today, particularly in Europe, the United States of America and Asia, have developed plans to ensure SDP is met (Konrad et al., 2006; Ihlen, 2009). These corporations, which include but are not limited to such fortune 500 corporations as AT&T, Ford Motor, General Motors, ING Group, Siemens, and Toyota, have demonstrated through their management styles and business activities a mindset towards SDP. This mindset is evidenced in how they discharge the activities that they have voluntarily assumed as their corporate social responsibility (CSR). Embedded in the corporate vision of these organizations are the principles of SD which involve economic, social and environmental contents in all societal domains and stages of both short and long term goals (Steurer et al. 2005). The vision of corporations toward SD that includes policies for engaging the natural and societal environment

impacted by business practices such as production and management systems i.e. EMAS, ISO14001 is consistent with the arguments of scholars such as Bansal (2005). It should be noted that the implementation of these practices by corporations are voluntary rather than through the enforcement by governmental regulations (Steurer et al. 2005).

A number of studies note that the important endeavor to create sustainable business depends not only on the leadership responsibility to gain public trust (DiPiazza Jr and Eccles 2002, Maak and Pless 2006), but also on the creation of value for stakeholders (Freeman 2005). These observations highlight the relationship of both responsible leadership (from corporations) and society (stakeholders) who act as "facilitators of relational processes of co-creation and orchestrators" that share moral visions (values) of achieving mutual objectives (Maak and Pless 2006). However, in order for business organizations to attain CS and SDP, it is important that further in-depth studies be conducted for insight on how collaborative practices between corporations and society can be achieved, and to what extent the lessons learned from the industry sector and community relationship manifest in the role plays between them. Thus, this paper fills the knowledge gap and attempts to articulate the insights that suggests the role model of green industry firms of Thailand. In particular, when their collaborative corporate-community practices are evident, that can be said and proposed as a framework for sustainable development performance and corporate sustainability toward improving the quality of life of the society where they exist.

Sustainable development performance (SDP) and corporate sustainability (CS)

Sustainable development has been discussed through the three pillars of sustainability (3Ps) guidelines that include the economic (profits), environment (planet) and social (people) dimensions (e.g. Konrad et al. 2006, Bansal 2005, Elkington 1998). It has also been articulated through various other perspectives, for example, in terms of vision expression (Lee 1993), moral development (Rolston 1994), social reorganization (Gore and Gore 1992) and transformational process (Viederman 1994) towards an ambition for a better world (Gladwin, Kennelly, and Krause 1995). Because of the broadness of the concept, some researchers suggest that it is "a process of achieving human development widening or enlarging the range of people's choices (UNDP 1994) in an inclusive, connected, equitable, prudent, and secure manner as implications that are applicable to a broad range of management theory" (Gladwin, Kennelly, Krause, p. 878). Meanwhile, the World Commission on Economic Development (WCED) defines the SD as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Report at WECD, 1987, p. 43).

The principles of sustainable development necessitate the adoption of economic, environmental and social equity (Elkington 1998). Steurer et al., (2005) note that sustainable development is conceptualized as a normative viewpoint which is primarily grounded on participation, and aims at consolidating economic, social and environmental awareness. Sustainable development recognizes concerns about societal concept through "societal consensus-finding processes" and "ethical implications" (Rao 2000, Smith 1996, Steurer et al. 2005). For business implications, SD can be viewed as an approach that holds business strategies and activities that meet the requirements of the firm and its stakeholders on the one hand, whilst aiming at preserving, sustaining and maintaining the human and natural resources for the future needs on the other hand (Deloitte and Touche 1992). SD also represents "societal guiding model with a broad range of quality of life issues in a long term" (Steurer et al., 2005, p. 274).

Nevertheless, the aspect of SD that builds on the corporate level can be referred to as corporate sustainability (CS) (Van Marrewijk and Werre 2003, Konrad et al. 2006, Steurer et al.

2005). Van Merrewijk and Were (2003) on the other hand view CS in a form of company's voluntarily activities that engage social and environmental consciousness into its operations, and interact with wider groups of stakeholders. In the absence of a clear consensus on the definition of CS, the more practical term of CS involves "the development, awareness and ambition levels of organizations, individuals and groups that develop and apply values to support institutional structures, in order to cope with the prevailing challenges" (Van Marrewijk 2003, p.1).

This paper argues that CS can be explained in terms of corporate goals toward long-term economic, social and environmental performance prospects. Meanwhile, SDP is regarded as an outcome to be met by firms who thrive on their CS. In this regard, the interconnectedness between SDP and CS allows firms to apply microeconomic framework of 3Ps with the broader framework of SDP. Meanwhile CS can also be approached through the corporate vision, the management roles that concern corporate social responsibility (CSR), stakeholder-relation management (SRM), which tend to hold a long-term view of management in their system. Figure 1 below illustrates this view.

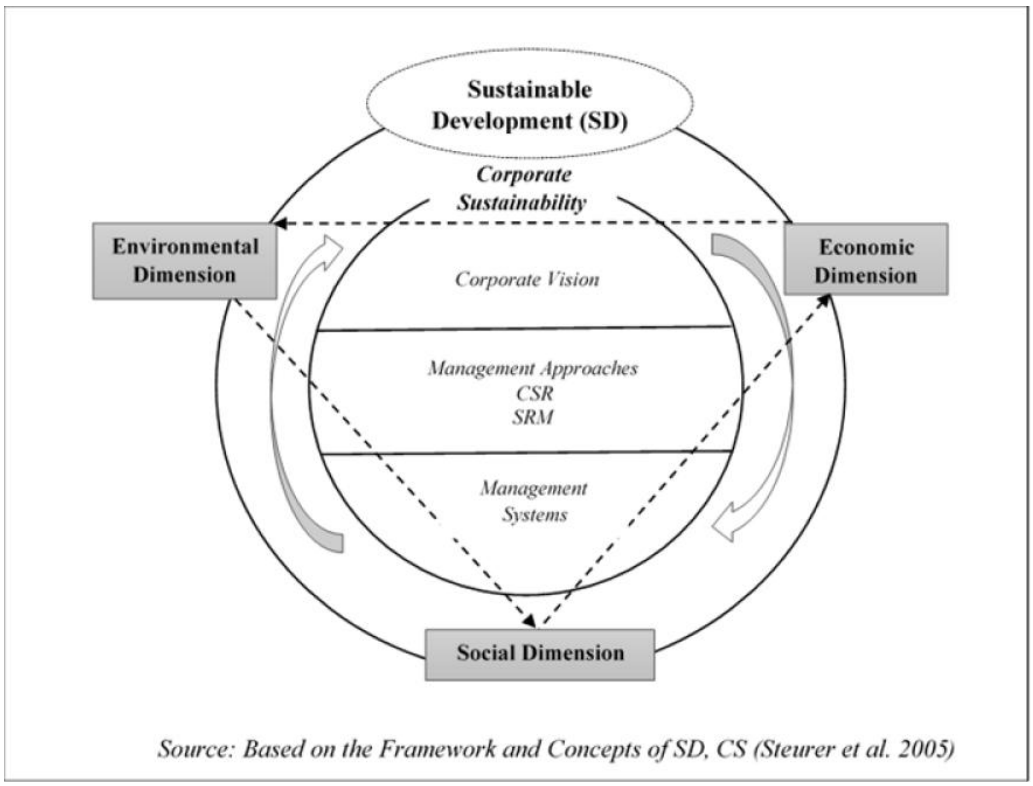

Figure 1 Outlook of Sustainable Development Performance (SDP) and Corporate Sustainability (CS)

Corporate social responsibility (CSR) and stakeholder-relation management (SRM)

In addition, this paper delineates the insights into CS by encompassing the roles of corporate social responsibility (CSR) and stakeholder-relation management (SRM) (Steurer et al, 2005). In which CSR and SRM are the involvement of companies with social issues, local communities, environmental interest groups/advocates and activities. Organizations that embed CSR initiatives in their strategies would include broader stakeholder orientation as well (Brown and Dacin 1997, Handelman and Arnold 1999, Lafferty and Goldsmith 1999, Mohr and Webb 2005, Osterhus 1997, Ellen, Webb, and Mohr 2006).

Researchers in the past considered CSR as a normative concept which embraces a broad array of stakeholder groups (Snider, Hill, and Martin 2003, Clarkson 1995), as a result, it demonstrates the interrelationship between businesses and the wider society which includes community, governmental authorities, NGOs, shareholders, employees, customers and objectives (Harrison and Freeman 1999). CSR is also viewed primarily as a voluntary response to stakeholder pressures, thus it is alternatively conceptualized around corporations "doing good" (Kotler and Lee 2008). In fact, it could be viewed broadly as a stakeholder-oriented concept that enhances the ethical responsibility of the firm's activities, and seeks in return legitimacy and acceptance from society (Maon, Lindgreen, and Swaen 2009).

Based upon stakeholder theory, SRM illustrates a holistic view of the multifaceted objectives in a more complex phenomenon that a firm would engage with stakeholder groups (Harrison and Freeman 1999). It also embraces stakeholders' perspective and makes it the focus of SDP (Steurer 2006). Thus, SRM advocates managing "business-society relations in a strategic way" (Steurer et al. 2005) for the attainment of mutual goals. In other words, SRM is concerned with how to manage stakeholder participation, starting from information-based stakeholder engagement (Sillanpää 1998) to goal-oriented partnerships with key stakeholders (Steurer et al. 2005). How SRM captures the concept of SDP can be explained by the stakeholder management approach that integrates the economic and social issues on the one hand, and environmental concerns within society on the other. In order to achieve SDP, SRM has to be functioned under the broader umbrella of CSR and the firm's vision towards CS, and yet requires a long-term view of management system.

3. Research Methodology

This study was conducted using semi-structured interviewing technique. Seven representatives from companies (registered in Green Industry of Thailand) who have been chosen through purposive sampling because of their reputation for safeguarding the natural resources and the environment were interviewed. These (representatives) informants came from such industries as petroleum, oil & gas, rock-mining, cement construction, chemicals and house-hold products and were either the CEO or a senior executive.

Interview with each informant lasted for about ninety minutes and was recorded for analysis. Because this is an exploratory study that is intended to generate insights, the interpretive data analysis technique was employed. This method enabled the researchers to verify the implications of their findings; as such the outcomes are applicable and situated within "socio-historical and scientific context" for future research avenues (Elliott and Timulak 2005).

In Green Industry context, it is possible to see evidence of a firm's vision toward CS and SDP as its policies regarding CSR and SRM are being implemented. In Thailand, the Green Industry

campaign has been established since 2011, it needs to not only give encouragement and lessons, but must also highlight the role models or exemplars which other corporations could emulate. This study thereby makes such contribution to the insights.

4. Results Analysis

Corporate Role Model of Green Industry Firms and its Link to Quality of Life of Community

The Green Industry has been recognized among developed countries following the declaration of World Summit of Sustainable Development (WSSD) 2002, however, this recognition lagged in developing countries. Thailand's Green Industry was first launched in 2011 in order to reaffirm the route to sustainable development as espoused by WSSD in Johannesburg (2002), and in the Manila declaration on Green Industry in Asia (2009). The Ministry of Industry of Thailand launched the 'Green Industry' project and outlined a five-level greening process. These steps consist of 1) green commitment; 2) green action; 3) green system; 4) green culture; and 5) green network. Companies within the green industry classification are allowed to progress step by step towards the attainment of certification provided by Green Industry authority of Thailand (http://www.greenindustry.go.th).

The activities of exemplar corporations in the Green industry in Thailand do not only impact the environment, but have also demonstrated a commitment to achieving SDP through their stated vision, policies and throughout their management. With pro-active mindsets, these corporations have voluntarily developed environmental management systems to monitor environmental issues which go beyond the government's environmental regulations. Their systems also monitor implementation of CSR/SRM initiatives. The exemplar corporations have also realized that it could be profitable to be "Green" through implementation of waste management systems. The benefits from being green have led them to achieve eco-value of products and to gain green image and reputation over other competitors in the same industry sector.

This study found that Thai government has environmental regulations that require corporations to monitor air, noise, and water pollution. The government requires that corporations in these industries maintain prescribed standards and control systems to monitor discharges that they release into the natural environment. These regulations are rather strict on industries that are considered high risk, for example rock-mining and cement production. Notwithstanding the government's regulations, there is ample evidence that some of the corporations the researcher interviewed have undertaken self-imposed pro-active environmental practices which go beyond the compliance with the government's environmental regulations. For example, a chemical company monitors their water output by a recycling and reused system within the factory before releasing it to the environment outside the factory. The rock-mining firms have undertaken to water-spray the roadsides in the communities in which they are located in order to reduce diffusion of dust into the air. They also undertake reforestations projects in places where rock-mountains have been mined.

In collaboration with local communities, the exemplar corporations formed a committee of volunteer representatives to monitor environmental and social problems that are related to the organizations' activities. These committees meet on monthly basis at which they discuss the current state of affairs and submit reports. Participation of communities in these committees ensures that the corporations have a direct channel to the community and know exactly how the community feels or perceives their conduct. Not only is this type of community engagement consistent with the principles of corporate-community collaboration, but there is evidence that it helps minimize

corporate-community conflicts, leads to improvements in the quality of life in the communities, and enhances an organization's image and its reputation for protecting the environment. The positive relationship that develops from these types of engagements translate into better market performance by the corporations involved (Smith 2003, Ellen, Webb, and Mohr 2006).

Figure 2 below summarizes the collaboration between corporate and community practices and its link to quality of life of community. As shown, the firm's role initially stems from its vision that is expressed through CSR/SRM and management systems. Corporate sustainability is the goal of responsible firms that aim at attaining economic profits while improving social conditions and reducing negative environmental impacts. It is argued that corporate leaders that not only have the desire to collaborate with communities in which they exist, but take steps to do so will enhance the legitimacy of the organizations that they lead. In this respect, the collaboration generates a set of collective values that reflect shared-moral visions that drive co-creative activities. It should be noted that the ideal collaboration of practices (project-based co-creative activities) is subject to be achievable upon mutual objectives. Furthermore, the pathways shown in Figure 2 are only a simplified depiction of a holistic view of how corporate sustainability can successfully lead to an improvement in the quality of life of "citizens" of communities in which the organizations exist.

In addition, CS might be pursued differently by different organizations; it is not a "one solution fits all" concept (Van Marrewijk and Werre 2003). Thus, specific ambitions and approaches that are taken in pursuant of CS and SDP may vary depending on the organization's purpose and expectations which are aligned with its strategy. This ought to be the case because different organizations has a dominant set of values which serve as the internal driving force, as such the appropriate approach is to match the organizational values to their circumstances and develop a framework that would guide their practices. It is seen in this study that the ambitions that industry leaders have regarding CS of green industry firms and the aspirations that the community leaders have regarding preservation have led to the expressions of collective values that have translated into real solutions such as Eco-Tech for Eco-Town, Reforestation, Dust-free local roads which would enhance corporate-community co-creativity toward the collaboration on improving the local community's quality of life as a whole.

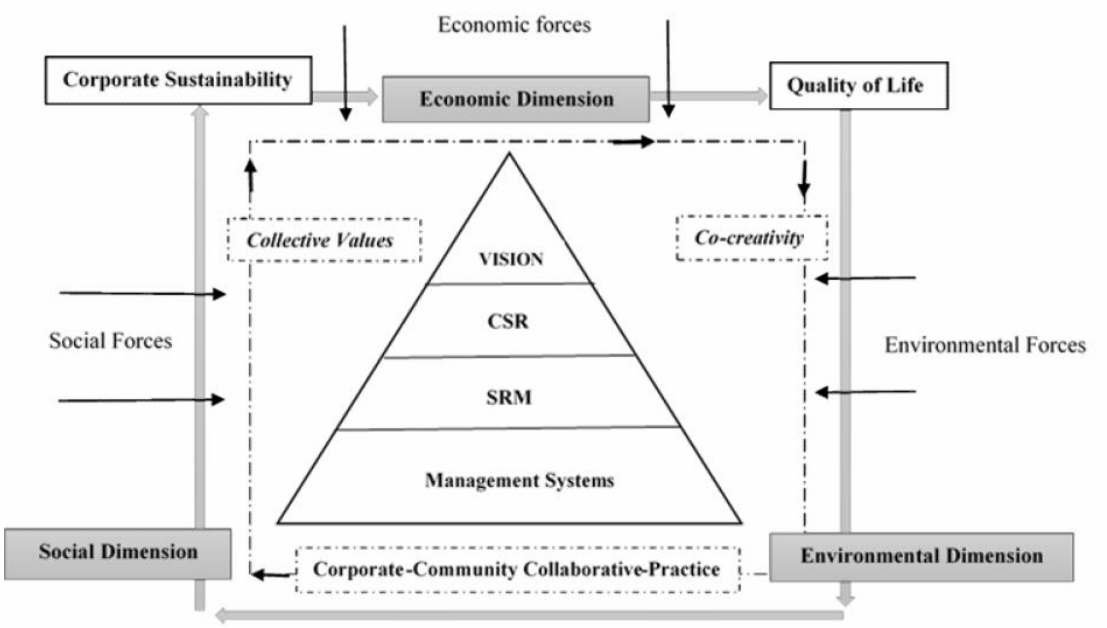

Figure 2 Collaborative Corporate and Community Practice and Its Link to Quality of Life of Community

The corporate role models of the green industry represent an outstanding mindset that is in accordance with the principles of CS and SDP. Most of them demonstrate pro-active rather than reactive approach to achieving CS and SDP. Furthermore, as shown in Table 1, the collaboration of co-creative activities is classified and related to the level of CS which is a set of collective values in order to illustrate the insightfulness in the steps that are being taken by some of the representative organizations.

The aspirations of corporations towards CS and SDP can also be explained by multiple levels of CS principles (see table 1.) The internal drivers toward CS consist of six levels: level 1: Pre-CS; level 2: Compliance-driven; level 3: Profit-driven; level 4: Caring-driven; level 5: Synergistic; and level 6: Holistic, as adapted from Van Marrewijk and Werre 2003. These researchers observed that by developing consistent goals toward CS, a corporation can be described as reacting to particular "environmental challenges and threats that involves life conditions such as times, places, problems and circumstances" (Van Marrewijk and Were, 2003, p.3). The demonstration of underlying motivations to achieve CS can be seen in organizations as "leadership". It also signifies the consciousness of organizations, their values as well as their awareness of the circumstances surrounding them. In certain cases, however, external factors such as government regulations, environmental activists (NGOs) and consumer pressures still play a critical role influencing firms to take concrete steps, if they aim to reach higher CS level.

A more detailed explanation of Table 1 is as below. At the community level where the business or corporation is located, responsible leaders/corporations in collaboration with society/community has created an understanding of the collaboration of co-creative activities as per a project-based purpose. The designated projects, for instance the dust-free local roads, community charities, eco-tech for eco-town, reforestation, green manufacturing, green turn-around, one-manager-one-community (OMOC), zero-waste landfill and zero-wasted water are all examples of

collaboration between businesses and societies. In this case, the main actors or drivers will be playing major roles as leaders to handle the responsibility to accomplish the tasks that need to be done. Needless to say, that coordination among all parties is necessary to contribute to the success of these projects.

In this instance corporations express and demonstrate tangible practices through CSR/SRM as well as coordinate with local community to solve mutual problems that are environmental/society-related. In reality, the interaction between leaders/business and stakeholder/community is dynamic. This suggests that when changes occur in the community, it provokes firms to react and re-specify their roles by realigning value systems to match the objectives and activities over time. This set of collective values therefore reflects an understanding between firms and the community in which they exist. Based on the exemplar, the collaboration between business and society, could lead to a case of "one-manager-one-community" (OMOC) which represents as an effective approach with the local community being the main driver. This co-creative practice is part of corporate (business) and community commitment to oversee unexpected problems however it also reflects the extent of communication between business and society. Moreover, as being witnessed by another exemplar, a system of collaborative problem-solving (a local surveillance system) is set up to alert the parties of environmental/social problems/issues in collaboration between corporate and community. To the extent that the community's voice can be heard by the corporations, while it sets out to sustain and improve the community's quality of life, and whether or not the corporation and community are working hand in hand toward achieving their desired goals.

Table 1 Descriptions of Exemplar Green Industry Firms

Expression of ambitions toward CS	Co-creative activities	Main driver /Initiator	Collective values
Pre-CS	n/a	n/a	n/a
Compliance-driven CS	⊘ Dust free local roads ⊘ Community charitable activities	○ Business enterprises & Community collaboration	✦ Clarity ✦ Responsibility ✦ Justice ✦ Conformity
Profit-driven CS	⊘ Eco-tech for eco-town	○ Business enterprises	✦ Rewards, Results ✦ Image, Creativity
Caring CS	⊘ Reforestation	○ Business enterprises & Community collaboration	✦ Consensus ✦ Conflict avoidance ✦ Team-work ✦ Participation
Synergistic CS	⊘ Green manufacturing ⊘ Green turn-around	○ Business enterprises ○ Business enterprises	✦ Integrity ✦ Long-term orientation
Holistic CS	⊘ One-manager-one-community (OMOC) ⊘ Zero-waste landfills ⊘ Zero-waste water	○ Community ○ Business enterprises ○ Business enterprises	✦ Sufficiency ✦ Inspiration ✦ Future generation

Table 1 illustrates the descriptions of exemplar green industry firms based on their ambitions toward CS with regard to the collaborative business-community practices (adapted from Van Marrewijk and Were, 2003)

5. Discussion and Implications for Managers and Policy Makers

The Green Industry Thailand campaign to encourage business organizations to serve as good stewards of the environment is relatively new in Thailand and in many developing countries, yet there are already exemplary corporations that have embraced the message. The designated collaborative practices that initiated by businesses have also revealed their ambitions in various stages depending on the efforts and projects of such collaborations. These are concerned with the collective values among the representative Green Industry firms and the societies in which are held by their mutual interests and prospects in order to reach the desired outcomes.

Besides, the exemplary practices go well above government requirements and generally involve some measure of voluntary initiatives. The most laudable initiative that the researcher has observed involves formation of corporate-community committees that are charged with the responsibility of safeguarding the environment. The collaborative corporate-community practices hold substantial implications for business practitioners to advance towards CS and SDP. This practice also makes a great contribution to improving the quality of life of the community as a whole.

Meanwhile it is evident that the representative Green Industry firms demonstrated their ambitions to achieving CS and SDP in which they initiate many collaborative activities in the first place. In addition to their Green effort, they are certified by the authority at the highest tier of Green Industry which is the level 5 of Green Networking. This can be seen, in other words, the collaboration between business and community has been raised and created not only to meet the preference of Green regulations but also to uplift their social responsibility and stake holder relation and the commitment with community. By which in turns leads to an improvement of the quality of life of society where they belong. In this circumstance, companies' managers could be able to draw on the given exemplar practices as a guiding framework of green practice to help better understand the roles of business and how to develop such collaborative practices with community to accomplishing mutual objectives.

Furthermore, the comprehensive outlook and pathways of quality of life may facilitate the policy makers' understanding of the scope of the problems and help in translating the outcomes to green policy as well as reach out wider businesses in-and-outside the Green territory. Essentially, every significant party in the community e.g. business/corporation, society/community, governmental authority, environmental activists etc. need to realize that a mutual interest of three-pillars (environmental integrity, social equity, and economic result) is at stake as far as sustainable development performance is concerned. The ultimate goal therefore is to deliver a compromising relational network among all parties with the guiding model of collaborative sustainability practices; and yet to be bolstered and recognized by wider audience and society is also crucial.

6. Conclusion and Recommendation

As a case study intended to highlight lessons to be learnt from exemplary collaboration between the private sector, the government and communities in fostering sustainable development performance in accordance with the representative Green Industry firms in Thailand, this paper

demonstrates the collaborative corporation-community practices which can be expressed and drawn as a framework for sustainable development performance and corporate sustainability. The designated collaborative projects can also elevate the living condition of community where the corporations belong. To the extent, the society's voice can be heard by the businesses; while their shared values are mutually concerned, in which would be uplifted and lead to be more materialized in reality. The findings of this study are not generalizable; however, it must be noted that generalizability was not the intended goal of the study. Further studies with larger samples are recommended to gain a more insightful result.

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References

Banerjee, Subhabrata B. 2002. Contesting corporate citizenship, sustainability and stakeholder theory: holy trinity or praxis of evil. Paper read at Academy of Management Conference. Denver.

Bansal, Pratima. 2005. "Evolving sustainably: a longitudinal study of corporate sustainable development." Strategic management journal no. 26 (3):197-218.

Brown, Tom J., and Peter A. Dacin. 1997. "The company and the product: corporate associations and consumer product responses." The Journal of Marketing: 68-84.

Clarkson, Max E. 1995. "A stakeholder framework for analyzing and evaluating corporate social performance." Academy of management review no. 20 (1):92-117.

Deloitte, IISD, and WBCSD Touche. 1992. "Business Strategy for Sustainable Development." World.

DiPiazza Jr, Samuel A, and Robert G Eccles. 2002. Building public trust: The future of corporate reporting: John Wiley & Sons.

Elkington, John. 1998. "Partnerships from cannibals with forks: The triple bottom line of 21st‐century business." Environmental Quality Management no. 8 (1):37-51.

Ellen, Pam Scholder, Deborah J. Webb, and Lois A. Mohr. 2006. "Building corporate associations: consumer attributions for corporate socially responsible programs." Journal of the Academy of Marketing Science no. 34 (2):147-157.

Elliott, Robert, and Ladislav Timulak. 2005. "Descriptive and interpretive approaches to qualitative research." A handbook of research methods for clinical and health psychology:147-159.

Freeman, R Edward. 2005. "Ethical leadership and creating value for stakeholders." Business Ethics:82-97.

Gladwin, Thomas N, James J Kennelly, and Tara-Shelomith Krause. 1995. "Shifting paradigms for sustainable development: Implications for management theory and research." Academy of management review no. 20 (4):874-907.

Gore, Albert, and Al Gore. 1992. "Earth in the Balance."

Handelman, Jay M., and Stephen J. Arnold. 1999. "The role of marketing actions with a social dimension: Appeals to the institutional environment." The Journal of Marketing: 33-48.

Harrison, Jeffrey S, and R Edward Freeman. 1999. "Stakeholders, social responsibility, and performance: empirical evidence and theoretical perspectives." Academy of management Journal no. 42 (5):479-485.

Ihlen, Øyvind. 2009. "Business and climate change: The climate response of the world's 30 largest corporations." Environmental Communication no. 3 (2):244-262.

Konrad, Astrid, Reinhard Steurer, Markus E Langer, and André Martinuzzi. 2006. "Empirical findings on business–society relations in Europe." Journal of Business Ethics no. 63 (1):89-105.

Kotler, Philip, and Nancy Lee. 2008. Corporate social responsibility: Doing the most good for your company and your cause: John Wiley & Sons.

Lafferty, Barbara A., and Ronald E. Goldsmith. 1999. "Corporate credibility's role in consumers' attitudes and purchase intentions when a high versus a low credibility endorser is used in the ad." Journal of business research no. 44 (2):109-116.

Lee, Kai N. 1993. "Greed, scale mismatch, and learning." Ecological Applications no. 3 (4):560-564.
Maak, Thomas, and Nicola M Pless. 2006. "Responsible leadership in a stakeholder society–a relational perspective." Journal of Business Ethics no. 66 (1):99-115.

Maon, François, Adam Lindgreen, and Valérie Swaen. 2009. "Designing and implementing corporate social responsibility: an integrative framework grounded in theory and practice." Journal of Business Ethics no. 87 (1):71-89.

Mohr, Lois A., and Deborah J. Webb. 2005. "The effects of corporate social responsibility and price on consumer responses." Journal of Consumer Affairs no. 39 (1):121-147.

Osterhus, Thomas L. 1997. "Pro-social consumer influence strategies: when and how do they work?" The Journal of Marketing:16-29.

Pless, Nicola M, and Thomas Maak. 2012. "Responsible leadership: Pathways to the future." In Responsible Leadership, 3-13. Springer.

Rao, Pinninti K. 2000. Sustainable development: economics and policy: Blackwell Publishers.
Rolston, Holmes. 1994. Conserving natural value: Columbia University Press.

Sillanpää, Maria. 1998. "The body shop values report–towards integrated stakeholder auditing." Journal of Business Ethics no. 17 (13):1443-1456.

Smith, N. Craig. 2003. "Corporate Social Responsibility: not whether, but how." Center for Marketing Working Paper (03-701).

Smith, Richard J. 1996. "Sustainability and the rationalisation of the environment 1." Environmental Politics no. 5 (1):25-47.

Snider, Jamie, Ronald Paul Hill, and Diane Martin. 2003. "Corporate social responsibility in the 21st century: a view from the world's most successful firms." Journal of Business ethics no. 48 (2):175-187.

Steurer, R., M. E. Langer, A. Konrad, and A. Martinuzzi. 2005. "Corporations, stakeholders and sustainable development I: a theoretical exploration of business–society relations." Journal of Business Ethics no. 61 (3):263-281.

Steurer, Reinhard. 2006. "Mapping stakeholder theory anew: From the 'stakeholder theory of the firm'to three perspectives on business–society relations." Business Strategy and the Environment no. 15 (1):55-69.

Van Marrewijk, Marcel, and Marco Werre. 2003. "Multiple levels of corporate sustainability." Journal of Business Ethics no. 44 (2-3):107-119.

Viederman, Stephen. 1994. The economics of sustainability: Challenges: Jessie Smith Noyes Foundation.

United Nations Development Programme. 1994. Human development report1994. New York:

Institutional Capital on Trade-Marketing and Environmentally Sustainable Development Policy Making: A Research Model Based on Critical Analysis of NAFTA

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Abstract

The aim of this study is to critically analyze the implications in terms of the relationship between cooperation, conflict and institutional capital, as well as their interactions with trade–marketing and environmentally sustainable development policy making under the framework of NAFTA. The critical analysis stems from the question of whether the North American Free Trade Agreement should continue to operate despite the challenges and the institutional capital capacity built by the country members. The methodology is based on literature review aimed to create a relationship between the analytical variables in order to obtain a research construct. This research model is used to critically analyze the implications in terms of cooperation and conflict relationships as institutional capital and their interactions with trade-marketing and environmentally sustainable development policy making. It is concluded that, although the existence of NAFTA is severely questioned, its institutional capital has positive effects on the implications of trade-marketing; however, environmentally sustainable development proves to be conflictive and highly contentious, although some positive effects are developing.

Keywords: Environment, Institutional Capital, Marketing, NAFTA, Trade, Sustainable Development

1. Introduction

Sustainable development implies the implementation of natural, human, social and institutional capitals. The assets required for sustainable economic development are the different forms of capital. According to Ashby and Carney (1999), these forms of capital are: physical, natural, financial, human, social and institutional. The most tangible forms of capital are physical and natural. Physical capital refers to technical capital such as tools, equipment, etc. that work together with natural capital. Financial capital refers to stocks of money. Social capital is an interactional cooperative potential (Zenou, 2009) based on trust. Institutional capital is the set of institutions that give forms and repeatability to these relations (Bénédique 2009). Institutional capital is an asset related to the implementation of actions in development processes (Garrabé 2008).

Institutions play a significant role in the sustainable development of nations (North, 1990). Institutions are defined as the formal and informal rules of the game, and transaction costs influence economic efficiency (North 1981, 1990; Williamson 1985; Eggertsson, Thrainn 1990). Institutional capital is related to institutional cost (Chen, 2008). The transformation of institutional capital into institutional costs creates mobility barriers in different organizational arrangements. Institutions have

economic effects on sustainable development which are coined as institutional capital. Institutional capital is the limitations devised by man that shape human interaction, thereby structuring incentives in human exchange, be it political, social or economic (North, 1995:13).

Economic institutions are a form of capital and, as such, are related to institutional capital in terms of the institutional structure of economic production, economic exchange relations and reducing transaction costs. Economic institutions are related to market institutions and are considered as instruments to reduce transaction costs. Institutional economic arrangements drawn by organizations are related to productive and exchange interactions.

The North American Free Trade Agreement (NAFTA) is an economic institution whose existence has been severely questioned by its members, although since its inception it has developed a type of institutional capital formed by relationships of cooperation and conflict. This institutional capital has serious implications in the interactions between free trade and its marketing activities with the environmentally sustainable capital.

Institutional capital from the perspective of ecological and institutional economics is useful to explain theories and strategies of organizations and sustainable economic growth and development (Greenwood and Holt, 2008, p. 446). The new institutional economics (NIE) supports the notions of social capital related to issues of trust (Raiser 1997 and 1999; Raiser *et al*. 2001) and the informal social processes related to institutional capital to analyze and explain sustainable development (Gatzweiler *al*. 2002; Parto 2003 and 2005; Bezanson 2004; McGranahan and Satterthwaite 2004).

Institutional capital supports competitive advantage to the organizations and economic institutions. This new theoretical approach provided an explanation of the paths to create a competitive advantage based on characteristics of strategic resources to achieve sustainable development (Huang and Cao, 2016). The presence of institutional capital in the economic production and exchange interaction contexts justifies the economic advantages (Kaji, 1998).

Institutional capital has strong links with market institutions and therefore with marketing strategies and activities, for the creation and transaction of economic capital, financial, physical and natural resources, stocks and flows. Domestic markets generate institutional capital when they improve the dynamic capabilities to respond effectively to the demands of complicated external and internal business environments (Lan and 2011). The practical operation of institutional capital in strategic management and its relationship with competitive advantage is limited from the institutional and resource-based views. From the resource-based view theory, institutional capital is considered as non-material resources.

Thus, the recent renegotiations of the NAFTA that have led to the continuation in the United States, Mexico and Canada agreement (USMCA) has taken advantage of all the institutional capital already built.

The institutional capital approach is used in this study to analyze the relevance of North America Free trade Agreement (NAFTA) institutions in marketing activities and sustainable development. Institutional capital is the determinant for efficiency in marketing activities and sustainable development actions.

2. Conceptualization of Institutional Capital

From the perspectives of finance and accounting, institutional capital has been defined as the total of the credit union's regulatory reserve accounts, undivided or retained earnings, special reserves designated for a specific purpose, and net income that has yet to be closed to the retained earnings account. However, this financial and accounting perspective is not relevant for the purposes of this paper.

The concept of institutional capital is relative and contingency-oriented in regards to the function of economic activities and the interactions between enterprises and institutions (Besharov and Smith, 2014). Institutional capital is a type of capital that refers to the economic value of rules, norms and cognition.

Institutions have economic value supporting economic efficiency as the foundational logics for the transformation into institutional capital (Schultz, 1986). Economic value and scarcity of institutional capital are powerful incentives for organizations. Institutional capital is defined as the environmental elements embedded in the organizations' environment, which can enhance resource allocation capability. Organizations may possess institutional capital if the institutional context contributes to the acquisition and development of superior bundles of resources (Oliver, 1997). Thus, institutional capital is considered as a capability in an institutional context (Reihlen, Smets, and Veit, 2009; Lounsbury, and Glynn, 2001).

The concept of institutional capital integrates resource-based view and in-situational theory, in such a way that in any institutional environment, institutional capital is an effective resource management decision. The institutional capital consists of the stock of institutions formed by the formal and informal rules of the game; it exists in both public and private sectors of a region (Boisier, 2003), country or group of countries. Institutional capital is defined as "the specific conditions in an organization's internal and external institutional context that allow the formation of competitive advantage" (Bresser and Milloning, 2003, p. 229). Institutional capital is reflected in the decision-making behavior for organizational resources and strategic choices which have an impact on competitive advantage (Bresser and Molling, 2003).

Institutional capital enhances specific capabilities and strategic choices and actions by matching internal and external institutional environments to create sustainable competitive advantages and to achieve higher enterprise performance. Institutional capital is related to the specific conditions in an organization's internal and external institutional contexts that allow the formation of competitive advantage. The organization's internal institutional context originates from the individual and organizational competitive advantage. "It holds that organizations and the individuals who populate them are suspended in a web of values, norms, rules, beliefs, and taken-for-granted assumptions." (Barley and Tolbert 1997, p. 93).

Institutional capital affects strategic organizational behavior and choices which translates into competitive advantages in terms of performance, value and ability (Zhang and Wang, 2010). Institutional capital is an intangible capital that can help to make better individual and organizational strategic decisions adapted to the interaction of internal and external environmental pressures to generate higher economic value (Martin, 2014) and better sustainable development. Institutional capital promotes value-creating activities. Institutional capital can nurture market and non-market capacities as a strategic environmental resource of the firm to enhance economic performance and dynamic responsiveness (Long, 2013).

For Hoff and Sen (2005), institutional capital is a mechanism that is shaped by shared values, norms, attitudes, expectations, standards and beliefs. Institutional capital is a concept related to the mainstream ideology and power identity to reflect the socio-cultural knowledge and skills about the institutional rules (Lin, 2005). Institutional capital is "the whole of the formal and abstract institutions which constitute the inciting structure organizing the relations between individuals or organizations, within the process of economic and social production" (Garrabé, 2007, p. 127).

Platje (2008a, p. 145) defines institutional capital as the "institutions, institutional governance and governance structures that reduce uncertainty, stimulate adaptive efficiency (i.e. the ability of a system to adapt to changing conditions) and stimulates the functioning of the allocation system and sustainable production and consumption patterns" (Platje, 2008[a], p. 145).

Institutional capital is understood by Vicencio Meza (2009) as the accumulation of formal or informal rules of the game and their compliance mechanisms, which have a positive or negative impact on economic performance. Institutional capital is the stock formed by the set of social rules and norms existing within a social nucleus, born of formal and informal structures, which define the entire structure of incentives or disincentives, determining the type of human behavior and integrating legal sanctions and morals. Institutional capital is an asset composed by formal and informal institutions that affect the adaptive efficiency of an economy's directly or indirectly productive activities (Ahrens and Jünemann 2009).

Institutional capital is a unique and heterogeneous resource embedded in the external institutional environment that brings sustainable competitive advantage for enterprises (Lu, Zhou, Bruton, and Li, 2010). Institutional capital, as a heterogeneous resource, is a unique, value-creating, scarce, inimitable and non-substitutable resource embedded within the organization's environment. These are the sources of institutional capital that can be translated into a sustainable competitive advantage.

Institutional capital is an intangible asset that can facilitate the building of new institutions and the improvement of the ones that already exist, contributing to create and sustain societal and organizational competitive advantages. …

A. Components, elements, characteristics and properties of institutional capital

The levels of institutional capital are the individual, intraorganizational, and interorganizational. From the perspective of strategic management, institutional environment and resource selection are both important components for institutional capital. Bresser, *et al*. (2003) analyzes the levels of formation of institutional capital. Institutional capital can be external or internal institutional capital in relation to the context which may contribute to create and enhance the competitive advantage (Bresser & Millonig 2003).

Internal institutional capital is shown at the individual and intraorganizational levels with different cognitive and normative institutional components that explain the dissimilarity, heterogeneous and isomorphic tendencies *(*Miller 1996, p. 287). Institutional capital as resource capital has the capabilities to obtain a competitive advantage with the external and internal institutional environment leading to economic benefits and more sustainable development. Institutional capital provides the context for effective maximization of resource capital, which is non-substitutable (Meyer and Rowan, 1977).

At the micro level, institutional capital relates to corporate management and the competitive

advantage of a firm by defining it as the resource, capacities and environmental factors embedded in the enterprise's institutional environment that can improve value-added assets and competitiveness. Thus, institutional capital is the input that can create economic income, from the perspective of corporate strategic management and acquisition of competitive advantage. At the micro level, institutional capital focuses on capital property and economic benefits (Huang and Cao, 2016). Traditions and history of the corporation constitute institutional capital imprinted in the business environment as an inimitable resource. More generally, institutional capital meets human needs efficiently and effectively as valuable productive assets (Shi and Ke, 2000).

At the macro level, institutional capital is related to the superiority in comparative institutional advantage of national economic and political institutions. The institutions of any state in any country that own institutional capital maximize the market and deepen the sustainable economic development. From the macro perspective, institutional capital is defined as the superiority resulting from national economic institutions and political institutions (Huang and Cao, 2016). At the macro level, institutional capital can be the resources effectively controlled by the state or by improving strategies of civic and organizational forms of participation and civil society (Buell, 2005). Business groups can develop institutional capital with their own capabilities.

Institutional capital at the two levels, micro- and macro-level, is not contradictory because both have different levels of abstraction and generalization (Yang and Wang, 1997). Internal institutional capital is formed by cognitive and normative capital, while external institutional capital is more related to regulative capital (Bresser and Molling, 2003).

Institutional capital includes cognitive capital, normative capital and regulative capital (Scott, 1995). Cognitive institutional capital establishes mechanisms derived from the cognitive psychology to create a competitive advantage. The normative institutional capital establishes institutional mechanisms to adapt values and norms to economic rationality aimed to obtain a competitive advantage. Regulative institutional capital employs regulative mechanisms for formal and informal arrangements dividing institutional capital into formal and informal (Gao, *et al*. 2015). Formal institutional capital is formed by the formal acquisition of resources, while informal institutional capital is formed by resources, information and knowledge acquired through relational networks.

The institutional capital approach to sustainable development has the elements of public domain, institutional strength, good governance, and institutional equilibrium (Platje, 2008b). Institutional capital contributes to the legitimacy of the organization (Martinez and Dacin, 1999) through cultural-cognitive consistency (Yang and Su, 2014). The institutional capital is an element of the environment or institutional framework, including organizational and familial institutions, morals, deontology, rules, etc., and other institutional resources with any direct relation to economic production, interactions and exchanges. The elements of institutional capital that promote economic development, according to Boisier (2003), are the number of institutions; the climate of inter-institutional relations that imply the state of cooperation, conflict and neutrality; and the degree of modernity of the institutions as characterized by speed, flexibility, malleability, resilience, intelligence and identity.

Another important factor is the institutional equilibrium (Platje, 2008a) based on informal institutions, such as culture and mental models supporting and strengthening formal institutions to stimulate sustainable development and the functioning of "institutional governance" (Furubotn and Richter, 1997). It is assumed that the institutional equilibrium of efficient institutions has effects on sustainable development and institutional governance. However, mental models that support sustainable patterns of production, marketing and consumption make less relevant formal institutions

and institutional governance. Likewise, the institutional efficiency may change over time due to some determinant factors, such as the level of trust and technological changes.

A characteristic that determines the nature of institutional capital is that a resource collective confers a status to its holder, but it has limited appropiability by individuals. A factor of production and development is productive and durable, with a slow and long process of accumulation; however, it improves and facilitates their accumulation. It has space-time localization and it is linked with other forms of capital. It has perverse effects with other forms of capital (Bénédique 2009). Institutional capital is considered in its institutional values and functions as the main characteristics of the formation of an agrarian market. Rules, norms and mechanisms of market implementation are some characteristics of institutional capital. Cultural, social, human and intellectual capitals are institutional factors of institutional capital. The functioning of institutional capital constituents contributes to the development of market processes of an economy (Mamchur 2016).

To be capital, the properties of any stock of institutional capital must be considered as a production factor and have the capacity to confer some values to the holder, such as accumulation, tangibility or intangibility, profitability, social richness, transferability, durability, obsolescence, fungibility and depreciation. The institutional capital generates profitability by reducing the transaction and production costs of information and uncertainty in the interactions between economic agents allowing more effective economic exchanges. Institutional capital facilitates the accumulation of other forms of capital.

According to Garrabé (2007), the accumulation of institutional capital may take the forms of institutional imitation, convergence or institutional harmonization, institutional innovation, and progressive transformation of informal into formal institutions. Any institutional reform may contribute to institutional capital accumulation. Institutionalization may be a process for the accumulation of the institutional capital. An increase in the number of the institutions may correspond to an accumulation of institutional stock.

The institutional capital is analyzed by Loureau (1972) in three phases: the pre-established institutions becoming unconscious habitus (Bourdieu, 1972) or habit (Hodgson, 2006). With time, the appearance of social strains and crisis leads to social change with an institutionalization process that may reach a period of stabilization. The accumulation of institutional capital is in slow evolution in time, except during periods of crisis and is done incrementally by successive contributions (North, 1991). However, accelerated institutional capital accumulation can turn into a contradictory institutional arrangement without operational links. Also, the dis-institutionalization processes may result in accumulation or dis-accumulation of institutional capital (Hodgson, 2006), which can be an individual or institutional convergence, voluntary, negotiated or imposed.

The institutional capital maintains its durability if the context of the economic production process and exchanges are not modified. The obsolescence of the institutional capital is caused by social innovation in new institutional developments in social space and time when institutional arrangements are designed for the changing needs of economic processes (Bajenaru, 2004). Institutional capital accumulation continues as long as an economic and social crisis obliges it to change the actual institutional arrangement. Institutional capital involves an accumulation in time until the economic agents design new institutional arrangements. This new design may accelerate accumulation if it does not contradict the old one.

The value of stock is related to the effectiveness of the accumulation of institutional capital. In this sense, improvement and adaptation of the institutional stock with the needs for the economic

interactions and exchanges without contradictions may contribute to the accumulation of institutional capital. Institutional capital is fungible in human capital through the appropriation and integration by individuals in their habit of behavior (Hogdson, 2004). Institutional capital and human capital are mutually related with strong links between individuals acquiring knowledge and organizations gradually creating and accumulating institutional capital (Ahrens and Jünemann, 2009; Fedderke & Luiz 2008). Institutional change and reform are driven by people (Acemoglu and Robinson, 2008; Ahrens and Jünemann, 2009).

The measuring methods of institutional capital are based on operationalization conducted by external institutions, such as government, and on institutional characterization within the organization.

Institutional capital, although a relatively recent created subject, has been already developed a theoretical and methodological frame of reference, components, elements, characteristics and properties, which are a departure to continue the study and the analysis of this topic.

B. Institutional capital and sustainable development

In the generation of macro-economic development of the peoples, human capital is required and factors such as trust, a social capital base and the quality of the rules of behavior and their compliance mechanisms as implied by institutional capital (Marshall, 1963). Institutional capital provides the structures of a social framework for interactions and exchanges participating in the downside of social capital (Portes and Landolt, 1996). However, social capital contributes to institutional capital accumulation to create organizations.

Institutional capital is a fundamental requirement of sustainable development. Nations benefit from institutional capital stocks (Trebilcock, 1996; Kaji, 1998 and Ahsan, 2003). Institutional capital is an essential component of sustainable development. Institutional capital with good quality institutions adapted to contribute to sustainable development (Platje, 2008b) can be generated through institutional reform. Institutional capital influences the development of political and economic sustainable development of modern society (Brunell, 2005). The existence of institutional capital is essential for any type of sustainable development with an efficient productive, exchange and consuming system.

Institutional capital can achieve sustainable development through four sources: public domains, economic systems, governance structures, and formal-informal institutions (Platje, 2008a). Public domain favors opportunistic and rent-seeking behaviors, which decreases institutional capital and increases transaction costs due to lack of explicit property rights. The economic system provides incentives for economic activities. Governance is related to rule and policy development. The equilibrium of institutional informality and formality balance the institutional capital (Platje, 2008b)

The quantity and quality of institutional capital stock and flows play a determining role in economic sustainable development and the reduction of poverty. Good quality institutional capital and fair trade lead to a decrease in inequality (Mamoon, 2007; 21). Institutional capital capacity is a condition to sustainable development policy achievements (Evans et al., 2006). Institutional changes and reforms requiring the use of other forms of capital may accelerate the accumulation of institutional capital required for the improvement of sustainable development and poverty reduction.

Institutional capital facilitates internationalization performance of firms by combining the contextual variables such as the institutional maturity, political stability and management abilities of home and host countries (Child and Marinova, 2014). External regulative institutional capital is measured in terms of the capital taken from the institutional environment, such as government (Wilkinson and Brouthers, 2006). Institutional capital may be supported by institutional arrangements and incentives to obtain rents, supports and relations. Also, institutional capital may be obtained from institutional diversity and differences such as "institutional arbitrage" (Jackson, and Deeg, 2008).

Thus, sustainable development is related to institutional capital in a sense that can be considered and intangible and valuabe asset for organizational and societal development.

C. Relationships of cooperation on the interaction between trade and environmentally sustainable development

International organizations relating and promoting open trade around the world are concerned with relationships of cooperation and conflict between marketing and sustainable development. There is a need for international coordination for relationships of cooperation and conflict aimed at open trade and free market to achieve sustainable economic development. The World Summit on Sustainable Development in 2002 called for more cooperation among the United Nations Economic Program (UNEP), the Bretton Woods institutions, and the World Trade Organization (WTO) (UN, 2002).

Functionalism and institutionalism, including rationalism, have some limitations that show that inter-state negotiations are not the only way to develop international cooperation and coordination of open trade activities aimed to achieve sustainable development. Inter-state contexts with common historical background and cultural values are not always available to haggle in negotiations. Less developed and less powerful states have a disadvantage in negotiations due to their positions of vulnerability, and sometimes their isolation. This situation may be an obstacle, or at least makes it more difficult to achieve a desired level of cooperation on global issues related to trade and sustainable development policies.

To implement the different forms of inter-state coordination and cooperation in trade and sustainable development issues, it would be beneficial to structure an organization with its own legal personality and maintain the convergence among the states. Global norms, values and meaning structures in a world polity theory as a macro-structure provides the framework for the interpretation of inter-state coordination and cooperation based on historical background and cultural values shaping the actions and identities of the states.

It should be noted that North-South, as well as South-South cooperation have greater implications in establishing new international order in open trade, free market and sustainable development (An, Chen, 2013). It is important that free trade agreements have their own mechanisms working for developing relationships of ongoing cooperation to promote their mutual interests in sustainable economic development. Among the different options, the participating parties of free trade agreements must promote economic, social and environmentally sustainable behavior, which may include relationships of cooperation and coordination requiring compliance with host state laws, compliance with recognized universal standards and encouragement to implement applicable corporate social responsibility (CSR) standards at any stage. Among other heterogeneities, the non-legal forms of cooperation and other flexible arrangements to pursue sustainable economic development reflect the historical and cultural values of the involved parties.

Social cooperation aimed at producing and allocating benefits requires principles of justice as the first virtue of social institutions to overcome the burdens and social costs in terms of equal rights of citizens. International rules on the fundamental rights of citizens related to mutually beneficial economic cooperation across frontiers should be incorporated into national constitutions and legal systems as a safeguard for human rights to override domestic effects of free trade agreements. Human rights and economic legislations, democratic self-governance and the rule of law, are continually evolving through dialectic processes of national, international, regional and global regulations aimed to protect economic cooperation in trade and sustainable development that is mutually beneficial among citizens, organizations, businesses and states. This Cosmopolitan constitutionalism is based on the principles of justice and human rights of common humanity.

Economic and political institutions that have developed an institutional capital can support principles and norms for different forms of coordination and cooperation between states emphasizing the trade and commercial relations that underpin the sustainable development of the two countries. Cooperation may achieve decisions on specific practices of market trade and sustainable development as reflected in the principles and supported by the implementation of collective choice.

Free trade agreements incorporate institutional capacities to deal with cooperation and coordination on issues of trade and environmental concerns to design environmental policies to be implemented regionally. The development of this institutional capital, in terms of cooperation and coordination capacities on environmental concerns and free trade, may increase the gains to producers from trade liberalization resulting from cooperation to lower transaction costs of crossing the borders in research and market development on sustainable development issues. A good example of the development of institutional capital capabilities and capacities of an industry that has begun to pursue cooperative goals in sustainable development are the Mexican Confederacion Nacional Ganadera, the Canadian Cattlemen's Association and the US National Cattlemen's and Beef Association (Wainio, Young, and Meilke, 2003).

Under the framework of the North American Free Trade Agreement (NAFTA), The Commission on Environmental Cooperation was established in 1992 as the dispute settlement body of the Commission for Environmental Cooperation (CEC) to deal with issues of harmonization of environmental standards and restrictions to the exploitation of resources. The North American Agreement on Environmental Cooperation (NAAEC) attempted to bring environmental issues into the open trade discourse, by merging the international environmental frameworks into the framework of a free trade agreement, although it does little to raise environmental standards (NAAEC, 1993).

The adjudicatory perspective has also initiated the multilateral convergence for cooperation on trade, environmental and sustainable development concerns. This objective became clear in the North American Agreement on Environmental Cooperation (NAAEC) as a side-treaty of the North American Free Trade Agreement (NAFTA), which is considered the cornerstone in the integration of environmental rules and provisions. Other later attempts made by the Organization for Economic Cooperation and Development were unsuccessful due to irreconcilable interests between the member states.

It is quite important for international negotiators to take into account the common inter-state contexts of historical and cultural values when advancing market proposals aimed at economic sustainable development. Free trade agreements between neighboring countries are prone to have politically focused agreements to set a stage for greater coordination and cooperation relationships between relevant actors to ensure market and environmental activities. These agreements integrate broad norms and regulations to facilitate the interactions and exchanges of information supported by

principles of responsibility. However, under the frame of NAFTA, the United States of America has adopted a more confrontational approach instead of a cooperative approach for monitoring compliance of environmental and sustainable development regulations by focusing on local capacity building without technical assistance that is leading to severe disputes and conflicts.

Under any free trade agreement, the involved states must have incentives to ensure the effectiveness of the institutions to enhance institutional capital and promote cooperation between them on issues related to the development and monitoring of an economic and trade exchanges and capacity building for sustainable development. The main purpose is to outreach activities of national institutions to facilitate cooperation in the use of the free trade agreements by businesses without inflicting damage to the environment from a sustainable development approach.

More cooperation in international economic and technical assistance is required, assuming there are resources available on the basis of underlying principles of constitutional pluralism and international justice aimed at the impact of trade on sustainable development issues.

Thus, the analysis of relationships of cooperation on the interaction between trade and environmentally sustainable development is relevant to understand the implications in terms of incentives, transactions costs, etc., involved in the creation and improvement of institutional capital.

D. Conflicts between trade and environmentally sustainable development

Decision making processes under the frame of free trade agreements is narrowly focused on solving trade and environmentally sustainable development conflicts rather than the role of promoting long term objectives on these issues, guidelines to the states to address their obligations and dispute settlement tribunals for implementation problems. Free trade agreements are embedded into international law and its purpose as a treaty is conformity with the principles of justice and international legal obligations of all the parties.

Doctrines of private conflict of laws facilitate resolving coordination and cooperation problems among regulatory authorities of adversely affected cross border interests, narrowing the gaps between international business interests, mediating national and international conflicts of normative orders, etc. Treaty provisions of international law stipulate presumptions against conflicts based on principles of good faith *and pacta sunt servanda*. The agreements emanated from the States are interpreted under the principles of good faith and *pacta sunt servanda* as presumptions against conflicts and are intended to produce effects in accordance.

However, free trade agreements emanating from states are interpreted as intending to produce effects according to the law. The presumption against conflict has been enforced in cases where there are separate agreements between the same parties. The presumption against conflict is applied to disputes and reinforced through the separate agreements that are concluded between the parties are consistent with each other.

Organizational and institutional isomorphism does not necessarily mean equifinality as an import of highly idealized global culture into diverse local contexts; domestic conditions seem to be infeasible and lead to conflictive components. These local resistances to global culture may be the result of the state's commitment to preserve identity and socioeconomic development (Finnemore & Sikkink, Meyer & Rowan, 1977; Strang & Meyer, 1993).

The presumption against conflict requires interpreting the trade agreement to support the compatible obligations. The judicial and political roles can come into conflict if the mechanism for

the States interventions is not well designed in accordance with applicable legal and judicial principles and by limiting their interpretation for short-term interests and conflicting legal frameworks.

Although some conflicts and disputes in NAFTA have dealt with environmental and trade concerns more than on investment and trade, a good example is the conflict of public rights of action between Mexico and the United States that emerged with the sugar disputes and collided with private rights of action. Also, one of the other most relevant conflicts has been the movement of Mexican small farmers, including El Barzon, who were producing crops in disadvantaged and non-competitive conditions under the NAFTA frame. They protested in January 2003, seeking better positions in the trade agreement of maize and beans and the renegotiation of the agricultural chapter.

Agricultural trade policies in Mexico under the framework of the renegotiation of NAFTA's agricultural chapter have been modified in response to organizations of small-scale farmer's mobilizations and international commitments. However, the claim of renegotiation was not achieved to be incorporated in the agro pact and agricultural production was constrained to quotas. This conflict was solved by the Mexican government maintaining a position in equilibrium between domestic demands and constraints and international imperatives.

Private investors presented an investment dispute against the state at the regional level while simultaneously the State presented a trade dispute for adjudication under the WTO panel (Trujillo, 2013).

The formation of trade commission raises serious problems for cooperation relationships and may lead to conflicts in terms of their functions, accountability, transparency, judicial roles, arbitration proceedings and inconsistency in decisions in the complexity of economic globalization processes. In cross-border jurisdictional conflicts, national courts and legislatures may protect legitimate interests of transnational jurisdictions and governance and protect the principles of cosmopolitan justice. However, the cosmopolitan international economic law, transnational integration law and adjudication perspective refute the incapability of law to provide justifications for normative solutions by institutionalizing public reason to limit power politics.

Adjudicatory conflicts may lead to the creation of environmental regimes and mechanisms for negotiation and regulations which may transform the state into a manager of regulatory norms. To avoid conflicts on the enforcement of national regulations on trade and environmentally sustainable development between different countries, the best solution is to enforce the application of international standards and regulations. However, some member states may enforce more strict regulations than those approved by international standards and regulations, which in turn lead to conflicts. Options to resolve this type of conflicts should be investigated.

The different processes used to reduce the tensions and solve the conflicts and disputes inherent to trade and environmentally sustainable development should be investigated, however, it is more appropriate to try to find solutions at earlier stages before the conflict and dispute arises. Conflicts between the parties should be resolved through mutually consistent interpretations and cross border judicial protection of the rule of law. Legal and administrative principles and regulations are necessary to protect individual human rights, the role of the economic market and trade and environmentally sustainable development from conflicts between private and public interests and between national and inter-state interests.

Thus, institutional capital is critical for the resolution of emerging conflicts under the framework of the new agreement, already called USMCA (Unites States Mexico Canada). In fact, Canadians have negotiated this issue facing the US position of submission to the United States institutions.

3. Research Model for Critical Analysis

In order to review and realistically analyze literature related to our research topic, it is necessary to display the main variables, their relationships and interactions in the operating framework of the North American Free Trade Agreement (NAFTA). As an independent variable, institutional capital is considered in two dimensions: relationships of cooperation and conflict. The dependent variable is considered the environmentally sustainable development policy making and the mediating variable is trade and marketing activities. Figure 1 shows the relationships between the three variables.

Figure 1 Research Model for the Analysis of Institutional Capital on Trade-Marketing and Environmentally Sustainable Development Policy Making

The research model proposed here for the analysis of trade and marketing activities using the framework of the North American Free Trade Agreement (NAFTA) is based on the study of relationships of cooperation and conflict as critical components of institutional capital. These variables have a relevant impact on environmental sustainable development policy making.

Trade-marketing and sustainable development: A dialogical relationship of cooperation and conflict

Now, we are going to assess the relationship between trade-marketing and sustainable development on the basis that both variables have a dialogical relationship of cooperation and conflict.

Trade and marketing

Enterprises that have similar structures for cooperation have different behaviors, however, they have the opportunity to complement each other's resources, capabilities, marketing, entrepreneurship, etc. Under cooperative strategies, these enterprises can face competitive industrial

threats that can be used to achieve innovation, capability building, competitive advantages and better positioning. Innovation includes not only the technical but also the administrative, commercial and marketing activities of a new or improved process, product and commercial use (Freeman, 1995).

The incremental improvement and radical or disruptive changes of industrial innovation involves the commercialization and marketing of technological change, including small-scale changes in technological know-how ''disruptive'' innovation (Rothwell and Zegveld, 1985). The relationships and interactions between the countries in the field of trade expand to the production and marketing of goods and services allowing for the optimal use of natural resources in accordance with the aims of sustainable development, seeking to protect and preserve the environment consistent with the needs and concerns of current and future generations.

Trade affects the structures of production, exchange and consumption activities which may impact and negatively affect the environmental sustainability across countries. Developing countries are required to develop capacities in marketing rules and norms, negotiation, knowledge brokering to design and shape the interactions between trade and environmentally sustainable policies and maintain external legitimacy in front of other organizations. National negotiation capacity should be increased based on trade principles and environmentally sustainable development policies.

Free trade regimes have a limited role in the normative approach to environmental sustainability (Trujillo, 2013). NAFTA has focused on the enforcement of national regulations while the European Union relies more on policy coherence and cooperation between the trade partners. NAFTA institutions influence trade and environmental sustainability policies by taking into consideration that country members defer their authority based on expertise, social network and institutional memory (Jinnah, 2010). NAFTA institutions influence trade and environmental sustainability politics by legitimizing the strategic marketing practices and technical knowledge brokerage and attempting to level the development between countries (Jinnah, 2010).

The marketing approach to the interaction between trade and environmentally sustainable development is subject to the expertise and social networks involved (Jinnah, 2010). Marketing organizational rules and norms in NAFTA to frame, design and shape access to memberships of NGOs is an important activity to spread understanding of the implications between trade and environmental sustainability (Jinnah, 2010).

The guidelines approach of minimum standards for health, safety and hazardous products regulate and establish international rules for marketing control (Micklitz, 2000). NAFTA regulations on the local production of drugs, promotion of traditional medicines, personal training, and compliance of manufacturers' marketing and promotional efforts with public health objectives were considered irrelevant (Harland, 1987, pp. 257-258; Merciai, 1986, p. 217). NAFTA should market regulations, norms, and practices on the health benefits of products through direct participation in cross border exhibitions, fairs, expositions and other events.

One good example of the use of marketing techniques in trade under the framework of NAFTA and its implications on environmentally sustainable development is the analysis conducted by Rodriguez Diaz (2012) of the Canadian and Mexican dairy producer corporations. Agropur is a dairy producer cooperative company from Quebec with more than 4 cooperative members in 21 plants in Canada and the United States (Industry Canada, Agropur's Profile, 2005).

Agropur uses a direct marketing combined with techniques strategy. Direct Marketing is a form of advertising used for business communication straight to the consumer without using

traditional channels while indirect marketing uses relational marketing techniques and social networks (Kotler et al., 2008). Agropur exhibits a matrix-kind of democratic structure that is concerned with performance practices and proactive marketing companies as suggested by the National Milk Marketing Plan and influenced by other transnational corporations (Rodriguez Diaz, 2012).

Mexican cooperative, Grupo Lala, produces, processes and distributes dairy products with a wide network through the Mexican territory using an innovative direct technique in processes and products that sometimes do not meet the needs of consumers. On the other side, the flow of information and knowledge processes, product and service innovation through experience sharing and marketing techniques are some strengths of Grupo Lala.

The strategic marketing techniques of both companies, Grupo Lala and Agropur are aimed to fulfill the different segments of consumers of the Mexican market. Some of these strategic marketing techniques use marketing strategic alliances, joint ventures, acquisitions and consortia, which mainly initiates change for manufacturers, suppliers, distributors, customers, etc. (Urban and Hauser, 1993).

Processing and manufacturing of primary agricultural products in marketing theory are perceived as product differentiation in marketing and trade (Harris, 1984; Hertel, 1994). Food processing sectors are characterized as oligopolistic in the North American market combining the strategies of product differentiation, endogenous price mark-ups and freedom of exit-entry (Harrison, et al., 1995). Both Canadian and Mexican dairy transnational companies do not use direct marketing techniques influenced by the environment to foster regional and local dairy market developments to be competitive. Agropur is influenced by the competence of Kraft and Saputo while Lala is influenced by Danone and Nestlé in order to remain competitive.

The international marketing regulations on product safety aimed to establish control of hazardous products to protect consumers against production and marketing have not been undertaken. Marketing regulations and rules in NAFTA must be robust to involve commodities distinct in production and marketing arrangements and practices on trade and their relationship with environmentally sustainable development. Since the early 1990s, the inter connection between trade and environmentally sustainable development policies have been debated prominently during the negotiations and after that the renegotiations about the North American Free Trade Agreement (NAFTA).

Environmental organizations and groups harshly criticize the marketing approach to trade and environmental sustainability concerns, claiming that more transparency and accountability is needed by facilitating open access to the public information through digital, conferences and printed outlets. A process of transparency and accountability that makes information accessible to all the economic agents and to the public, and is promoted by institutions of NAFTA increases the institutional capital. Other actions to increase transparency are to market rules, norms, practices, activities, etc., through direct participation of economic agents and the general public in events.

NAFTA must continue working in marketing organizational regulations, rules and norms related to the interaction between trade and environmental sustainability opening to critical access to frame and shape policies to broader public understanding (Weiler, 2001, 14–15. 66. Hudec, 1999). The role of the NAFTA member countries in marketing the regulations, rules and norms to other organizations, as well as the negotiations and brokerage are critical activities to develop and maintain legitimacy through the design, shaping and sharing of the relationships and interactions between trade and environmental policy developments.

Unfortunately, there is a lack of clarity and explicit provisions to regulate the side effects of interactions between marketing regulations in trade and environmentally sustainable development. However, international organizations engaged in developing global marketing strategies have developed eco-label regulatory schemes to identify the product's impact on the environment based on the life cycle and provide information to consumers about the environmental quality.

Thus Trade and marketing are both critical for exchange activities of products and services which in turn are relevant for the economic growth, social development and environmental sustainability of the countries that are members of the new brand United States, México and Canada agreement.

Environmentally sustainable development

Global, transnational, regional and national regulatory regimes are converging in harmonization of actions in international standards in trade and environmental sustainability, leaving less important roles to the States in the creation and enforcement of rules. The States are the most important institutions of global society who legitimize trade and environmentally sustainable development regulations through international organizations, conference and meetings, etc. (Kabblers, 2013). Global forces of markets have increased their influence on the interaction between trade and environmental sustainability while local forces have decreased as markets have become more open. Even under conditions of less open market, the economic agents follow the global signals.

The emergence of a global and international administrative space for interactions of trade and environmental commissions involve both domestic and international organizations and institutions, inter-governmental organizations, transnational networks, and coordination arrangements, all of which give rise to concerns about transparency and accountability (Krisch and Kingsbury, 2006). An international regime of a free trade agreement does require that the trade and environmentally sustainable development regime have a formal organization in order to exist. Strategic choice across different national market domains on trade and environmental sustainability issues must take into consideration differences in natural resource endowments, geographic factors, infrastructure, etc.

The free trade agreements have a normative role in environmental sustainability. The approach of NAFTA to trade-environment is more normative than practical and overlaps management interaction with environmentally sustainable development issues internally, informally and quite limited. The Mexican government implemented NAFTA to stimulate sustainable development. The Mexican sustainable development is a guideline of the operation of free trade agreements aimed at the optimal use of natural resources and seeks to protect and preserve the environment. NAFTA is slowly shaping the relationship trade-environment politics, which is becoming increasingly relevant and contributes to organizational legitimacy by setting the regulations, norms and processes.

Trade regimes are developing trade judicial and administrative capacities in trade adjudication and the creation of centralized bodies to deal with and manage the relationships and interactions in cross-fertilization between trade and environment. However, centralization of a sided agreement to regulate the implications of trade on environmentally sustainable development under the authority of the free trade agreement leads to decision making that is prone to political deadlock and difficulty in adaption and correction.

The administrative and judiciary functions of NAFTA grapple with trade jurisprudence to better accommodate domestic policies to address sustainable development and to develop green economy policies and strategies. Administrative and adjudicatory functions of free trade agreements should grapple with trade jurisprudence that may better accommodate for domestic policies intended to address sustainable development concerns, other international organizations are engaging in developing global strategies for sustainable development.

The concept of sustainable development has been accepted since the mid 80's when in Rio Declaration on Environment and Development declared that human beings are entitled to a healthy and productive life in harmony with nature. An important advancement in these subjects has been to identify the relationships between trade and environmental measures and to identify the linkages between trade and sustainable development to promote environmentally sustainable development and formulate policies to encourage precatory approaches.

The principle of sustainable development is incorporated in the free trade agreements in order to achieve a balance between economic and non-economic rights and concerns of current and future generations. Furthermore, it has become relevant to analyze social issues and implement policies that may intersect with trade and sustainable development, protection and preservation of natural resources and to address climate change concerns. Also, the linkages between trade principles, economic growth, sustainable consumption, social issues, climate change concerns and environmentally sustainable development must need to be promoted and raise awareness by policy-makers at domestic and regional levels.

Fertilizations of cross-border trade and environmental sustainability issues enhance the collaboration among the nations involved in the free trade agreement toward more green and clean domestic economies. According to Trujillo (2013) the dialogical approach highlights the adjudicatory and administrative capacities of the trade agreement and the fragmented nature of trade governance.

The dialogic approach provides a nonhierarchical framework for the analysis of interactions between trade and environmental sustainability issues. Trujillo (2013) uses a dialogical approach to frame trade governance and to explain the adjudicatory and administrative functions in cross-fertilization between trade and environmental sustainability issues towards a convergence between domestic and global environmental and trade regulations. International organizations may support convergence with the States through different forms of cooperation in the development and implementation of trade and environmentally sustainable development regulations. The manner in which trade regimes deal with environmental policies influences the link of economic development with sustainable development.

There is an increasing convergence among these variables that may lead to a model of sustainable development. The emerging regime is one of furthering trade principles with green economic growth and environmentally sustainable development goals. The thesis of convergence and inevitability is a polity theory developed by Wittrock (2000), who argues that modernity is a global condition affecting all actions, interpretations and habits across nations. These dynamics allow cross-fertilization of environmentally sustainable development concerns into cross-border trade negotiations. Fragmentation in trade adjudication is relevant to analyze cross-fertilization between trade and environmental sustainability issues. The cross-fertilization processes between cross-border trade and environmental sustainable issues incorporate domestic regulations on this subject into the legal free trade agreement framework to recognize its legitimacy. Non-state parties' participation in the trade framework enhances cross-fertilization and dialogue among the different parties. The free

trade agreement itself has provided a forum for a jurisdictional regime through adjudicatory processes in a regional arrangement in interaction with the trade agreement and recognizing the cross-border trade and environmental sustainability relationships. It may be argued that the free trade agreement may not be the correct forum to resolve issues on environmental sustainability, despite the impacts that they have on cross-border trade.

NAFTA was the first free trade agreement to incorporate trade concerns into environmental sustainability issues through the formalization of NAAEC. NAAEC has an adjudicatory mechanism to claim environmental sustainability disputes although it is not being used at all. NAFTA involves complex exchange relationships of trade and environmental sustainability issues between the three countries which involve cross-border supply chains and technological changes. This mechanism has been useful in cross-fertilization processes of environmental and trade concerns. This process of cross fertilization between trade and environmental sustainability issues within the NAFTA trade jurisdiction has an impact on the convergence of national regimes.

Under the assumption that not all countries and regions have developed the same capacities to integrate due to the interactions of local-global forces and economic, political, social, geographical differences, infrastructure and production regimes. Country members of NAFTA have developed some limited capacities for domestic networks of institutions and organizations across trade and environmental sustainability concerns. Nevertheless, the magnitude of these influences may change over time.

Recent developments in sustainable development elements indicate that it plays a relevant role in investment policies. However, what is the best for investment regimes is not always good for trade and environmental sustainability and development. The free trade agreement is based on the assumption that free trade and investment must guarantee sustainable development for the participating countries. Foreign investments and international cooperation for economic development are relevant and have a positive impact on the sustainable development of the host country. Policy making on sustainable development has emphasized the role of foreign investment.

Sustainable development is the main objective of foreign investment policy making of any country to achieve integration and balance of economic, social and environmentally sustainable development aimed at common interests between the home and host countries. Host countries should not consider foreign investment as a barrier considering that they play a relevant role in enacting environmental regulations for sustainable development. Sustainable development has been universally accepted as a common objective for contracting parties to meet the needs of capital-importing states and the needs of economic, social and environmentally sustainable development of host states. In response to various challenges, recent investment agreements promoted by the States places greater emphasis on preserving the regulatory capacities of host states to pursue environmentally sustainable development as public welfare objectives.

The relationships between advocating foreign investment, trade and sustainable development should be emphasized and balanced with the pursuits of economic growth objectives through environmentally sustainable growth. Free trade agreements may directly impose foreign investment national regulations upon sustainable development. Furthermore, policymaking includes foreign investment and international governance for sustainable development and integration of investment policies. NAFTA's Environmental Side Agreement began to direct attention to the relevance of an agenda for foreign investment and sustainable development. The best endeavor clause does not impose proper substantive obligations upon contracting parties but the right to adopt, maintain and

enforce measures considered appropriate to ensure sensitive investments to environmentally sustainable development concerns. Besides, the parties may consult each other.

NAFTA should contribute to the sustainable development of the countries. Foreign investment policy for sustainable development should be aligned with investment for inclusive economic growth, social issues and environmental concerns. Foreign investment policies in host countries must be aligned and integrated with its sustainable development strategy. Protection of foreign investment should not hinder the power of the host state to regulate public interests for public health, safety, social issues and environmentally sustainable development concerns. Passive action of host states reduces the operation costs of foreign investments and cannot claim rights.

However, the administrative capacity has allowed some overlaps between public and private rights of action when considered as a dynamic regime. This overlapping between public and private rights of action is illustrated with the conflict between the United Mexican States and the Corn Products International. Other trade disputes resulted in negotiations and dealings with the environmentally sustainable regulations. The economic, social and political capacities of safety nets for trade and environmental sustainability across countries are influenced by dependent and interdependent interactions in international negotiations, public outreach and dispute settlements among the parties.

Complex economic, social and political changes initiated during the 1980s in Mexico had an impact on the economic organization and social structure of rural development and rural livelihoods. Despite the fact that rural communities were strained, corn persists as the main crop of livelihood strategy (de Janvry, Sadoulet, and de Anda, 1995; Eakin et al., 2014; Wiggins et al., 2002). Regional cross-border integration in agriculture under the trade framework of NAFTA is provided by the cross-border cattle trade. The disruption of the process of integration of the red meats industry occurred across borders (Veeman, 2017).

This situation has created some concerns for Mexicans regarding food security and food sovereignty. Food security is considered the permanent supply of 'basic and strategic staples' for the population and 'food sovereignty' is the priority accorded to national production for supplying the staples, according to the Mexican Law of Rural Sustainable Development (December 2001) (Cámara de Diputados, 2003: 96). The environmentally sustainable development policy and strategy may be implemented by voluntary schemes through business, non-governmental organizations and local communities to improve performance.

Environmental sustainable development is being considered in the renegotiated NAFTA, now under the acronymic Unites States, Mexico and Canada, as an important and critical issue for the development of commercial exchanges. In fact, the new agreement proves the importance that the institutional capital already created and developed has been essential for the renegotiations of the new agreement.

4. Conclusion

The critical analysis of the implications that the relationships of cooperation and conflict have in building the institutional capital capacity as developed through the existence of the North American Free Trade Agreement, which is severely questioned by its country members, reveals that it has positive effects on trade and marketing activities. However, the interaction of the relationship between trade-marketing activities with environmentally sustainable development proves to be highly contentious and conflictive, although some developments are proving to be positive.

A strategic future definition of NAFTA requires more structural flexibility, not only in regards to regulations, but also in developing capabilities by considering the specific environments of each involved country. The combination of capabilities and regulations are necessary to develop new forms of association, such as the horizontal alliances.

Institutional capital development in NAFTA may increase the opportunities to improve the relationships of cooperation, the exchange and interaction between the three nations and among the main economic agents in specific areas of market development, trade operations and environmentally sustainable development. Lowering transaction costs of the trade operations and enforcing sanitary and phytosanitary concerns are only two issues to take care of.

References

Acemoglu, D., Robinson, J. (2008), The Role of Institutions in Growth and Development, Working Paper, N° 10, Washington: The International Bank for Reconstruction and Development/World Bank, Working Paper Series, 30 pages.

Ahrens, J. and Jünemann, P. (2009). Adaptive efficiency and pragmatic flexibility: characteristics of institutional change in capitalism, Chinese-style ||, Unpublished Paper, [online], available at http://www.centralasiaproject.de/index.php?option=com_docman&task=doc_download&gid=32&&Itemid=7.

Ahsan, S. M. (2003) Institutional Capital and Poverty: A Transition Economy Perspective, in A. Shorrocks and R. van der Hoeven, Eds. Perspectives on poverty and growth. United nations University Press.

Ashby, C. & Carney, D. (1999). Sustainable livelihoods: lessons from early experience. London, UK, Department for International Development. Cited by Warner 2000.

An Chen (2013). The Voice from China: An CHEN on International Economic Law Verlag Berlin Heidelberg: Springer, 2013 207–239.

Bajenaru, V. (2004). Le mimétisme institutionnel et la croissance économique en Roumanie : une transition à deux vitesses, Bruxelles, XLème Colloque de l'Association de Science Régionale De Langue Française (ASRDLF), Unpublished Paper, http://www.ulb.ac.be/soco/asrdlf/documents/Bajenaru1_001.pdf.

Barley, S. and Tolbert, P. (1997), Institutionalization and Structuration: Studying the Links between Action and Institution, in: Organization Studies, Vol. 18, pp. 93–117.

Bénédique P. (2009). Institutional capital: A new analytical framework on theory and actions for economic development. Presented for the first time at the 7th Development Dialogue, at the International Institute of Social Studies (ISS). June, 2-3, 2009, in The Hague, The Netherlands.

Besharov, M.L. and Smith, W.K. (2014) Multiple Institutional Logics in Organizations: Explaining Their Varied Na- ture and Implications. Academy of Management Review, **39**, 364-381. http://dx.doi.org/10.5465/amr.2011.0431.

Bezanson, K. (2004). Global Public Goods: some key questions, in T. Bigg (ed.). Survival for a Small Planet – the sustainable development agenda, London, Earthscan, 67–73.

Bossier, S. (2003). Desarrollo territorial y descentralización. Lima.

Bourdieu, P. (1972), Esquisse d'une théorie de la pratique, Genève : Droz, (new edition in Paris : Seuil, coll. Points Essais, 2000, 429 pages).

Bresser, R. and Millonig, K. (2003). Institutional Capital: Competitive Advantage in Light of the New Institutionalism in Organization Theory. Schmalenbach Business Review, 55.

Bruell, L. (2005) Institutional Capital: Building Post-Communist Government Performance. University Press of America, Lanham.

Brunell, L. (2005) Institutional Capital: Building Post-Communist Government Performance. University Press of America.

Cámara de Diputados (2003). Compilación de leyes para el campo, México, El campo no aguanta más (2002), 'Seis propuestas para la salvación y revaloriza- ción del campo mexicano', mimeo (12 organizations signing), November.

Chen, Z.W. (2008) Why Hard-Working Chinese People Are Not Wealthy. CITIC Press, Beijing.

Child, J. and Marinova, S. (2014) The Role of Contextual Combinations in the Globalization of Chinese Firms. Man- agement and Organization Review, **10**, 347-371. http://dx.doi.org/10.1111/more.12073.

de Janvry, A., Sadoulet, E., and de Anda, G. G. 1995. NAFTA and Mexico's maize producers. World Development 23:1349–62. Johnson, D. G. 1975. World agriculture, commodity policy, and price variability.

Eakin, H., Perales, H., Appendini, K., and Sweeney, S. 2014. Selling maize in Mexico: The persistence of peasant farming in an era of global markets. Development and Change 45:133–55.
Eggertsson, Thrainn. (1990). Economic Behavior and Institutions. Cambridge, Cambridge University.

Evans, B. et al. (2006), Governing local sustainability, Journal of Environmental Planning and Management, Abingdon: Nov 2006, vol. 49, n° 6, pp. 849-867.

Fedderke, J. W. & Luiz, J. M. (2008), Does human capital generate social and institutional capital? Exploring evidence from South African time series data, Oxford Economic Papers, vol. 60, n° 4, pp. 649-682.

Finnemore, M. & Sikkink, K. (). International Norm Dynamics and Political Change, 52 INT'L ORG.

Freeman, C. (1995). The 'National System of Innovation' in historical perspective. Cambridge Journal of Economics, 19(1), 5–24. Garsten, C., & Grey C. (2001). Trust, control and post-bureaucracy. Beverley Hills: Sage Publishing (EUA).

Furubotn, E. G.; Richter, R. (1997). Institutions and Economic Theory – The Contributions of the New Institutional Economics. Ann Arbor, The University of Michigan Press.

Gao, Y., Gao, S. and Zhou, Y. (2015) Picturing Firms' Institutional Capital-Based Radical Innovation under China's Institutional Voids. Journal of Business Research, **68**, 1166-1175. http://dx.doi.org/10.1016/j.jbusres.2014.11.011.

Gatzweiler, F. W.; Judis, R.; Hagedorm, K. (eds.). (2002). Sustainable Agriculture in Central and Eastern European Countries – The Environmental Effects of Transition and Needs for Change. Institutional Change in Agriculture and Natural Resources 10, Proceedings of the ACE Phare seminar, Aachen.

Garrabé, M. (2008), Note sur l'existence du capital institutionnel, Unpublished Paper, Workshop University of Montpellier 1 and Sherbrook University, June, 23-24, 2008, 24 p. http://www.michel-garrabe.com.

Garrabé, M. (2007), Economie sociale et développement, Programme MED-TEMPUS, 220 pages, http://www.formder.iamm.fr.

Greenwood, D. T., Holt, (2008), Institutional and Ecological Economics: The Role of Technology and Institutions in Economic Development, Journal of Economic Issues, Vol. 42, No. 2, pp. 445-452.

Harland, D. (1987). Some international dimensions of consumer policy and law. Journal of the Indian Law Institute, 29, 451-467.

Harris R G (1984) AppUed General Equilibrium Analysis of Small Open Economies with Scale Economies and Imperfect Competition, American Economic Reirieiv, 74, 1016-1032.

Harrison G W Rutherford T F and Tarr D G (1995)'Quantifying the Uruguay Round', in Martin W and Winters L A (eds). The Uruguay Round and Developing Economies, World Bank discussion paper 307.

Hertel T W (1994) The Procompetitive Effects of Trade Policy Reform in a Small Open Economy', Journal of International Economics, 36, 391-411.

Hodgson, G. M. (2006), What are institutions? Journal of Economic Issues, vol. 40, n° 1, March 2006. pp. 1-25.

Hoff, K. and Sen, A. (2005) The Kin System as a Poverty Trap? World Bank Policy Research Working Paper, 3575.

Huang, M.L. and Cao, L.H. (2016) The Relationship between Institutional Capital and Competitive Advantage: Literature Review and Future Research. Open Journal of Business and Management, 4, 94-104. http://dx.doi.org/10.4236/ojbm.2016.41011.

Hudec, R. (1999). New WTO Dispute Settlement Procedure: An Overview of the First Three Years. Minnesota Journal of Global Trade 8 (1): 1–53.

Industry Canada, Agropur's Profile. (2005). Canadian company capabilities [online]. http://strategis.ic.gc.ca/app/ccc/search/navigate.do?language=eng&portal=1&estblmntNo=131336240000&profile=complete Profile.

Jackson, G. and Deeg, R. (2008) Comparing Capitalisms: Understanding Institutional Diversity and Its Implications for International Business. Journal of International Business Studies, **39**, 540-561. http://dx.doi.org/10.1057/palgrave.jibs.8400375.

Jinnah, S. (2010). Overlap Management in the World Trade Organization: Secretariat Inouence on Trade-Environment Politics. Global Environmental Politics 10:2, May 2010.

Kaji, G. S. (1998). Institutions in Development: the Country, Research, and Operational Challenges. In R. Picciotto and E. Weisner (eds.), Evaluation and Development: The Institutional Dimension. World Bank, Washington, D.C., pp. 3-6.

Klabbers, J. (2013). Unity, Diversity, Accountability: The Ambivalent Concept of International Organisation, Melbourne Journal of International Law 149 (2013), at 152.

Kotler, P., Armstrong, G., Wong, V., & Saunders, J. (2008). Principles of marketing. Prentice Hall: Pearson.

Krisch, N. and Kingsbury, B. (2006). Introduction: Global Governance and Global Administrative Law in the International Legal Order, European Journal International Law 17 (1) (2006).

Lan, H.L. and Pi, S.L. (2011) On Strategic Choices of Chinese Corporation under Dual-Condition of Economic Globalization and Market Fragmentation. Journal of Management, 8, 1107-1114.

Lin, N. (2005) Social Capital: A Theory of Social Structure and Action. Century Press, Shanghai.

Long, Y.A. (2013) An Empirical Study of the Effect of Non-Market Factors on China's Overseas Direct Investment. International Economics and Trade Research, **7**, 8.

Lounsbury, M. and Glynn, M.A. (2001) Cultural Entrepreneurship: Stories, Legitimacy, and the Acquisition of Re- sources. Strategic Management Journal, **22**, 545-564. http://dx.doi.org/10.1002/smj.188.

Loureau, R. (1972), L'Analyse Institutionnelle, Paris, Les Editions de Minuit, (Arguments), 298 pages.

Lu, Y., Zhou, L., Bruton, G. and Li, W. (2010) Capabilities as a Mediator Linking Resources and the International Performance of Entrepreneurial Firms in an Emerging Economy. Journal of International Business Studies, 41, 419- 436. http://dx.doi.org/10.1057/jibs.2009.73.

Mamoon, D. (2007), Good Institutions and Fair Trade: A Road Map to Local and Global Social Harmony, Working Paper, n° 450, Institute of Social Studies, The Netherlands.

Mamchur V.A (2016) Institutional capital as a development construct of the agrarian market. Ekonomika APK. – 2016. – No 5. – P. 93.

Marshall, A. (1963). Principios de Economía: un tratado de introducción. Madrid, Editorial Aguilar, 1963.

Martin, X. (2014) Institutional Advantage. Global Strategy Journal, **4**, 55-69. http://dx.doi.org/10.1111/j.2042-5805.2013.01072.x.

Martinez, R.J. and Dacin, M.T. (1999) Efficiency Motives and Normative Forces: Combining Transactions Costs and Institutional Logic. Journal of Management, **25**, 75-96. http://dx.doi.org/10.1177/014920639902500104.

Merciai, P. (1986). Consumer protection and the United Nations. Journal of World Trade Law, 20, 206-231.

Meyer, J. & Rowan, B. (1977). Institutionalized Organizations: Formal Structure as Myth and Ceremony, 83 AM. J. SOC. 340, 340 (1977).

Meyer, J.W. and Rowan, B. (1977) Institutionalized Organizations: Formal Structure as Myth and Ceremony. Ameri- can Journal of Sociology, 83, 340-363. http://dx.doi.org/10.1086/226550.

McGranahan, G.; Satterthwaite, D. (2004). Striving for Good Governance in Urban Areas: the role of lo- cal Agenda 21s in Africa, Asia and Latin America, in T. Bigg (ed.). Survival for a Small Planet – the sustainable development agenda, London, Earthscan, 121–134.

Micklitz, H. W. (2000). International Regulation on Health, Safety, and the Environment - Trends and Challenges. Journal of Consumer Policy 23: 3-24, 2000.

Miller, D. (1996), Commentary: The Embeddedness of Corporate Strategy: Isomorphism vs. Differentiation, in: Advances in Strategic Management, Vol. 13, pp. 283–291.

NAAEC (1993). North American Agreement on Environmental Cooperation, Sept. 14, 1993, 32 I.L.M. 1480, reprinted in The Nafta Supplemental Agreements (United States Government Printing Office ed., 1993) [hereinafter NAAEC].

North, D. (1995). Instituciones, cambio institucional y desempeño económico. México, Fondo de Cultura Económica, 1995.

North, D. (1995). Institutions, institutional change and economic performance. Cambridge: Cambridge University Press.

North, D. (1991). Institutions, Journal of Economic Perspectives, Vol. 5, n° 1, pp. 97- 112.

North, D. (1990), Institutions, Institutional Change and Economic Performance, Cambridge University Press, 159 pages.

North, D. C. (1981). Structure and Change in Economic History. New York and London, W.W. Norton.

Oliver, C. (1997), Sustainable competitive advantage: Combining institutional and resource- based views. Strategic Management Journal, Vol. 18, pp. 697-713.

Parto, S. (2005). "Good" Governance and Policy Analysis: what od institutions? Maastricht, MERIT – Info- nomics Memorandum Series 2005/001, Maastricht University.

Parto, S. (2003). Sustainability abd the Local Scale: squaring the peg? Maastricht, MERIT – Infonomics Memorandum Series 2003/017, Maastricht University.

Platje, J. (2008a). Institutional capital as a factor of sustainable development - the importance of an institutional equilibrium, Technological and Economic Development of Economy, 14:2, 144-150 http://dx.doi.org/10.3846/1392-8619.2008.14.144-150.

Platje, J. (2008b). An institutional capital approach to sustainable development, Management of Environmental Quality: An International Journal, Vol. 19 Issue: 2, pp.222-233, https://doi.org/10.1108/14777830810856609.

Platje, J. (2004[a]). Institutional Change and Poland's Economic Performance since the 1970s – incentives and transaction costs. Wrocław, CL Consulting i Logistyka.

Platje, J. (2004b). An Analysis of Trends and Requirements for the Development of Sustainable Agriculture in Poland, in Leal Filho, W. (ed.). Ecological Agriculture and Rural Development in Central and Eastern Europe – NATO Science Series V: Science and Technology Policy, Vol. 44, Amsterdam, IOS Press, 15–37.

Portes, A., & Landolt, P. (1996). The downside of social capital. The American Prospect Online, 7 Retrieved , from www.prospect.org/print-friendly/print/v7/26/26-cnt2.html.

Raiser, M. (1999). Trust in transition. EBRD Working paper No 39, London.

Raiser, M. (1997). Informal institutions, social capital and economic transition: reflections on a neglected dimension. EBRD Working paper, No 25. London.

Raiser, M.; Haerpfer, C.; Nowotny, T.; Wallace, C. (2001). Social capital in transition: the first look at the evidence. EBRD Working paper, London No 61.

Reihlen, M., Smets, M. and Veit, A. (2009) Management Consultancies as Institutional Agents: Strategies for Creating and Sustaining Institutional Capital. Academy of Management, **1**, 1-6. http://dx.doi.org/10.5465/ambpp.2009.44247397.

Rodriguez Diaz, A. J. (2012). Transferring knowledge in Quebec–Mexico partnerships: the case of the dairy industry. J Technol Transf (2012) 37:631–647 DOI 10.1007/s10961-010-9197-0.

Rothwell, R., & Zegveld, W. (1985). The process of technological innovation: Patterns and influences. In Reindustrialization and technology (Chap. 2, pp. 47–82). Harlow, England: M.E. Sharpe Inc. 282.

Schultz, T.W. and Theodore, W. (1968) Institution and the Rising Economic Value of Man. American Journal of Agri- cultural Economics. http://dx.doi.org/10.2307/1237297.

Scott, W.R. (1995) Institutions and Organizations. SAGE Publications, Thousand Oaks.

Shi, M.F. and Ke, W.G. (2000) Institutional Economics. Commercial Press, Beijing.

Strang, D. & Meyer (1993). Institutional Conditions for Diffusion, 22 THEORY AND SOC'Y, 487 (1993).

Trebilcock, M. (1996), What Makes Poor Countries Poor? The Role of Institutional Capital in Economic Development, Berkeley Olin Program in Law & Economics, Working Paper Series, http://ideas.repec.org/p/cdl/oplwec/1149.html.

Trujillo, E. (2013). A dialogical approach to trade and environment. Journal of International Economic Law, 16(3), 535-585. doi:10.1093/jiel/jg;t019.

Vicencio Meza, J. A. (2009). Capital Institucional y Desarrollo Económico: Una aproximación a la relación normativa-conductual en comunidades extranjeras. Empresarios Judíos en Chile. 1930-1970. Seminario de Grado Licenciado en Historia "Reglas, capacidades y redes en el desempeño económico De familias judías en Chile: 1930-2009" Universidad de Chile Facultad de Filosofía y Humanidades Departamento de Ciencias Históricas.

UN (2002). UN Report of the World Summit on Sustainable Development, Johannesburg, South Africa, Aug. 2002, available at http://www.unmillenniumproject.org/documents/131302_wssd_report_reissued.pdf.

Urban, G. L., & Hauser, J. R. (1993). New product strategies, chapter 2, design and marketing of new products (2nd ed., pp. 17–34). NJ, Prentice Hall: Englewood Cliffs.

Veeman, M. (2017). Keynote address. North American Trade Policy for Agriculture and Forestry: Can Economics Trump Politics? Canadian Journal of Agricultural Economics 65 (2017) 43–68 DOI: 10.1111/cjag.12135.

Wainio, J., Young, L. M. And Meilke, K. (2003). Trade Remedy Actions in NAFTA: Agriculture and Agri-Food Industries. World Economy · February 2003. Pages 1041-1065. DOI: 10.1111/1467-9701.00562.

Weiler, J. (2001). The Role of Lawyers and the Ethos of Diplomats: Reoections on the International and External Legitimacy of WTO Dispute Settlement. Journal of World Trade 35 (2): 191–207.

Wiggins, S., Keilbach, N., Preibisch, K., Proctor, S., Herrejón, G. R., and Muñoz, G. R. 2002. Discussion—Agricultural policy reform and rural livelihoods in central Mexico. Journal of Development Studies 38:179–202.

Wilkinson, T. and Brouthers, L.E. (2006) Trade Promotion and SME Export Performance. International Business Re- view, 15, 233-252. http://dx.doi.org/10.1016/j.ibusrev.2006.03.001.

Williamson, O. E. (1985). The Economic Institutions of Capitalism. New York, Free Press.

Wittrock, B. (2002) Modernity: One, None, or Many? European Origins and Modernity as a Global Condition, 129 DAEDALUS 31, 59 (2000).

Yang, Z. and Su, C. (2014) Institutional Theory in Business Marketing: A Conceptual Framework and Future Direc- tions. Industrial Marketing Management, 43, 721-725. http://dx.doi.org/10.1016/j.indmarman.2014.04.001.

Yang, F. and Wang, H.S. (1997) Social Research Methods. Peking University Press, Beijing.

Zhang, J.W. and Wang, Y.J. (2010) Evaluation and Future Prospects for Competitive Advantage and Evolution. For- eign Economics and Management, 3, 1-10.

Zenou, Y. (2009). Urban Labor Economics, Cambridge: Cambridge University Press.

Process-Based Relational View: A Framework for Buyer-Supplier Interfaces

by

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Abstract

Buyer-supplier relationships and the interaction between the two parties have long been a popular topic of industrial marketing and purchasing. Despite the rich body of literature on the related topics, special focus on process-based relational view could be a new perspective which finally might lead to new findings. The purpose of this paper is to develop a process-based framework for buyer-supplier interfaces from a dyadic perspective, which is based on the interaction approach of Industrial Marketing and Purchasing Group (IMP), and complemented by transaction cost theory. It is argued that the sourcing process and the marketing process on each side of the buyer-supplier interface are interactive, where each step of the processes is being done in sync. This interaction is then illuminated, with focus on the sourcing process from the buyer side. The paper integrates the relational view into the investigation of sourcing process, discusses the interaction along a commonly defined sourcing process, and derives propositions concerning the strategic interaction, interaction degree and impacts of buyer-supplier relationships on the sourcing process.

Keywords: Buyer-Supplier Interfaces, Interaction, Buyer-Supplier Relationship, Sourcing Process

1. Introduction

Buyers and suppliers who pursue the maximization of their interests in the market, are interdependent in the business network. The interaction and relationship between buyer and supplier are widely discussed both by academics and by practitioners. This paper provides a process-based view to investigate the interactions between buyer and supplier, and to develop a framework for buyer-supplier interfaces which concretizes the abstract notions "interaction" and "relationship" within the tangible sourcing process.

Here, sourcing and marketing mirror each other in terms of their processes [1]. Sourcing and marketing process are interactive. The interactions at buyer-supplier interfaces can be traced back to the transactional relationships and profit expectations of buyers and suppliers, result in long-term buyer-supplier relationships, and are extended and intensified under these reciprocal relationships.

Most of the interaction research has a marketing orientation and research on the sourcing side is relatively sparse [1]. The relevance of investigating the sourcing process/behaviour from an interactive perspective is recognized and appealed for by many academics [2]. This framework focuses intentionally on the buyer side.

2. Interfaces, Interaction, and Relationship

Before analysing buyer-supplier interfaces more deeply, it is necessary to elaborate on the related underlying notions, such as interfaces, interactions, and relationships.

Buyer-supplier interfaces can be understood as the "point" where buyers and suppliers "meet" each other and "interact". This is a relatively abstract concept, and can be reviewed to an analogy to computer science, electronics etc., where the notion of an interface is used very frequently. In computer science, interfaces occur between two systems, which, despite their idiosyncrasies, can connect, interact and exchange information [3]. Moreover, user interfaces between humans and machines can be traced to the field of computer science [4]. The industrial market and supply chains within are constituted by numerous different interfaces, where buyers and suppliers align themselves through interactive and adaptive routines, in order to maximize performance.

Interaction is a series of actions and counteractions between two parties which create interdependencies and affect their behaviours. It has a substantial and physical form, and possesses the characteristics of mutual orientation and commitment, induces the active adaptations between two sides, and takes place in the physical world and affects the physical world [5-7]. Håkansson defined the two participants, interaction process, environment and atmosphere as main elements of an interaction model [8]. Furthermore, the interaction has a nature of continuation, which differs interaction from separate actions with an identifiable beginning and end [7].

The term interaction is commonly used together with the term relationship in academic discussions, especially in IMP literature [1, 2, 8-10]. Håkansson [8] defined two dimensions: interaction episodes (short term) and relationship (long-term), to understand an interaction process. This paper assumes the relationship as a two-party (long-term) relationship and focuses on the organizational business relationship, which is consistent with the relationship understanding of the IMP Group. Håkansson and Snehota [5] defined the relationship as "mutually oriented interaction between two reciprocally committed parties". This definition implicates therefore the reciprocity perspective of the relationship, i.e. the interaction of two internal processes on both sides of a two-party relationship for achieving a win-win situation. The value and development of a relationship depend on the interaction between the two parties. Therefore, a business relationship between two parties can be considered as a chain of actions and counteractions – interaction episodes, and viewed as a result of interaction process [5]. To sum up, interfaces are abstract meeting places of two parties, where the interaction of these two parties take place, while interactions initiate, influence relationships, and are to be understood in terms of relationships.

According to the three layers of substance of the dyadic relationships defined by Håkansson and Snehota: activity links, resource ties and actor bonds [5], buyer-supplier interfaces can be observed in these three dimensions as well. Activity and actor interfaces refer to how it happens (interacts) and who performs interactions at the interfaces, while resource interfaces imply the physical nature of interactions and the dyadic resource transfer at the interfaces.

3. Process-Based Relational View

3.1 Development of process-based relational view

Three paradigms can be quoted in former literature in investigating the business relationship: unit paradigm, dyadic (interaction) paradigm and network paradigm [11]. Unit paradigm concentrates on the attitudes within one party, while interaction paradigm focuses on the dyadic relationship between two involved parties. The third approach investigates finally one organization in its environment and observes the organization-environment interfaces. In this paper we analyse the interaction between two parties – the buyer and the supplier – at the interfaces throughout their business process, which can be explained comprehensively by the dyadic paradigm. It is obvious that this objective can not be covered by the unit paradigm. The network paradigm is more adaptable for observing the complexity of the relationships in network. Thus, we choose the dyadic paradigm to achieve our research objective from the dyadic relational view. Furthermore, the advantage of this approach has been examined by many authors [8, 11, 12].

The paper proposes a framework of buyer-supplier interfaces by illustrating the reciprocal behaviour between sourcing and marketing process, especially the interactive behaviour along the sourcing process. The authors understand the process according to Van de Van as a sequence of events that describe how things change over time [13, 14], which implicates a dynamic perspective of the process-based view. In addition to this process understanding, Van de Ven also defines the process in other two ways: (1) as a logic that explains a causal relationship between independent and dependent variables, (2) as a category of concepts or variables that refer to actions of individuals or organizations [13, 14], which are not relevant in context of this paper and will not be followed.

The mechanisms which shape the processes are important analytical aspects of the processual analysis [15]. This framework observes how interactions, as well as the relationships, shape the sourcing and marketing process, which integrate the relational view into the processual analysis, i.e. the process-based relational view. Observing the interactions along the processes as a whole, the sourcing or marketing process can be considered as an interaction process within business relationships [7].

3.2 The process-based relational view in context of established theories/approaches

The process-based relational view is primarily based on the interaction approach of the IMP Group, but is also closely linked to transaction cost theory. The IMP approach integrates interorganizational theory and transaction cost theory with the traditional purchasing and marketing literature. This approach emphasizes the relevance of the reciprocity of inter-company relationships and is used to investigate the business market by focusing on the interaction and interdependency between two companies, rather than on isolated transactions during the exchange process, i.e. sourcing and marketing process. Generally, this approach focuses on the two-party relationships, as this paper does, but also can be applied to a several party relationships [8].

Transaction cost theory is embedded not only in relational view but also in processual analysis and needs to be stressed separately. Transaction cost theory is an underlying theory in the field of business management, since all activities on the market at their natural level are about transaction and transaction is the basic unit of economic analysis [16-18]. Williamson defined uncertainty, frequency and asset specificity as three critical dimensions for characterising transactions [19]. The focus of the transaction cost theory lies in the transaction cost economizing and therefore in efficient coordination

during the transaction process. In the context of the paper, this focus is especially relevant in case of undertaking the certain orientation or adaptation as a kind of coordinating mechanisms.

4. Buyer-Supplier Interfaces From Process-Based Relational View

The statement, "No business is an island", by Håkansson and Snehota (1989) is a basic proposition of the IMP interaction and network approach. All companies are in dependencies or interdependencies. A number of earlier publications highlighted the importance of interfirm relationships as well as of relational view and concludes that the relationships among companies are likely to be complex and long-term [2, 5, 8, 9, 20]. The exchange processes are observed from a relational view and buyer-supplier interfaces are chosen along the process as the focal point of analysis.

In the industrial market there are two kinds of exchange processes among others: the marketing process and the sourcing process, which are facing each other and interacting at the buyer-supplier interface. Each company performs both sourcing and marketing function different counterparts within the supply network and stands in a complex relationship network. However, the interaction investigation is limited firstly to two reciprocal processes, i.e., within the interplay or reciprocity between two processes, since it is believed that the interaction and adaptation of each company can only be fully understood within a clear yet simplified structure of counterparts or relationships, instead of in the whole context of network [9]. However, the derived framework is to be generalized and adapted in more complicated contexts, since the interaction between two processes is a representative part of the complex network.

On one side of the process interface, marketing is market- and customer-oriented and can be understood in the sense of satisfying customer needs. The intention of any marketing business is to create and deliver value to the market at a profit. Anderson and Narus defined marketing as the process of understanding, creating and delivering value [21]. Corresponding to this definition, the marketing process can be divided roughly into four stages: (1) analysing marketing opportunities and target markets, (2) developing marketing strategies, (3) planning marketing programs, and (4) marketing implementing and efforts controlling [22-24]. Transactions can be seen as basic units of the marketing process. According to the understanding of Kotler, each transaction behaviour is aware of reciprocal motive and desires an expected behavioural response from the counterpart [22, 23]. In order to gain the desired response from buyers, the supplier analyses what the buyer expects and how he makes decisions. The supplier then adapts himself and shapes their marketing process to match the buyers' expectations, in combination with their own resources and seeking interests. However, this reciprocal motivation impacts the entire marketing process over time, as well as the interaction. Interactions can be manifested by stimulus-responses to each transaction, but is far more than stimulus-responses. It is also a mutual orientation process and generates an interactive relationship. Today, marketing has shifted from transaction marketing (maximizing the profit on each transaction) to relationship marketing (maximizing a long-term reciprocal relationship) [12, 22]. Suppliers engage in long-term, "win-win" relationships with buyers through a range of interactions along their marketing process, such as developing new products, promising high quality, providing fair price in negotiation, visiting customers etc.

On the other side of the process interface, there is the sourcing process of buying companies. No company on the market possesses all of the resources they need. They must purchase the right resources to realize the company vision. The buyers try to fulfil their objectives through their buyer behaviour, they also need to be aware that the suppliers on the opposite side of the interface are

seeking a certain equivalent through the exchanges [22]. Thus, besides considering what they need to buy in and what the supplier can supply, the buyers must understand how to make the supplier ready to supply. Through a range of negotiations and interactions, the buyer and supplier seek a balance point which satisfies both sides. Moreover, the interests of buyers can not be limited to the separate short-term exchange transactions. To ensure an optimal supply, the buyers must develop reliable sources of supply and maintain good relationships with them [25]. The sourcing process is not only driven by internal mechanisms but also by external mechanisms and is to be observed from both inside-out and outside-in perspective.

5. Process Interaction from Buyer's Perspective

This paper observes the interactions from the buyer perspective and focuses on the interaction throughout the sourcing process. A consensus among sourcing processes can be found in the former sourcing process research [22, 26-32]. In general, the process can be divided into three stages: strategic sourcing planning, sourcing execution, and supplier implementation and monitoring [26, 28, 29]. Strategic sourcing planning refers to the strategic level of the sourcing process, while sourcing execution, and supplier implementation and monitoring are more closely linked to the functional or operational level of the sourcing process. All sourcing steps can be categorized in these three stages, as illustrated in Figure 1.

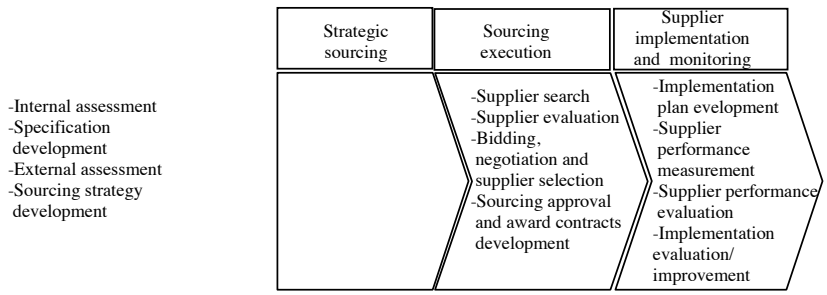

Figure 1: Sourcing Process (based on Monczka et. al. [29], and also on Zeng [26], Trent/Monczka [28])

However, the sourcing steps may vary in different companies, depending on whether the sourcing refers to a new buy or rebuy, and also on amount and items purchased, as well as buyer-supplier relationships [29]. In order to cover various buying behaviour, the developed process in Figure 1 attempts to integrate all main sourcing steps, which buying firms can perform.

5.1 Strategic sourcing planning

Strategic sourcing begins with internal assessment, which examines the firm's core competence, current product specification, current supply base and portfolio, and identifies the portfolio optimization opportunities. During the sourcing step specification development, buyers update what they need to deliver to the market and what they really require from the supplier, establish the sourcing team and finally make an agreement on the purchasing specifications. One the other hand of the strategic sourcing, buyers need to perform an external assessment, including supply market analysis, suppliers' distribution, the total cost of ownership (TCO) and competitors [26, 29]. In this way, the firm's market position and bargaining position can be assessed, and an appropriate

sourcing strategy can be developed. The market position (power) of the buying company compared to that of the supplier, and varying product specifications lead to different degrees of buyer's dependence on the supplier, which generates different sourcing strategies [33]. The buyer's sourcing strategy can be derived from various internal and external factors concerning the market (environment), product, company's characteristics, and dependence (atmosphere), as illustrated and compared in Figure 2 [8, 19, 34-37]. The (inter/in)dependence here is to be determined by other factors, such as market, product and company's position/power, through an internal and external assessment. It is also an important aspect of relationships [8] and impacts on the sourcing strategy together with other variables.

However, these factors are not comprehensive enough to establish a complete interaction model. Rather, they refer to the macro level of the interaction investigation of buyer-supplier interfaces and only indicate the determinants of sourcing strategy at the interfaces.

Based on the internal and external assessment of the sourcing company, different sourcing strategies, such as command, competitive, cooperative and captive buying strategies can be developed. In general, when the buying firm is in a better position and is not that dependent on the supplier, a competitive sourcing strategy may be most appropriate. At the extreme, when the buying firm has the dominant position of strength, the command strategy can be implemented. In contrast, the buying firm prefers a cooperative relationship with the supplier, when there must be a high extent of dependence on the supplier. In the case of captive buying, the buying firm is very dependent on his suppliers, while the suppliers have a better market power. Therefore, the buying company has to align the sourcing strategy according to these disadvantages. However, the buying company can attempt to develop long-term cooperation with the suppliers to counteract the inconvenient market situation [36]. It can be proposed:

P1: In a buyer-supplier relationship in which the parties are asymmetrically dependent on each other, the more dependent party plays a more passive role in the buyer-supplier interaction.

In the strategic stage of sourcing process, although most of these process steps take place inside the buying companies and few direct actions and counteractions at the buyer- supplier interfaces can be expected, strategic planning is based on interaction. The sourcing strategy can only be developed by considering of different variables (factors) regarding the interactive counterpart, atmosphere, and must be adjusted when these factors change. Therefore, strategic sourcing planning is interactive and can been understood as interaction strategy as well, which means how the buyer should buy in or how the buyer should interact. These sourcing strategies reflect the preferences of buyers or suppliers regarding which type of relationships they expect to develop or sustain, and affect and guide the sequent functional sourcing process and its process steps.

Market (market type; intensity of competition; number of buyers and suppliers; technical change)	Product (complexity; sourcing frequency; costs of switching suppliers)	Buyer vs. supplier (size; market position; bargaining power; preferred sourcing relationship)	(Inter/ In)Dependence	Sourcing strategy
- Buyer‘s market, fragmented suppliers - Average competition - Numerous suppliers - Low rate of technical change	- Mostly complex products - High sourcing frequency - High switching costs (depend on product complexity)	- Mostly small suppliers, much larger buyers - Buyer has definitely better market position and bargaining power. - Buyer prefers a command strategy and supplier accepts cooperative role.	Suppliers depend highly on buyer. →	**Command**
- Fragmented suppliers - Intensive Price competition among suppliers - Numerous suppliers - High rate of technical change	- Standard product, normally lower complexity - lower or high sourcing frequency - lower switching costs	- Suppliers normally smaller than buyers - Buyer has better market position and bargaining power. - Buyer prefers competitive relationship.	Lower dependence on suppliers →	**Competitive**
- Buyer and supplier concentration - Competitive market for buyers and suppliers - Numerous buyers and suppliers - Low rate of technical change	- Customized, complex products - high sourcing frequency - high switching cost	- Similar, rather large size of buyers and suppliers. - Buyer and supplier has similar market position and bargaining power. - Both prefer a cooperative relationship.	High interdependence between buyers and suppliers →	**Cooperative**
- Supplier concentration, or seller‘s market - Competition in buyer market - Only few alternative suppliers - Low rate of technical change	- Technical complexity - (Relative) high sourcing frequency - High switching cost	- Large suppliers - Supplier can have better market position and bargaining power. - Supplier prefers a captive-buyer relationship	High dependence on suppliers →	**Captive**

Figure 2: Sourcing Strategies (based on Campbell [37], Reimer and Klein [36], and Bensaou [34])

The interactive character of this stage can be examined in three dimensions: activities, resources and actors. Firstly, the interfaces in this context concern rather to the strategic interactive activities, such as strategic decision making, planning etc. Resources are also involved in this process stage. In a broad sense they can be classified in five categories: technical resources, input goods, personnel, marketing resources and capital [38]. In this process stage internal and external resources are analyzed strategically. Furthermore, resources, such as personnel and marketing resources are directly input into the process. Finally, the actors at these interfaces more refer to the strategic management level. Based on the discussion above, the following proposition is derived:

P2: Strategic sourcing planning is an interaction between the management level of the sourcing and selling company.

5.2 Functional level of sourcing process

Although the sourcing strategy of the buying company is integrated in the entire sourcing process, sourcing execution and supplier implementation and monitoring can be seen as functional or operational stage of sourcing process, in which the sourcing strategy is implemented and evaluated through a series of activities [39].

As mentioned previously, interaction is a long-term continuous process and can be understood in interaction episodes and interactive relationship. In order to illustrate a standard sourcing process, this paper provides firstly the perspective of the discrete transaction-based buyer-supplier interaction episodes throughout the sourcing process in a traditional transactional buyer-supplier relationship. According to Campbell [37] we classify the interaction episodes as information exchanges, personal contacts, conflict resolution and adaptations. Here, adaptation refers more to the discrete adaptive action within a single transaction, and is so that short-term.

Interaction episodes along the functional process stage

As shown in Figure 1, the following illustration of functional sourcing process is mainly based on Monczka et. al. [29], and also on Zeng [26], Trent/Monczka [28]. Accordingly, the first step of the sourcing execution is to search for suppliers. Thereby, the buyer prepares the list of all potential suppliers, develops supplier pre-qualification criteria and request for information (RFI), sends out the RFI, assesses the responses received, and, finally, compiles the candidate supplier list. Supplier evaluation is the subsequent step: the buyer develops and releases a request for quotation (RFQ) to candidate suppliers, analyzes proposed final offers of suppliers and performs audits or conducts on site visits as required. Bidding, negotiation and supplier selection occur after the supplier evaluation. Monczka et. al. [29] regard bidding and negotiation as two common methods for making a decisions about supplier selection. Competitive bidding is usually preferred in the defence industry and for large projects, where price is a dominant criteria [29]. Bidding can also be adopted in the process to narrow the supplier list before the time-consuming negotiation, to reduce the transaction costs. After buyers and suppliers make final agreements by bidding and/or rounds of negotiation, the buyer approves the sourcing and awards contracts. Thereby, the sourcing execution is finished.

Numerous reciprocal activities are involved in this process stage. In the phase of supplier search, there would be a range of mutual clarifications regarding the RFI between the buyer and related suppliers. Each round of clarifications from the supplier side impacts on the subsequent activities or considerations of the buyer side. At the same time, RFI clarifications from the buyer side would be also analyzed by the suppliers and affect the response/reaction of the suppliers. Thereby, the interactions are mainly information exchanges. During the supplier evaluation, the RFQ clarifications

can be more exact and specific than RFI clarifications. Moreover, both buyer and pre-selected suppliers in this process phase intend to have much closer contacts with each other. The buyer may prefer to perform onsite audits or visits as a final evaluation measure for promising suppliers [29]. At the same time, the suppliers attempt to find more opportunities to present their qualifications and competences, and to understand the purchasing decision process of the buyer [21]. Therefore, the interactions here concern not only the information exchanges but also personal contacts. Further negotiation and supplier selection are related to a more narrowed supplier list. A range of interactions occur during negotiations between buyer and selected suppliers, quotation modifications by the supplier, and standard contract adaptations of the buyer. In this phase, the interaction episodes become more frequent and intensive, and are not only information exchanges and personal contacts but also as conflict resolution and adaptation. Accordingly, the following proposition can be derived:

P3: When the supplier list becomes narrower during the sourcing execution, the buyer-supplier interaction becomes more intense.

The sourcing process does not end with awarding contracts. Continuous supplier implementation and monitoring is to be performed to track the supplier performance and identify opportunities for improvement of the sourcing performance and process [29]. This stage contributes to the dynamic nature of the process and keeps the process in line with the changing market conditions [26]. It begins with the development of the implementation plan which involves the internal communication to internal customers and external communication to suppliers. Subsequently, the target performance level and actual performance level are to be identified for achieving the performance measurement and evaluation. Performance measurement and evaluation can result in better communication both within the buying company and between buyer and supplier. It can also provide performance feedback to internal customers or the management level and to suppliers, and thus support the further sourcing decision making [29]. Therefore, performance measurement and evaluation reflect the buyer's perception of a supplier's performance, and can also cause further interactive activities between buyer and supplier. For instance, a buyer may consider maintaining long-term sourcing relationship with the best performing suppliers, or consider reducing the sourcing volume from less qualified suppliers. A buyer can also adapt the target performance according to the evaluation, or adjust the sourcing strategy. Thus, it is to be hypothesized:
P4: The interaction episodes in the supplier involvement stage are discrete interactive actions, but implicate a much closer linkage to long-term orientation compared to the sourcing execution phase.

Interactions in terms of buyer-supplier relationship at the functional sourcing stage

As well as the marketing process, organizational sourcing has also shifted from transaction-oriented sourcing to relationship-oriented philosophy [2]. The aspect of buyer-supplier relationships can not been neglected. Understanding the interaction process in the long-term dimension of buyer-supplier relationship, i.e. mutually oriented interaction between the reciprocally committed buyer and supplier, provides further insights about the interaction at the buyer-supplier interfaces. In total, a long-term relationship results in more extensive communication and a broader scope of interaction between the buyer and supplier [40]. Patterson and Forker [41] classified the buyer-supplier relationship in their framework in three types: transactional relationship, transitional relationship and transcendental relationship. Transactional relationships form the basic interdependence between firms and make it possible for the buying company to access the resources of other firms [41]. The relationships defined in this framework are dyadic relationships at a higher level than transactional relationships, have long-term orientation, and thus are related to the latter two types. Accordingly, transitional relationships concern the "relationships of partial or quasi vertical integration that hold mutual benefits for both the buyer and the supplier" [41]. This definition implicates a much higher

level of trust. However, Transitional relationships are governed mainly by contractual agreements, while transcendental relationships refer to highly cooperative relationships or strategic network [41]. Therefore, attention will be focused hereafter on the interactions in terms of these closer buyer-supplier relationships.

Since only few relationships can be defined as purely transcendent [41], the authors first address the transitional relationships as a basic type of a relationship and explore the interactions in terms of transitional relationships in the sourcing process.

In practice, sourcing may not follow the illustrated sourcing steps frequently and the supplier selection may not be linear, since these relationships must be involved as input at the beginning of the sourcing process and considered previously [42]. These dyadic relationships are integrated in the whole process, develop over time, and shape the sourcing process and the buyer-supplier interaction over time.

Investigated at the individual level, a closer relationship may have a higher degree of interpersonal trust [41, 43]. The buyer may believe in the credibility of the information gained from the salespersons of the supplier and the supplier's product. Therefore, the buyer might be inclined to communicate frequently and maintain a cooperative relationship with the supplier [40, 44]. The field experiment of Wagner et. al. [40] supports this logic and shows that the buyer tends to have higher evaluation of supplier's product, include it in the consideration and select it in case of facing relational suppliers. Moreover, a trustworthy buyer-supplier relationship can make the negotiation easier, because the participants from both sides are more likely to keep information transparent, share more sensitive information and give each other a certain leeway in mutual dealings. This situation tends to reduce conflicts or shorten the process of conflict resolution [45]. Therefore, a much smoother negotiation process with relational suppliers can be expected. Thus, buyer-supplier relationships shape the interpersonal interactions at the buyer-supplier interfaces.

At the organizational level, a long-term relationship involves commitment and "collectively held trust" [45]. Zaheer et. al. (1998) stated that the buyers and suppliers in trust-based relationships can achieve a final agreement more quickly, since both sides rely on similar underlying assumptions [45]. Both buyers and suppliers may even be willing to accept concessions, because they are convinced of the long-term benefit of this relationship and expect potential reciprocity from the other partner [45]. The relationship commitment makes it possible for the buyer to improve the supplier performance [46] and involve the buyer in the improvement more intensely. Furthermore, a buyer-supplier relationship can reduce the uncertainty for the buyer [47], which can entail the buyer to take an incalculable bias during the sourcing process, from supplier search, supplier evaluation to performance evaluation. This bias can also perform efficiency of the process. From the perspective of transaction cost theory, firms seek a minimization of transaction costs over time. A well-established relationship provides the sourcing company opportunities to reduce the transaction costs.
Transcendent relationships are much closer relationships than transitional relationships and are typically developed in technologically-advanced or closely integrated industries [41]. This type of relationship encourages the development of key suppliers. These key suppliers have a strong character as cooperative partners and are integrated more intensely in the buyer's internal processes. For example, the teamwork with the supplier during the assessment of product specifications, new product developments etc. may be required because of high technology complexity. Furthermore, the buyer is more involved in the supplier performance improvement and monitoring because of the interdependence and long-term commitment [41].

Nonetheless, it is not argued that a long-term buyer-supplier relationship is to be recommended all over the business market. Whether the buyer tends to develop a long-term relationship with the supplier or the buyer settles for a transactional relationship, depends on various factors. Williamson [17] argued that "buyer and supplier will make special efforts to design an exchange that has good continuity properties, where asset specificity is great". Accordingly, asset specificity is understood mainly in three ways: site specificity (e.g. a resource available at a certain location and movable only at great cost), physical asset specificity (e.g. specialized dies required to produce a component) and human asset specificity (i.e. highly specialized human skills, arising from learning by doing). Following Williamson's logic, it can be proposed that with a high asset specificity, the buyer is more willing to become involved in rather long-term contracts or commitments with the supplier and prefers to invest in a closer relationship with appropriate suppliers. On the other hand, purchasing literature used to approach this strategic consideration, i.e. whether to develop a relationship with the supplier or what kind of relationship is to be developed, in both internal and external dimensions [34, 36, 37, 48]. From the internal perspective, the factor purchased products/materials is widely discussed and operationalized concerning their specificity. From the external perspective [48] Kraljic defined the complexity of supply market in his research model, which is widely recognized and discussed by other authors [36, 37]. Dubois and Pedersen [49] concluded that the complexity of supplier market "may either be considered great (…), or it can be said to cease to exist since the parties do not handle their exchange through the 'the market' but instead within a relationship embedded in a network", when a buyer-supplier relationship has been established. Regardless how many factors impact on the consideration of relationship establishment, it is reasonable to argue that the degree of asset specificity of purchasing products and the complexity of the supplier market may be critical factors here.

Based on the discussion above, the following proposition can be derived:

P5: The higher the degree of asset specificity of purchased products and the higher the complexity of supply market, the greater the efficiency that will be gained from a long-term relationship.

6. Conclusion

The paper investigated the buyer-supplier interfaces with focus on the sourcing process from the process-based relational view. Thereby, interactions and reciprocal relationships at the buyer-supplier interfaces, along the sourcing process have been analyzed both on strategic and functional level, concerning their characteristics and impact on the sourcing process. Based on the performed investigation, the framework for buyer-supplier interfaces from the buyer's perspective and the structure of this framework is to be illustrated as follows:

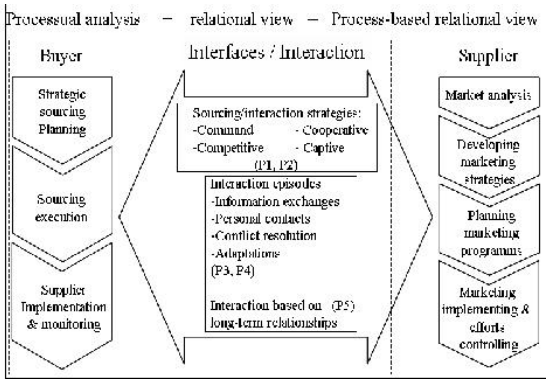

Figure 3: The Framework for Buyer-Supplier Interfaces
(with Focus on The Buyer side)

The developed framework proposes to elucidate the buying behaviour and strategies in buyer-supplier interactions and relationships, and finally to identify the possible benefits from the interactions and relationships for the buying companies.

The buying behaviour is impacted by the marketing behaviour of the supplier, their interfirm relationships, and impacts the buyer-supplier relationships, the marketing behaviour in turn. Sourcing and marketing processes can interact directly because of their desired goal. Nonetheless, the interfirm relationships can be intermediates between the sourcing and marketing process, which cause more extensive and intensive interactions at the buyer-supplier interfaces.

Therefore, this understanding of interaction or dyadic perspective of the buyer-supplier relationship is increasing its importance in the industry market with the shifts to relational sourcing and marketing, as well as the enhancing interorganizational integration and strategic cooperation. The understanding of the interaction of two internal processes on the buyer and supplier side is essential in order to obtain an optimization not only of the own firm, but of the supply chain as whole.

Future research includes operationalization and empirical testing of the different interaction strategies of buying companies, degree change of interaction along the sourcing process, impact of long-term relationships on the sourcing performance concerning the degree of the asset specificity and complexity of supplier market, as well as the research in influence of sourcing process or single process steps on the buyer-supplier relationship, interaction or dyadic relationship in strategic buyer-supplier network etc. Moreover, future research includes development of a framework for interacting sourcing and marketing process, holding perspectives both from buyer and supplier sides.

References

[1] R.F. Olsen and L.M. Ellram, Buyer-supplier relationships: alternative research approaches, European Journal of Purchasing & Supply Management, 3(4), 1997, 221-231.

[2] J.N. Sheth and A. Sharma, Supplier Relationships: Emerging Issues and challenges, Industrial Marketing Management, 26(2), 1997, 91-100.

[3].D.A. Patterson and J.L. Hennessy, Computer Organization and Design (Amstedam et. al.: Elsevier, 2005).

[4] J. Raskin, The Humane Interface. New Directions for Designing Interactive Systems (Boston et.al.: Addison-Wesley, 2005).

[5] H. Håkansson and I. Snehota, Developing Relationships in Business Networks (London: Routlege, 1995).

[6] H. Håkansson and I. Snehota, No business is an island: the network concept of business strategy, Scandinavian Journal of Management, 5(3), 1989, 187-200.

[7] D. Ford and H. Håkansson, The Idea of Interaction, IMP Journal, 1(1), 2006, 4-27.

[8] H. Håkansson, ed. International Marketing and Purchasing of Industrial Goods: A Interaction Approach (Chichester: John Wiley & Sons, 1982).

[9] H. Håkansson and D. Ford, How should companies interact in business networks? Journal of Business Research, 55(2), 2002, 133-139.

[10] L.-E. Gadde and I. Snehota, Making the most of Supplier Relationships, Industrial Marketing Management, 29(4), 2000, 305-316.

[11] V. Mummalaneni, One more exploration into buyer-supplier relationships: some conceptual foundations and research propositions, in: Business marketing: an interaction and network perspective, K. Möller and D. Wilson (Eds.), Boston: Kluwer Academic Publishers, 1995, 233-256.

[12] F.R. Dwyer, P.H. Schurr, and S. Oh, Developing Buyer-Seller Relationships, Journal of Marketing, 51(2), 1987, 11-27.

[13] A.H. Van de Ven, Suggestion for studying strategy process: a research note, Strategic Management Journal, 13(Summer), 1992, 169-188.

[14] M.S. Poole, A.H. Van de Ven, K. Dooley, and M.E. Holmes, Organizational change and innovation process (Oxford: Oxford University Press, 2000).

[15] A.M. Pettigrew, What is a processual analysis, Scandinavian Journal of Management, 13(4), 1997, 337-348.

[16] R.H. Coase, The Nature of the Firm, Economica, 4(16), 1937, 386-405.

[17] O.E. Williamson, The Economics of Organization: The Transaction Cost Approach, The American Journal of Sociology, 87(3), 1981, 548-577.

[18] O.E. Williamson, Markets and Hierarchies: Analysis and Antitrust Implications (New York: The Free Press, 1975).

[19] O.E. Williamson, Transaction cost ecomomics: The Governance of Contractual Relations, Journal of Law and Economics, 22(2), 1979, 223-261.

[20] L. Araujo, A. Dubois, and L.-E. Gadde, Managing Interfaces with Suppliers, Industrial Marketing Management, 28(5), 1999, 497-506.

[21] J.C. Anderson and J.A. Narus, Business Market Management: Understanding, Creating, and Delivering Value, 2 ed. (New Jersey: Pearson Education, 2004).

[22] P. Kotler, Marketing Management: Analysis, Planning, Implementation, and Control (New Jersey: Prentice-Hall, 1994).

[23] P. Kotler, A Framework for Marketing Management (New Jersey: Pearson Education, 2003).

[24] F.R. Dwyer and J.F. Tanner, Business Marketing: Connecting Strategy, Relationships, and Learning, 2 ed. (New York: McGraw-Hill, 2002).

[25] V.H. Pooler and D.J. Pooler, Purchasing and Supply Management: Creating the vision (New York: Chapman & Hall, 1997).

[26] A.Z. Zeng, Global sourcing: process and design for efficient management, Supply Chain Management: An International Journal, 8(4), 2003, 367-379.

[27] A.B. Maltz and L.M. Ellram, Total cost of relationship: An analytical framework for the logistics outsourcing decision, Journal of Business Logistics, 18(1), 1997, 45-66.

[28] R.J. Trent and R.M. Monczka, Purchasing competitive advantage through integrated global sourcing, Academy of Management Executive, 16(2), 2002, 66-80.

[29] R.M. Monczka, R.J. Trent, and R.B. Handfield, Purchasing and Supply Chain Management, 3 ed. (Mason, Ohio: South-Western, 2005).

[30] M.G. Anderson and P.B. Katz, Strategic Sourcing, International Journal of Logistics Management, 9(1), 1998, 1-13.

[31] M.D. Bunn and W.D. Perreault Jr., Organizational Buying contexts and the Procurement Process, Working paper, Marketing Science Institute, 1993.

[32] A. Lester and A. Benning, Procurement in the Process Industry (London et. al.: Butterworths, 1989).

[33] M. Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors (New York: Free Press, 1980).

[34] M. Bensaou, Portfolios of Buyer-Supplier Relationships, Sloan Management Review, 40(4), 1999, 35-44.

[35] M.T. Cunningham, An interaction approach to purchasing strategy, in: International Marketing and Purchasing of Industrial Goods: An Interaction Approach, H. Håkansson (Ed.), Chichester: John Wiley & Sons, 1982, 345-358.

[36] K. Riemer and S. Klein, Supplier Relationship Management: Supplier Relationships im Rahmen des Partner Relationship Management, in: HMD - Praxis der Wirtschaftsinformatik. 2002, 5-22.

[37] N.C.G. Campbell, An Interaction Approach to Organizational Buying Behaviour, Journal of Business Research, 13(1), 1985, 35-49.

[38] L.-E. Gadde and H. Håkansson, Professional purchasing (New York: Routledge, 1994).

[39] K. Lysons and M. Gillingham, Purchasing and Supply Chain Management, 6 ed. (Harlow: Prentice Hall, 2003).

[40] J.A. Wagner, N.M. Klein, and J.E. Keith, Buyer-seller relationships and selling effectiveness: the moderating influence of buyer expertise and product competitive position, Journal of Business Research, 56(4), 2003, 295-302.

[41] J.L. Patterson and L.B. Forker. Buy-Supplier Relationships as Clans: Defining and Expanding the Paradigm. Proceedings. First Worldwide Research Symposium. Tempe, Arizona 1995.

[42] G.K. Hunter, M.D. Bunn, and W.D. Perreault Jr., Interrelationships among key aspects of organizational procurement process, International Journal of Research in Marketing, 23(2), 2006, 155-170.

[43] A. Walter, T.A. Müller, G. Helfert, and T. Ritter, Funtions of industrial supplier relationships and their impact on relationship quality, Industrial Marketing Management, 32(2), 2003, 159-169.

[44] D.J. McAllister, Affect- and cognition-based trust as foundation for interpersonal cooperation in organizations, Academy of Management, 38(1), 1995, 24-59.

[45] A. Zaheer, B. McEvily, and V. Perrone, Does Trust Matter? Exploring the Effects of Interorganizational and Interpersonal Trust on Performance, Organization Science, 9(2), 1998, 141-159.

[46] D.R. Krause, The antecedents of buying firms' efforts to improve suppliers, Journal of Operations Management, 17(2), 1999, 205-224.

[47] H. Håkansson, J. Johanson, and B. Wootz, Influence tactics in buyer-seller processes, Industrial Marketing Management, 5(6), 1976, 319-332.

[48] P. Kraljic, Purchasing must become supply management, Harvard Business Review, 61(5), 109-117.

[49] A. Dubois and A.-C. Pedersen, Why relationships do not fit into purchasing portfolio models - a comparision between the portfolio and industrial network approaches, European Journal of Purchasing & Supply Management, 8(1), 2002, 35-42.

Increasing Custom Satisfaction Through the Integration of Customer and Commercial Logistics Processes

by

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Abstract

Customers are more and more demanding regarding firms' services or products. In today's highly competitive business environment, they need to go beyond order qualifiers such as price, delivery lead time and product quality, to develop order winners that are related to customer service. This can be achieved by developing and monitoring the performance of the "Customer and Commercial Logistics (C2L)" processes. C2L includes all the processes involved in managing customer relationships and flow of orders. We focus on the Order Management activity, which probably constitutes the main component of C2L. The first part of this paper will discuss it and present the issue of its integration in the Order Fulfilment Process (OFP). In order to enhance the accuracy of order promising and the reliability of order fulfilment, the advanced ATP (AATP) function has increasingly attracted the attention of the supply chain management research community. The interaction between entities is crucial to the success of the OFP. The aim of this paper is to present a methodology, based on existing research, to manage bulk orders. This preliminary research should lead to the development of a specific AATP based on a multi-criteria analysis.

Keywords: Supply Chain Management, Advanced Available To Promise, Order Fulfilment, Business Process, Integration, Continuous Improvement

1. Introduction

Many authors have highlighted gaps at the interfaces between Supply Chains (SC) and Demand Chains (DC). The Demand Chain focuses on the product from the point of view of the customer, what the customer wants and needs [1]. The traditional process propagates demand by sending purchase orders to the supplier. In the same manner, supply is propagated by the acceptance of the orders and the assignment of a due date by the supplier [2].

This paper deals with how the integration of Customer and Commercial Logistics (C2L) processes (or, in a restrictive way, "sales administration") helps to bridge this gap, hence increasing customer satisfaction. To achieve this, emphasis is laid on four axes: satisfying customer requests, managing uncertainty generated by the activities of the SC, coordinating and managing customer risks across the SC, and developing customer loyalty. We describe the approach proposed to

diagnose, to model and to improve these processes. Integration of the C2L processes entails developing the communication, co-operation and coordination capabilities of the SC.

The main focus is on the Order Fulfilment Process (OFP) and more precisely on the Order Management (OM) activity which constitutes probably the main component of C2L. Actually, OM consists of analyzing orders in order to determine if, how and when they can be delivered,.

In practice, there are methods and tools (ATP, CTP, PTP or AATP), which help decision makers to choose between different alternatives. However, in case of stock-out, these tools are insufficient for decision making in the face of certain variables such as: unknown availability, product substitution, specific operations and contradictory objectives between different functions (maximising the turnover of the current month by sending backorders separately versus minimising costs of transportation by delivering the products later and in one batch). This paper suggests an approach that takes all these cases into consideration in the decision-making process. It also looks at the issue of governance, that is, the decision-making body.

Firstly, C2L processes are presented and the problem of their integration is discussed. Secondly, a literature review of the tools used to efficiently support the Order Management Process is developed. Finally, our proposition is presented and applied to a healthcare supply chain, in the form of a case study.

2. Customer & Commercial Logistics (C2L) Processes and Integration

"Customer and Commercial Logistics" (C2L) encompasses all the processes which enable to manage the flow of orders as well as customer relationship [3]. In this section we will first present the key processes that compose C2L. Then, the problem of integrating these processes inside the OFP is discussed. And finally, we will look at the complexity of the Order Management activity (the principal component of the OFP and hence, of the C2L) and the main problems to be solved in order to efficiently manage orders.

2.1 The C2L Processes

Customer satisfaction constitutes the heart of the performance of a SC [4]. However, in a highly competitive environment, customers can change their supplier very easily and quickly. Their selection criteria are based not only on finance and reactivity, but also on service and sometimes on feelings (need for recognition, listening...).

So, SCs have to increase their performance by working on four axes: satisfy customer requests; manage the supply chain's uncertain events with respect to customers; coordinate the customers' risks with respect to the whole supply chain; develop customer loyalty. Such a step is naturally articulated around C2L. In fact, C2L constitutes, for the customer, the single operational interface with the SC, from the expression of its needs (orders) to invoicing and problem-solving related to possible complaints.

Lauras et al. [5], inspired by the work of Croxton et al. [6], have identified the key processes of C2L and split them into 5 main fields: Demand Management, Order Management, Credit Management, Customer Service Management and System Administration (see Table 1.).

2.2 The Problem of Integration

Freeland [7] estimates that it is not possible to act effectively on the SC added value produced for customers if the Marketing, Sales, Manufacturing and Distribution processes are not coordinated with C2L processes. To do that, SCs have to develop their communication, co-operation and coordination capabilities. This characterizes the integration concept [8]. So in practice, it is a question of developing integration of processes in the SC, which are associated with customer service [9].

Integrated supply chain management focuses on the co-ordination of all logistics activities in a system that simultaneously attempt to minimize total distribution costs and maintain desired customer service levels [10]. So a first stake for a SC consists in supporting the integration of the C2L processes [3] by optimizing coordination with other nodes of the SC: Manufacturing, Distribution, Sales, Procurement, Marketing and, of course, Customer. Actually, C2L is in close relationship with these functions and has to ensure coordination and synchronisation with them.

Table 1: Key Processes of C2L

FIELDS of C2L	KEY PROCESSES
Demand Management	Animation of sales forecast and administration, Available To Promise process, Stocks Deployment process, Coordination with other SC Planning processes (marketing, procurement, manufacturing, distribution)
Order Management	Analyse, modify and execute orders and orders' portfolios, Coordination with other SC Execution processes (sales, distribution)
Credit Management	Edition and billing control, Cashing management, Customer risk
Customer Service Management	After sales process, Return process, Contact Management
System Administration	Management of the Data Base (Customer, Products), Administration of the C2L IT

To represent these interactions, we have used the BPMN (Business Process Model Notation) formalism. BPMN presents a relevant graphical projection of the studied processes: this is the Activity's point of view. In addition, BPMN introduces, particularly, the concepts of "messages" and "information flows" that were not in the traditional Business Process representations (IDEF-0, SADT, etc.): this is the Event's point of view.

Figure 1 describes the Order Fulfilment Process (OFP), from the order to the delivery of finish goods and, the treatment of complaints. It distinguishes the role of each entity (through the different lanes) and pumps up the volume on the different links between them. The flow chart shows clearly that two activities of C2L encompass a majority of the interactions within the different functional entities: Customer Service and Order Management. Consequently, these activities must be reliable to generate a good "on time delivery KPI" and to guarantee customer satisfaction. This is the aim of our research. In this paper, we study only the case of the Order Management integration. The Customer Service Management has already been studied through specific research works [11][12].

General Problem: How to support the integration of Order Management Activity in the Order Fulfilment Process?

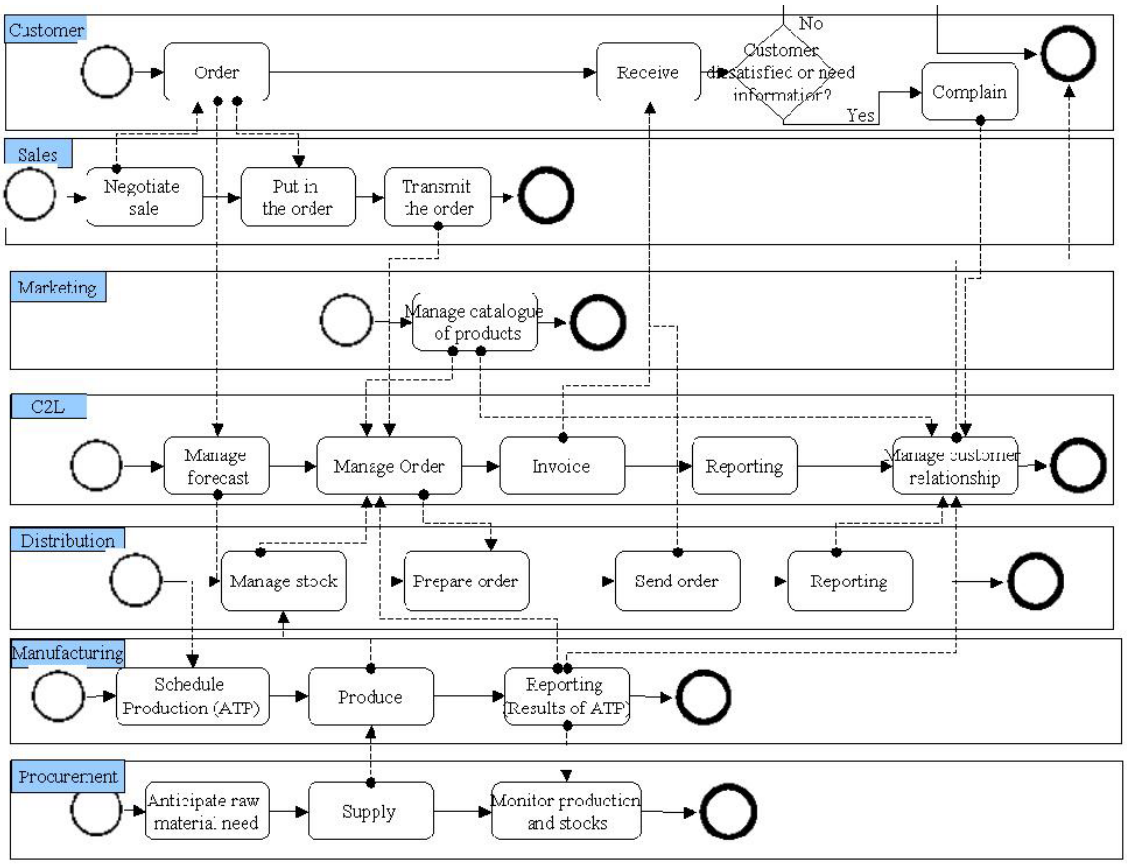

Figure 1: Order Fulfilment Process and The Central Position of C2L

2.3 Order Management: Governance and Uncertainties

The Order Fulfilment Process (OFP) is complex because it is composed of several activities executed by different functional entities, and it is heavily interdependent between tasks, resources and agents involved in the process [3]. OFP is difficult to manage because each entity, which intervenes in the process, has its own objectives. Croxton et al. [6] add that effective OFP requires integration of the firm's manufacturing, logistics and marketing plans. Thus, they should develop partnership with key members of the SC to meet customer requirements and reduce total delivered cost to customers.

As an evidence, C2L is the central entity of the OFP and the Order Management (OM) activity constitutes probably the most important part of this process (and encompasses a majority of the problems…). The aim of the OM activity is to receive orders from customers and to commit order requests. The main objectives can be summarized into two dimensions [3]:

- Delivering qualified products to fulfil customer orders at the right time and right place;
- Achieving agility to handle uncertainties from internal or external environments.

Agility means using market knowledge and a virtual corporation to exploit profitable opportunities in a volatile marketplace [13]. Agility can be expressed as having four underlying principles: delivering value to the customer, cooperating to enhance competitiveness, organizing to master change and uncertainty, and leveraging the impact of people and information. Four dimensions can be associated to the agility: efficiency, flexibility, robustness and adaptability.

The challenge seems to be able to propose methods and tools to support this agility. Two main difficulties arise:

- The uncertainty's management within the OM activity;
- The problem of Governance.

In fact, the first step to satisfy customers begins with effectively responding to request for quotation, which is, in other words, to give Available-To-Promise (ATP) for the order quotation. The aim of the OM activity is to execute this ATP. But in many cases, order promising cannot be respected and order Fulfilment cannot be done properly. Stock-out, Non-quality or not envisaged Orders are some of the examples.

Question 1: How can orders be managed when promises cannot be executed?

Moreover, if the OFP gets a clear global objective (provide to the customer the right product, at the right price, at the right time), each entity that participates to this process tries to achieve also their own objectives. Of course, these objectives are generally contradictory (the problem of Governance then arises). Thus, in case of stock-out for example:

- Distribution wants to minimise the costs of transportation by delivering all the products of an order later but in one batch.
- Sales department must maximize the turnover of the current month by sending backorders separately (especially if the order is not complete at the end of the month…).
- Marketing does not want to sell some products individually. For example, an order with a solar cream and a booklet cannot be delivered if one of the two articles is not available (because they are linked).
- Manufacturing wants to minimize the impact of this problem on its planning (and probably also on its costs). Consequently, they do not want to change anything in order to produce quickly the item out of stock.

- The Customer wants to be served as promised.

Question 2: How should contradictory objectives be considered in the Order Management activity?

3. Literature Review of Existing Methods

In practice, there are several methods that support the OFP and more precisely the OM activity.

The most important is probably ATP (Available To Promise). According to the APICS (American Production and Inventory Control Society) dictionary (9th edition) [14], ATP is the uncommitted portion of a company's inventory and planned production maintained in the master schedule to support customer order promising. This promising mechanism is adapted in a make-to-stock (MTS) production model. Actually, in the MTS model, finished goods are produced according to demand forecast and put into inventory before an order is received from a customer.

In the make-to-order (MTO) strategy, to avoid "over promising" and "under promising" on job orders, you have to set your delivery dates based on available capacity and material constraints. Capable To Promise (CTP) determines whether you can meet your customer's requested delivery dates (or at least the earliest realistic date a product can be promised).

ATP and CTP are searched along three dimensions [15]: the time dimension, the customer dimension and the product dimension.

In case of shortage, different rules can be envisaged to manage the ATP/CTP along these three dimensions. As an example, customers' allocation might be done through: ranked based, fixed split, First-Come First-Served or per committed (quotas).

A third technique used to determine the delivery date is Profitable-To-Promise (PTP). This method is used in manufacturing systems which have a big product mix and many kinds of customers [16]. In this case, we can prioritize individual orders based on margins, preferred customers, preferred orders or any other criteria, which affect the bottom line. PTP analysis allows the business to find out if a particular order will be profitable to make, considering the raw material costs, process costs, inventory costs and other costs against the price the customer is willing to pay. PTP works well for all industries whether it is discrete, process, mill or flow manufacturing. In the case of MTS companies, PTP works on the data from distribution planning. In the case of MTO companies, PTP works on the data from production planning. In summary, profitability is the only criterion considered by the company.

Note that if no promise can be found for an order, the SC will not be able to fulfil the order within the allocation planning horizon [15]. But orders have to be fulfilled nevertheless! Today, no ATP methods allow managing bulk orders in order to deliver them efficiently.

Some authors have proposed to develop the Advanced Available-To-Promise (AATP) in order to enhance the responsiveness of order promising and the reliability of order fulfilment [17]. AATP directly links available resources (i.e. finished goods and work-in-progress) as well as raw materials, production and distribution capacity with customer orders in order to improve the overall performance of the SC. While ATP is simply a monitoring of the uncommitted portion of current and future available finished goods, AATP provides a decision making mechanism for allocating

available finished goods inventory to customer orders and concluding order quantities and due date quotes.

The characteristics used for classifying AATP are [17]:

- The availability level: finished goods inventory or supply chain resources (including raw materials, work-in-progress, finished goods…);
- The operating mode: real time or batch mode;
- The interaction with manufacturing resource planning: active (AATP modifies the Master Schedule) or passive (AATP is done independently with information regarding finished goods and resource availability).

Some additional advanced ATP functionalities are currently discussed by researchers [17][15]. These functionalities mainly refer to strategies applied to an anticipated shortage of finished goods or supply chain resources. Siala et al. [18] summarize them in a fourth dimension which is the flexibility of the solution proposed to the customer. Three different strategies can be supported by AATP [17]:

- AATP with substitute products: in certain cases substitute products can be delivered within the given delivery time window in place of the product originally ordered by the customer.
- Multi-Location AATP: if the customer order cannot be fulfilled with the finished goods or supply chain resources at a certain location, available finished goods and resources can be sourced at other locations.
- AATP with partial delivery: if the ordered quantity is not available within the given delivery time window, the customer order can be fulfilled with two or more partial deliveries.

These different strategies can be combined in any possible sequence in the AATP planning mechanism [17]. Besides generating these strategies sequentially, they can be combined in the AATP planning mechanism in such a way that all feasible solutions are determined and assessed simultaneously. This provides a partial answer to Question 1 presented in section 2.3. But, no research work seems to have developed rules for identifying and assessing alternative strategies in case of a temporary shortage of finished goods [17].

It becomes clear that models and algorithms generating order quantity and due date quotes, based on pertinent information concerning customer orders, uncommitted finished goods quantities as well as customer priority and preference, represent the core of AATP planning mechanism [17]. But if some authors such as Pibernik [17] or Siala et al. [18] have tried to consider these strategies in their AATP planning mechanism, none of them seems to have studied the impact of the different decision-makers in the SC (see the problem of Governance and Question 2 discussed in section 2.3.). Practically, these papers refer to a single decision-maker point of view that is the customer point of view [17] or the Decision Centre point of view [18].

4. Our Proposition: Multi-criteria AATP

Customer requirements and preferences in regard to the questions discussed in section 2.3 may necessitate AATP to be operated.

While Siala et al. [18] have proposed a planning mechanism for a multi-location real-time AATP based on finished goods inventory and substitute products, we propose to develop a single-location batch-time AATP based on finished goods inventory, substitute products and partial

delivery within a non sequential mode. In addition, we want to consider the Governance problem by considering that results of OM need to include the diversity of the stakeholders' interests.

As evidence, AATP only based upon the use of one decision-maker point of view may fall through the cracks. We can note effectively that disparate local objectives - SC and DC point of views - may result in superfluous and incompatible choices concerning the OM. There is need to define strategies for the Order Manager as a whole and to be able to drill down to different impacts at different levels of the SC. We propose a multi-criteria decision-making system to support the OM Activity.

To summarize, the aim of this research is to present an approach to manage bulk orders by developing a specific AATP that:

- Analyses Order Lines in batch mode;
- Studies partial delivery, substitute product, delay and alternative location possibilities;
- Allows comparing all the Order Strategies by considering all criteria and constraints of the different actors that participate to the OFP (non-sequential mode): SC and DC.

The mechanism developed in our proposition (Figure 2.) is triggered by the arrival of a Customer Order:

1. The order is fragmented in different Order Lines. In the following parts, we will consider an Order Line composed of an item "A", with a due date "t" (notation A_t).

2. Then, the stock allocation for this Line is checked. Allocations are calculated from forecasts and relate to the commitments done to the customer. When there is no allocation defined, the Line should not be fulfilled. But in some cases, the Line could be fulfilled if there is an Overstock.

3. When the Line refers to a commitment (quote), the stock availability within the time window can be checked. If the item "A" is available then the Line can be fulfilled on time.

4. In the event of a shortage of the product "A", the AATP looks for alternative strategies to serve the customer under good conditions. Thus, four axes will be studied in a nonexclusive way to determine:

- Availability of substitute product;
- A probable inventory of the original product (or substitute product) in an alternative location;
- The possibility to split the Line and to serve it in two times or more;
- The possibility to delay more or less the Line.

If at least one solution can be executed then feasible fulfilment strategies are generated. All the strategies have to be recorded.

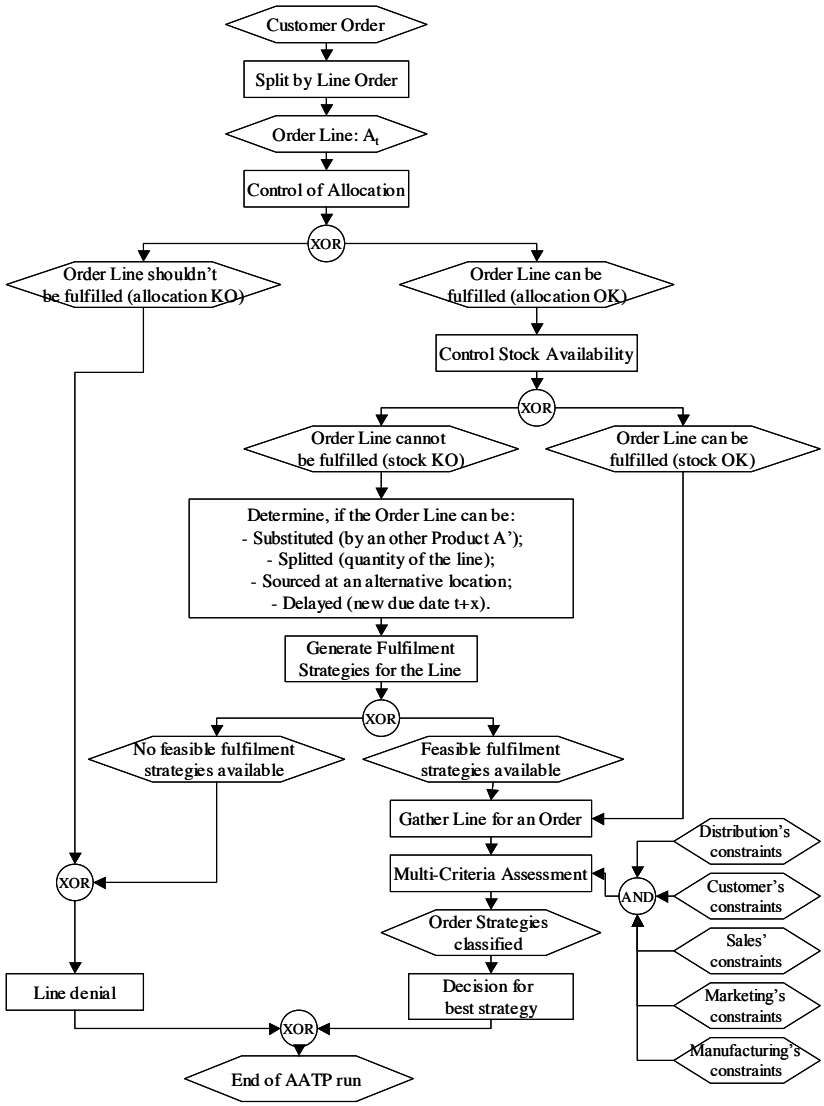

Figure 2 Multi-Criteria AATP

1. The previous steps are run for all the Lines in order to be able to decide the best strategy to execute for the complete Customer Order. From all the Order Line' strategies (one or more for each line), Customer Order' strategies have to be defined. This step considers a set of rules complying with SC specific conditions (cost and required time for shipping and handling, unit profit margins for regular and substitute products as well as customer specific information such as delivery time requirement and the potential acceptance of partial delivery and substitute products). By these sets of rules it must be ensured that only feasible and relevant strategies are generated from the supplier's and the customer's point of views. When several Customer Order strategies are available, the planning mechanism has to support their assessment. The assessment is based on a multi-criteria approach that considers criteria of all the actors that participate to the OFP. The aim is to reach a judicious compromise between SC and DC points of view.

2. This assessment then determines the sequence in which the Customer Order fulfilment strategies could be proposed to execute the OM Activity.

5. Case study in Progress

The application deals with the OFP in a European healthcare SC. This work is in progress and some actions are not yet completed.

The network considered is mono-sourcing oriented (one manufacturing plant per product). The distribution channel is articulated around Distribution Centres (based in different countries). Final products are necessarily delivered to consumers through a pharmacy retailer. The pharmacies supply the products directly from the Distribution Centres or through a Healthcare Wholesaler (that must hold all products in their stocks). Thus, this organisation allows sourcing products at alternative locations (several Distribution Centres and several wholesalers). Moreover, customer orders can be pushed in the pharmacies by sales forces or can be pulled through medical prescriptions. Consequently, the OM activity must be relevant to ensure the agility of the SC. Actually, the OM activity has to guarantee the market qualifiers of an agile SC (Quality, Cost, Lead time) but also the Market winners (Service Level) [13].

5.1. Actual AATP System

Until 2007, the OM activity was realised with some basic office tools. All the bulk orders were treated completely manually. Since few months, a new AATP system has been installed.

This AATP system calculates in batch mode for each Order Line (AATP can nevertheless run in real time during the day). Each Line is analysed, in pure sequence, according to Allocation, Stock Availability, Product Substitution within the due date, Delay, Product Substitution with a delay. Let us consider a Line of a product A and a due date t (notation A_t). The product A can be substituted by the product A' or delayed at a new date (t+x).

The steps of the analysis are:
1. Allocation is checked. If there is no allocation, the Result is A_{t+y} (y>x). If OK,
2. Stock of A is checked at due date t. If OK, the result is A_t. If not,
3. Substitute product A'_t is checked at due date t. If OK, the result is A'_t. If not,
4. Stock of A is checked at a new date t+x. If OK, the result is A_{t+x}. If not,
5. Stock of A' is checked at a new date t+x. If OK, Substitute product A'_{t+x}. If not,
6. The result is A_{t+y} (y>x).

Consequently, 6 different results are possible for a Line:
1. Not validated,
2. Validated with the initial product on time,
3. Validated with a substitute product on time,
4. Validated with the initial product at a new date,
5. Validated with a substitute product at a new date,
6. Validated with the initial product at horizon.

We can remark that as soon as a solution is possible, the process stops and retains the solution. This system considers finally that the best solution is of course n°2, but also that the alternative n°3 is better than the alternative n°4. The system aggregates all the Lines for a Customer Order (within a solution and only one for each line) and decides how to serve the Order. This decision is based on Completeness KPI (e.g. ratio of the number of Lines that can be served on the number of Lines included in the Customer Order) and a check of linked items (e.g. synchronization of the items in the case, of promotions, for example).

5.2. Identified limits: the DC point of view

The main customers of our case study are pharmacies and healthcare wholesalers. Customer service can be defined for them as:

- Pharmacists do not really manage their stocks. In addition, Pharmacists market products of various nature (medicines, cosmetics, etc.), subjected to some constraints (legal, promotional operations, etc.), and different flow logics (pull and push). Consequently, each Order Line can be associated to a different objective: imperative due date (whatever the product is: A or A'), imperative quantity (whatever the time is: t or t+x), imperative completeness of the Customer Order (to be able to launch a promotional operation).
- Some particular products, like vaccines, must be delivered, even in the event of shortage. So, sometimes Order Lines must be split.
- Some products have a high value-added and/or submitted to legal constraints. In this case, substitutions are not allowed.

Some particular customer constraints appear and the sequential analysis of the actual system may not correspond completely to these requirements. Does the customer prefer receiving the substitute product on time or the original product a little bit later?

As an illustration, we consider an order with 3 products A, B and C within the due date t. B and C are available but A is out of stock. A can be delivered later (date t+x) or can be substituted by product A' (on time or later). If we consider the sequential analysis, the result would be: "A'_t, B_t, C_t".

But, wouldn't strategy "A_{t+x}, B_t, C_t" be better?

5.3. Identified Limits: the SC point of view

As discussed in section 2, the OFP is based on several actors that do not necessarily have the same objectives. The different points of view are not considered in the actual AATP process. For example, because the products are generally small in volume and orders include very few units, the Distribution function will prefer to group orders for the same customer in order to minimize its transportation costs. Thus, strategy "A'_t, B_t, C_t" would be the best…

But, on the other hand, because an increasingly significant part of the sales come from sales forces (and not from the physicians' prescription), the Sales department will prefer to send backorders separately in order to maximize the turnover of the current period. Thus, for the Sales department, strategy "A_{t+x}, B_t, C_t" would be the best…

5.4. Perspectives with our Proposition

With our proposition, three different Order Line strategies could be identified for A. Thus, three Customer Order strategies are preserved and analysed:

1. A'_t, B_t, C_t
2. A_{t+x}, B_t, C_t
3. A'_{t+x}, B_t, C_t

The third solution is necessarily less interesting than the first one (degraded solution). But, between solutions 1 and 2, which is the best?

The next step is to develop the Multi-Criteria Assessment method in order to answer this question by considering not only the DC point of view but also the point of view of all the other actors that are involved in the OFP (SC point of view). It is worth noting that the integration of the OM activity in the OFP could facilitate conciliation between supply and demand. The final result (after assessment, for example) will be different according to the criteria of the problem.

6. Conclusion

In this paper, we tried to demonstrate that the gap between supply chain (SC) and demand (DC) can be bridged by integrating Customer and Commercial Logistics (C2L) processes, hence increasing customer satisfaction. After having presented C2L processes and the Order Fulfilment Process (OFP), we have remarked that the Order Management (OM) activity encompasses a majority of the interactions within the different functional entities. To support the integration of the OM activity in the OFP, we have proposed an approach to manage bulk orders by developing a multi-criteria Advance Available-To-Promise (AATP) methodology.

In the case study, the actual AATP system presents some limits:

- The sequential analysis may not correspond completely to customer requirements (from the perspective of the DC).
- The point of view of the different actors are not considered (from the perspective of the SC)

The case study reveals the existence of day-to-day operational problems and illustrates how our approach would help in the decision-making process by looking at the problems from both perspectives – the DC and the SC. In other words, our approach takes into consideration the points of view of all the actors involved in the OFP.

The next phase of our research will consist of developing the multi-criteria tool for the assessment step of our methodology.

References

[1] W. Selen, F. Soliman, Operations in today's demand chain management framework, Journal of Operations Management, 20, 2002, 667-673.

[2] Y. Chang, H. Makatsoris, H. Richards, A system enabling integrated demand/supply sides chains, The proceedings of the 9th International Conference of Concurrent Enterprising, Espoo, Finland, 16-18 June 2003.

[3] F.R. Lin, M.J. Shaw, Reengineering the Order Fulfilment Process in Supply Chain Networks, The International Journal of Flexible Manufacturing System, 10, 1998, 197-229.

[4] F.A. Kuglin, Customer-Centred Supply Chain Management. AMACOM-American Management Association, 1998.

[5] M. Lauras, L. Dupont, Diagnostic des processus de logistique commerciale: la problématique de l'intégration. MOSIM'06, Rabat, Maroc, Avril 2006.

[6] K.L. Croxton, S.J. Garcia-Dastugue, D.M. Lambert, The supply chain management processes, The International Journal of Logistics Management, 2 (12), 2001.

[7] J.G. Freeland, Defying the limits: setting a course for CRM success, Montgomery Research Inc, 2001.

[8] F.B. Vernadat, Enterprise Modelling and Integration: Principles and Applications (Chapman & Hall, London, 1996).

[9] B.J. La Londe, C. Martha, C. Cooper, T.G. Noordewier, Customer service: A management perspective. Oak Brook Council of Logistics Management, 1998.

[10] C.Gopal, H. Cypress, Integrated Distribution Management: Competing on Customer Service, Time and Cost (McGraw-Hill Companies, March 1, 1993).

[11] V. Humez, M. Lauras, L. Dupont, Integration of customer & commercial logistics' processes. Collecter Europe 2006, Basel, Switzerland, June 2006.

[12] V. Humez, M. Lauras, L. Dupont, L'intégration des processus de logistique commerciale au service de la satisfaction client. 7eme congrès international de génie industriel, trois rivières, Québec, Canada, juin 2007.

[13] M. Christopher, D. Towill, An integrated model for the design of agile supply chains, International Journal of Physical distribution & Logistics Management, 31 (4), 2001, 235-246.

[14] APICS, Dictionary (9th edition), American Production and Inventory Control Society, Alexandria, VA, 1998.

[15] C. Kilger, L. Schneeweiss, "Demand fulfilment and ATP" in: Supply chain management and advanced planning: concepts, models, software and case studies. (Stadtler and kilger editors, Springer, Berlin, 2000).

[16] A. Ashfaque, Profitable-to-promise: a new exciting era, www.technology-evaluation.com, November 24, 2005.

[17] R. Pibernik, Advanced available to promise: classification, selected methods and requirements for operations and inventory management, International Journal of Production Economics, 93-94, 2005, 239-252.

[18] M. Siala, J.P. Campagne, K. Ghedira, Proposition d'une nouvelle approche pour la gestion du disponible dans les chaîne logistiques. MOSIM'06, Rabat, Maroc, Avril 2006.

A Model for Assessing Cost Effectiveness of Facility Layouts: A Case Study

by

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Abstract

The paper presents a model for assessing cost effectiveness of facility layout alternatives. The model is a five-phase procedure including evaluating current layout in phase 1. In phase 2, feasible layout alternatives are generated. Phase 3 and phase 4 provide evaluation based on tangible and intangible factors. Phase 5 prefers a layout alternative based on multiple criteria decision making tools. Economical and working environmental aspects are considered in the evaluation process utilizing tools such as Life Cycle Cost Analyses (LCCA) and Multi Criteria Decision Making (MCDM). Factors reflecting life-cycle consideration include development, investment, usage, and scrapping. Non-economic evaluation elements are also considered in the MCDM. To test the proposed model, a case study is performed at the Swedish Mail Terminal in the town of Alvesta, a part of Posten Sweden AB. The terminal has several space, machine, and operational constraints. The three layout alternatives investigated are suggested by the authors, by the branch management, and by the Posten Sweden AB management personal. Result obtained from the study show that the layout alternative with the most implementation cost yields a nine percent better total LCC than the closest alternative based on ten years life cycle length. The paper provides a generalized layout evaluation procedure for manufacturing companies. Further research is required to customize the proposed procedure for evaluating alternative service facilities.

Keywords: Facility Planning, Layout Evaluation, Life Cycle Cost Analysis (LCCA), Multi Criteria Decision Making (MCDM)

1. Introduction

In today's competitive global market with rapid changes in technology and production demand, it is important to utilize the full capability of the machines and equipment efficiently and effectively [1, 2]. To stay competitive, companies consider many factors including cost, quality, and time but forget to consider planning their facilities. Facilities are critical components necessary for business excellence. Proper facilities planning ensure that the product will be manufactured and

shipped to the satisfaction of the ultimate customer at the right cost. 20% to 50% of manufacturing expenses are attributed to facility layout and material handling [2, 3]. Therefore, potential savings attainable through the right selection of the materials handling system and that due to the right physical allocation of machines and equipment may contribute significantly to reducing the unit cost of the product. Facilities' planning has gone from simple planning or no plan at all to utilizing complex mathematical procedures [1, 2, 3].

Due to the fact that many things change within and outside a company over time a facility plan that seems optimal today will probably have a number of shortages in the future. Such changes include changes in customer demand quality and quantity, technology changes, product design and routing changes, and developing of new products/services or terminating a product or a service. Therefore, facilities planning and production management are continuous processes and should be viewed from a life cycle perspective [2].

The objective in layout design problems is generally to minimizing costs associated with the flow of materials and the physical rearrangement of departments and equipments. This is needed for evaluating increased production flow cost of inefficient layouts and additional rearrangement costs [4]. A very crucial component of the overall facilities design is the design of the material handling system. Therefore, it is essential to incorporate material handling system decisions into the layout design [2]. Companies may identify if their new layout has reduced/increased lead-times, but it is also of interest to identify economical savings/losses generated from implementing a new facility layout [4, 5].

Various literature databases, including Business Source Premier, Science direct, Emerald, EBSCO and IEEE, are reviewed for related literature in the area of facilities planning. Keywords used in this search were "facility planning", "facility evaluation", "layout evaluation", "layout design" and "layout and economy". Search results show that layout design has been an active research area for many decades. Efforts are spent on generating plant layout and developing solution techniques. However, most of these research efforts are spent on generating feasible layout alternatives and little efforts are spent on evaluating these alternatives [2, 6, 7, 8].

This paper presents a model for evaluating layout alternatives based on economical and environmental aspects of the work place taking into account total life cycle cost of the facilities of the plant. The model enables the user to select a cost effective layout alternative based on multi-attribute decision making. Section two reviews relevant research work. Section three presents the proposed model for assessing cost effectiveness of layout alternatives. In section four, results obtained from testing the model are presented and discussed. The final section presents conclusions.

2. Backgroud Review

In the following sections we present, a brief discussion of layout evaluation techniques, life cycle cost analysis (LCCA), and multiple criteria decision making (MCDM).

2.1 Layout Evaluation Techniques

In the literature, techniques used for the assessment of plant layout alternatives [2] include listing advantages and disadvantages, ranking, weighted factor comparison, and economic comparison. Systematic Economic Analysis Technique (SEAT) and Life cycle cost analysis (LCCA) are economic performance evaluation procedures that can be used for performing economic

comparison among alternative facilities over a specified time [9, 10]. Nevertheless, articles surveyed show no use of SEAT or LCCA for evaluating layout alternatives.

Layout generation and evaluation is often challenging and time consuming due to its inherent multiple objective nature and its data collection process [6, 7, 8]. The evaluation process includes the assessment of each alternative in terms of predefined criteria. However, it is typically the case in facilities planning that both quantitative and qualitative considerations are employed in evaluating alternatives. An integrated framework for plant layout evaluation problem is developed and presented by [6, 7]. It includes a structural set having 18 criteria represented by a three-level hierarchical structure, the corresponding quantitative and qualitative indices for the criteria, and the integration methodology. Furthermore, it utilises three criterion groups including cost, flow, and environment criteria. The cost criterion is based on money-value while the other two criteria are measured in non-economical values [7].

2.2 Life Cycle Cost Analysis (LCCA)

The cost for rearranging an existing facility can be divided into direct and indirect costs, e.g. physical movement of equipment and loss of production due to the movement, respectively. The costs for rearranging the existing layout must be lower than the benefits gained by implementing the new layout. Benefits include decreased material handling costs and improved manufacturing efficiency. Hence, there is a need to find a balance between the costs and benefits for rearrangement [1, 4].

LCCA is an economic analysis method for project evaluation based on comprehensive estimation of all system costs in the long run. LCCA is used to providing decision makers with comprehensive cost information on investment alternatives with an intention of reducing the total costs. LCCA can be subdivided into various categories to include design and development costs, construction and/or production costs, system operation and maintenance costs, and system retirement and material recycling or disposal costs [9, 10, 11].

2.3 Multiple Criteria Decision Making (MCDM)

Multiple Criteria Decision Making (MCDM) is an evaluating tool where both economic and non-economic elements are considered [10]. It consists of a finite set of alternatives among which the decision-maker has to select or rank; a finite set of criteria weighted according to their importance. A weight is needed only when indices of different nature (i.e., different measurement units used or different types of indices adopted) are going to be integrated [7]. In addition, MCDM includes a decision matrix consisting of the rating of each alternative with respect to each criterion using a suitable measure. The evaluation ratings are then aggregated taking into account the weights of the criteria, to get a global evaluation for each alternative and a total ranking of the alternatives. There are several methods used for decision making such as Simple Additive Weighting (SAW), Multiplicative Exponential Weighting (MEW), and the Analytic Hierarchy Process (AHP) [7,8,12].

3. Assessing Cost Effectiveness of Facility Layouts

This section presents the proposed model for the evaluation of facility layouts. This model can be used as a decision making tool when comparing different layout alternatives. It consists of five main phases, see Figure 1.

All phases in the model should be followed chronologically. Each phase consists of a number of different procedural steps. However, the user of this model shall decide where to start. If the known future changes, i.e. new process flows, are expected to make the new layouts un-comparable with the

existing layout, then *phase one* is not necessary. If not, then the user should start by evaluating the current facility layout which is done in order to get a foundation for comparison.
Phase two enables creation of new layouts. It is based on collecting all relevant data such as product(s), product(s) demand, processes, material handling equipment, new technology, flow of materials, etc. Then, relationship diagram should be created based on flow chart(s) for the production process and activity relationships. After that, the user can develop different layout alternatives using, for example, methods such as systematic layout planning (SLP) [2].

Third phase is to evaluate created layouts. It consists of five sub-steps:

1. Perform LCCA for all material handling equipment.
2. Estimate time for manual material handling, i.e. loading and unloading time done by personnel.
3. Estimate lead-times using Critical Path Method (CPM) or the Program Evaluation and Review Technique (PERT) method.
4. Calculate total cost for material handling, with help of LCCA method.
5. Consider working environmental aspects, and other non-economical aspects, to get a more holistic view of the layouts.

Phase four is to consider additional costs related to rearrangement of the facility and downtime due to rearrangement. Finally, *phase five* is to make the final decision by considering both economical data and other non-economical factors and select the most preferable layout using MCDM method.

4. Case Study

To verify the effectiveness of the proposed model, a case study is performed at Mail Terminal in Alvesta, a part of Posten Sweden AB.

4.1 Mail Terminal in Alvesta

The mail terminal receives the mail, sorts and distributes them further. The terminal has approximately 450 employees. 50 % are working full-time, 30 % part-time and 20 % are working on a per hour base. The sex ratio is 60 % women and 40 % men. In year 2001 the turnover was about 179 million SEK. The terminal's distribution- and collection area is covering provinces located in the south-east of Sweden. It covers the following geographical areas: bigger part of Småland-, Öland-, Halland- and Blekinge. About one million letters passes through each 24-hour period. Within this area, 308000 households and 20000 companies use the services that the terminal offers.

4.2 Collection- and distribution processes

The Post's service net gathers the letters from the post-boxes and transports them to the post terminals. At the terminals, letters are sorted and put into coded boxes for future transport to respective mail terminal. Boxes arriving at the mail terminal in Alvesta from the other terminals are already coded. However, the collection of normal letters (A-letters) starts from 6.00 p.m. to 9.15 p.m. and sorting should be completed by 9.50 p.m., since the transports departure at 10.05 p.m. Sorted mail is transported to the other mail terminals during the night by train and busses. The terminal in Alvesta receives mail designated to its distribution area from the other terminals. The distribution starts at approximately 10.00 p.m. and ends at latest 5.00 a.m. All mail should be sorted and ready to be conveyed to the different post-areas by 4.40 a.m. A-letters shall reach its customers the day after collection. Economy letters (B-letters) are sorted between 11.30 a.m to 4.00 p.m. for

collection and 6.00 a.m. to 11.30 a.m for distribution the day after collection. They shall reach the customer within three days from posting. The mail terminals and the logistic network are in a stage of a major change. Today the terminals are sorting the letters to different cities and at selected cities the letters are sorted again according to the postcodes so that the postmen can distribute it to the costumers. In the distribution area of the mail terminal in Alvesta there are three sorting offices, i.e. Halmstad, Kalmar and Växjö.

4.3 Model validation, analysis and results

Posten Sweden AB has recently decided that sorting shall be transferred to the terminals. To achieve this goal, six mail refinement-sorting machines (BFM) have been purchased for the mail terminal in Alvesta. Furthermore, a new integrated loading and unloading machine, ALA/ALO, has just been installed and will affect the flow of letters in the future. This means that major changes in the future facility layout will occur. Due to the fact that the changes in future processes at the case company will be major, it was decided to perform two tests. Test one is used for verifying the first phase of the model, i.e. evaluating the existing facility, and part of phase two, i.e. when it is assumed there are no changes in the future process. Test two is used for verifying the model when it starts from phase two with major changes in future processes, which was the real situation in this case.

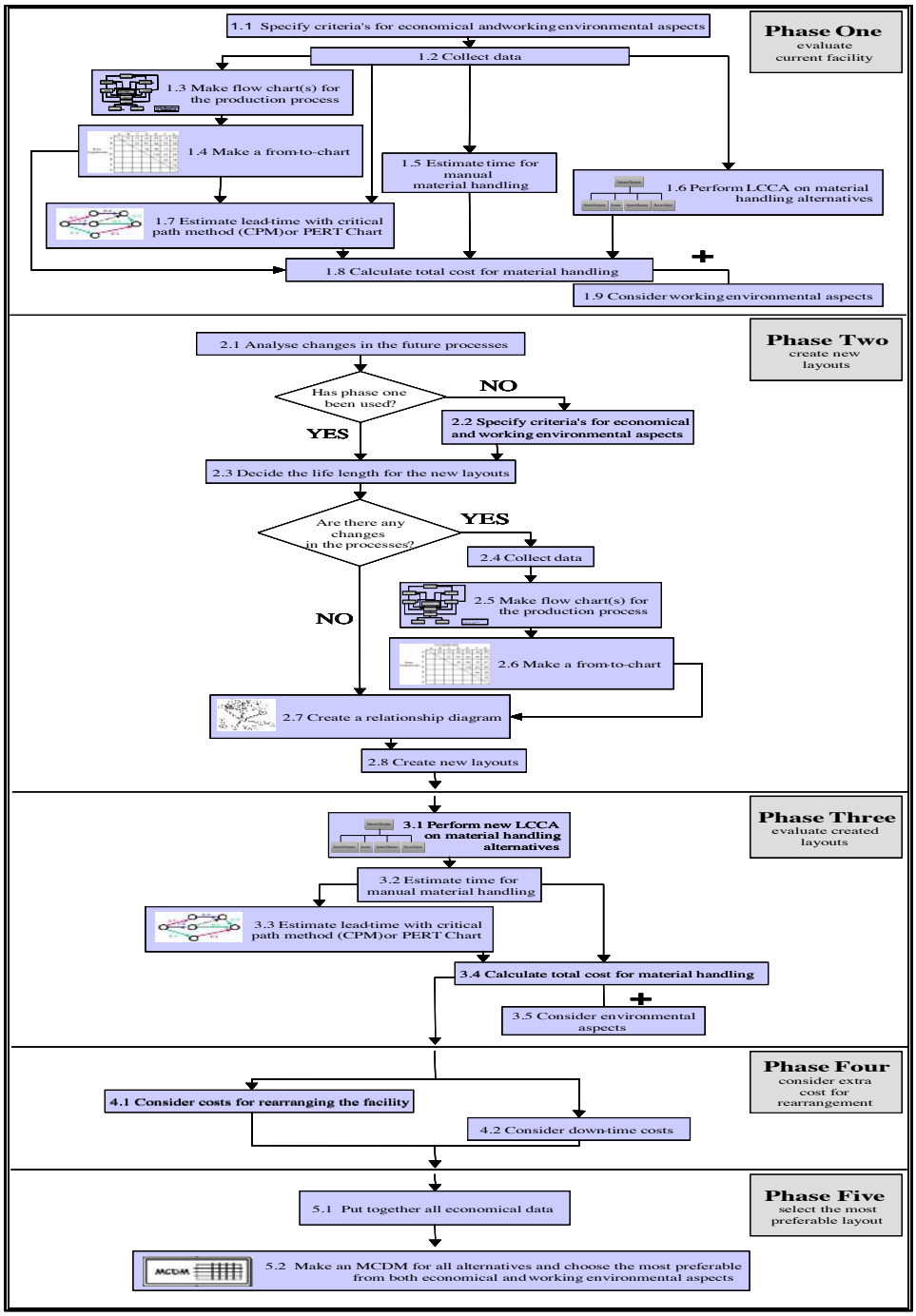


Figure 1 The Proposed Model for Assessing Cost Effectiveness of Facilities Layout

4.3.1 Test one

The first step, in *phase one*, is to specify *the criteria* that represent the economical and working environmental aspects. They included criteria such as material movement distance, number of movements, type of material handling equipment used for all movements and their costs. In the second step, *data collection* was performed with help of terminal's statistical computer system named Click-View and interviews. Click-view was used for mapping out the amounts of flow between different workstations. From interviews information about material handling, technical and financial issues were obtained. Then, *flow charts* for the production processes were created in order to show all movements within the mail terminal. After that, *from-to-charts* were made to map the amounts of letters between different workstations. In next step, *time for manual material handling* was estimated. Then, *life cycle cost analysis* on material handling alternatives was performed. Subsequently, in the seventh step, *Lead-times* were estimated using critical path method (CPM). Figure 2 shows an example of critical path graph used for lead time estimation for normal mail collection.

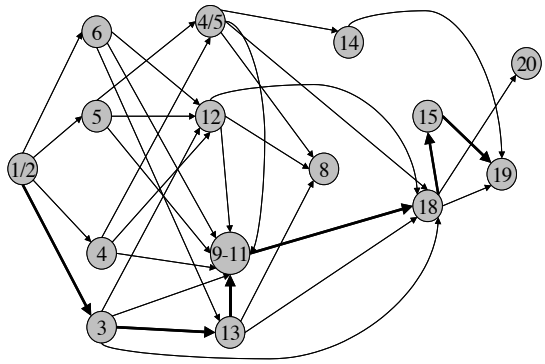


Figure 2 Critical Path Graph of Normal Collection.

The graph was constructed with help of the flow chart of the normal collection mail. The node represents workstation number. However, some of the workstations were merged because they represent different parts of the same workstation. The speeds of the different types of material handling equipment as well as the time for loading and unloading were estimated by relevant persons from the mail terminal. Number of curves, gates, elevators and distances were obtained with help of AutoCAD-drawing of the existing mail terminal layout. The calculations of total time for all the bathes were based on estimating that each process requires 90 seconds, and then the estimated movement time between the workstations were added. The critical path, i.e. 1-3-13-9/11-18-15-19, got a total estimated of 705 seconds.

Afterwards, *the total costs for material handling* were calculated. All economical data were put together for calculating the total cost for material handling and the existing layout. Finally, *the working environmental aspects* were considered to get a more holistic view of the layouts. For example, it was noticed that there is about 723 square meters allocated for pallet trucks within the facility. These areas are a possible safety hazard for the workers, due to the truck traffic. The truck traffic also requires broader aisles.

Create new layout, i.e. *Phase two* begins with *analysing the changes in future processes*. Since phase one has been used, one can go directly to decide the life length for the new layouts. In this case, the life length is set to ten years due to the fact that the mail terminal in general uses this value. If there are any changes in the processes a new data collection should be performed. In test-one, it was assumed that there would not be any changes in the processes. Therefore, we continue the model verification with step seven, i.e. *create a relationship diagram*. And in the final step a new layout was created with help of the relationship diagram created in previous step, see Figure 3. However, the generated layout is not presented, here. Furthermore, we will stop test-one at this stage. The rest of the model with part of stage two will be verified in test-two based on the major changes planned by Posten Sweden AB.

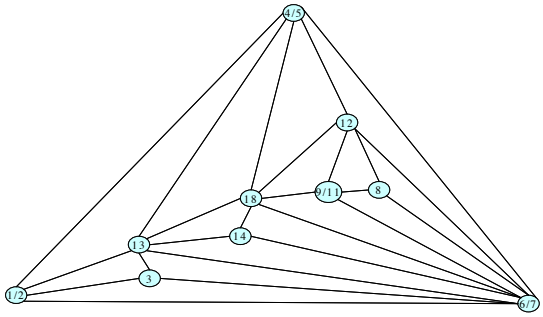


Figure 3 Relationship Diagram Used in Test 1.

4.3.2 Test Two

Creating new layout, i.e. *Phase two,* begins with *analysing the changes in future processes*. The new layouts will have a new kind of process flows, since it will include new type of machines as was discussed previously in section 4.2. Therefore, phase one is not needed in this case. Furthermore, the steps that were verified in test-one will net be presented in this paper, although, they were verified in test-two in the case study. This means that for this stage, we only need present the newly generated layouts. Layout 1 (L1), see Figure 4, is the layout made by "Posten AB" project group. Layout 2 (L2), see Figure 5, is the layout suggested by mail terminal in Alvesta, and Layout 3 (L3), see Figure 6, is the layout proposed by the authors. When generating these layouts, two machines were considered as constrains because of their complexity and the high cost of movement. They are named in the layout graphs as Large Letter Sorting Machine and Automatic Box Loading Robots, machine number 7 and 10, respectively.

Phase three is to evaluate the created layouts. In the following we will verify the five steps related to this phase. Noting that in the case study this phase was repeated for every layout, i.e. three times.

1) Perform LCCA for all material handling equipment

In this step three material-handling (MH) equipments are analysed. MH1 is pallet truck, MH2 is support arm stackers and MH3 is all the conveyor belts within the terminal. In each layout, the length of the conveyor belt was measured with help of AutoCAD drawings. To make a good and reliable LCCA one needs to determine all the relevant life cost factors. In this case, the LCC model consists of Investment-, Operations&Maintenance- and Phase-out & Disposal- costs. Table 1 presents the LCCA results calculated for the three material handling equipments used with layout 3. Data used was obtained with help of personnel from the case company.

Table 1 LCCA for layout 3 (KKR- Thousands SEK)

	MH 1	MH 2	MH 3
Investment			
Acquisition cost	208	90	10 425
Depreciation	Straight Line Method		
Life length	5	10	10
Interest Rate	10%	10%	10%
Average tied up capital	104	45	5 213
Cost of tied up capital	10	4.5	521.3
Cost for depreciation	42	9	1 043
Operations			
Labor cost per man-hour	160	160	160
Labor needed	1	1	0
Man-hours (per year)	6864	702	0
Labor cost	1 098	112	0
Maintenance			
Maintenance costs /year	30	3	209
Spare parts	Included		
Equipment	Included		
Phase out and disposal			
Disposal costs	10	10	209

Table 2 summarises the *annual equivalent value* calculated in Swedish Kronor (SEK) based on the cash flows of the three MH equipments used in the three layouts. The length of the conveyor belt (MH3) used in the three layouts was 415, 406, and 417 meters, respectively.

Table 2 Annual Equivalent Value (Thousands SEK)

	MH1	MH2	MH3
L1	1 192,5	135	2 427
L2	1 192,5	135	2 374
L3	1 192,5	135	2 439

2) Estimate time for manual material handling, i.e. loading and unloading time done by personnel

For the three layouts the manual material handling time needed is estimated by four managers at the terminal, see Table 3.

Table 3 Manual Material Handling Time (man-hour/day)

	Pre-Dividing Unit (LTP/ALO)	Pre-Dividing Unit (FSU)
L 1	15	10
L 2	15	10
L 3	Zero	10

Notice that the time at the Pre-Dividing machine (LTP/ALO) changed from 15 man-hours to zero, due to the use of new conveyor belts between both LTP/ALO to the Rough Sorting Machines (GSM 7 and GSM 8) and LTP/ALO and the Large Letter Sorting Machine (SSM).

3) Estimate lead-times using critical path method (CPM)
The lead-time is estimated using equation (1) below:

$$Total time\ for\ material movement = \left(\frac{Distance\ \ traveled}{Speed of\ material handling} + number of\ curves, gates and\ elevators * time needed for\ curves, gates\ and\ elevators + number of\ loads and\ unloads * time\ for\ loads and\ unloads\right) * Number of\ transports \quad . \ . \ . \quad (1)$$

All relevant data needed was collected both from the company database and with help of a simulation program. Then the lead-time was estimated and verified for each alternative. Table 4 presents the calculated lead time using equation (1) based on the flow chart for the production processes in layout 3.

Table 4 Total Time of Movements in Layout 3 (min)

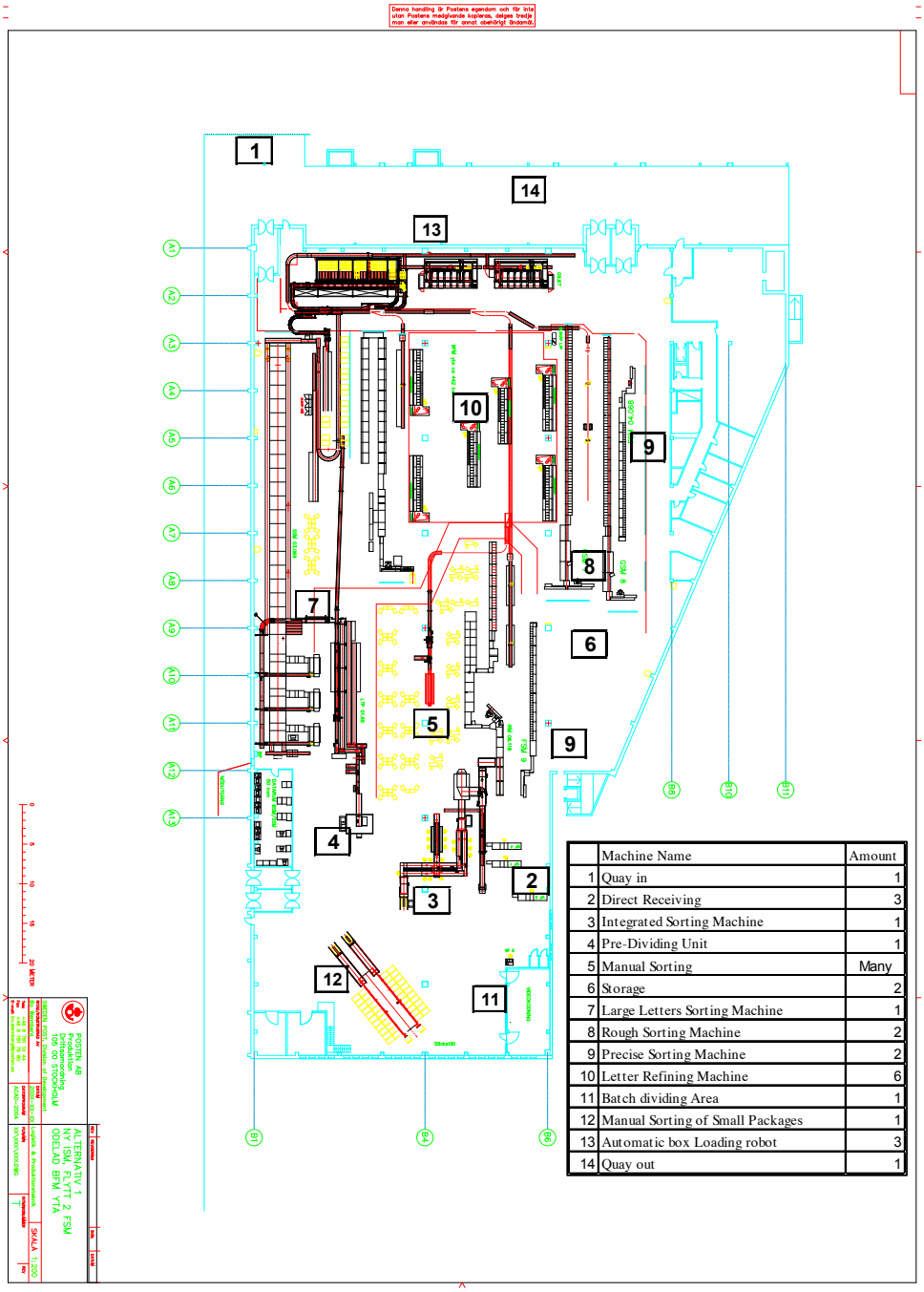
From \ To		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Quay in	1		11	9	40				7			5	6		
Direct recieving	2					9									
IRM	3					17		1		1					
PFD/LTP - LTP/ALO	4					112				9	8				
Manual	5										2				
Storage	6							1	1						
SSM	7					5	1								
GSM	8					2	1			6	38				
FSM	9					1									
BFM	10									6					7
Batch dividing	11														17
Lump	12														22
ALA	13														112
Quay out	14														
		Pallet truck					Sum		235	min					
		Manual movement					Sum		221	min					

4) Calculate total cost for material handling, with help of LCCA method.

In this step all relevant economical data is put together. Man hours needed for manual material movement were obtained from Table 4. Total annual cost for material handling (TACMH) is estimated by adding the costs of MH equipments and the costs of manual handling. Table 5 summaries the TACMH as estimated for every layout.

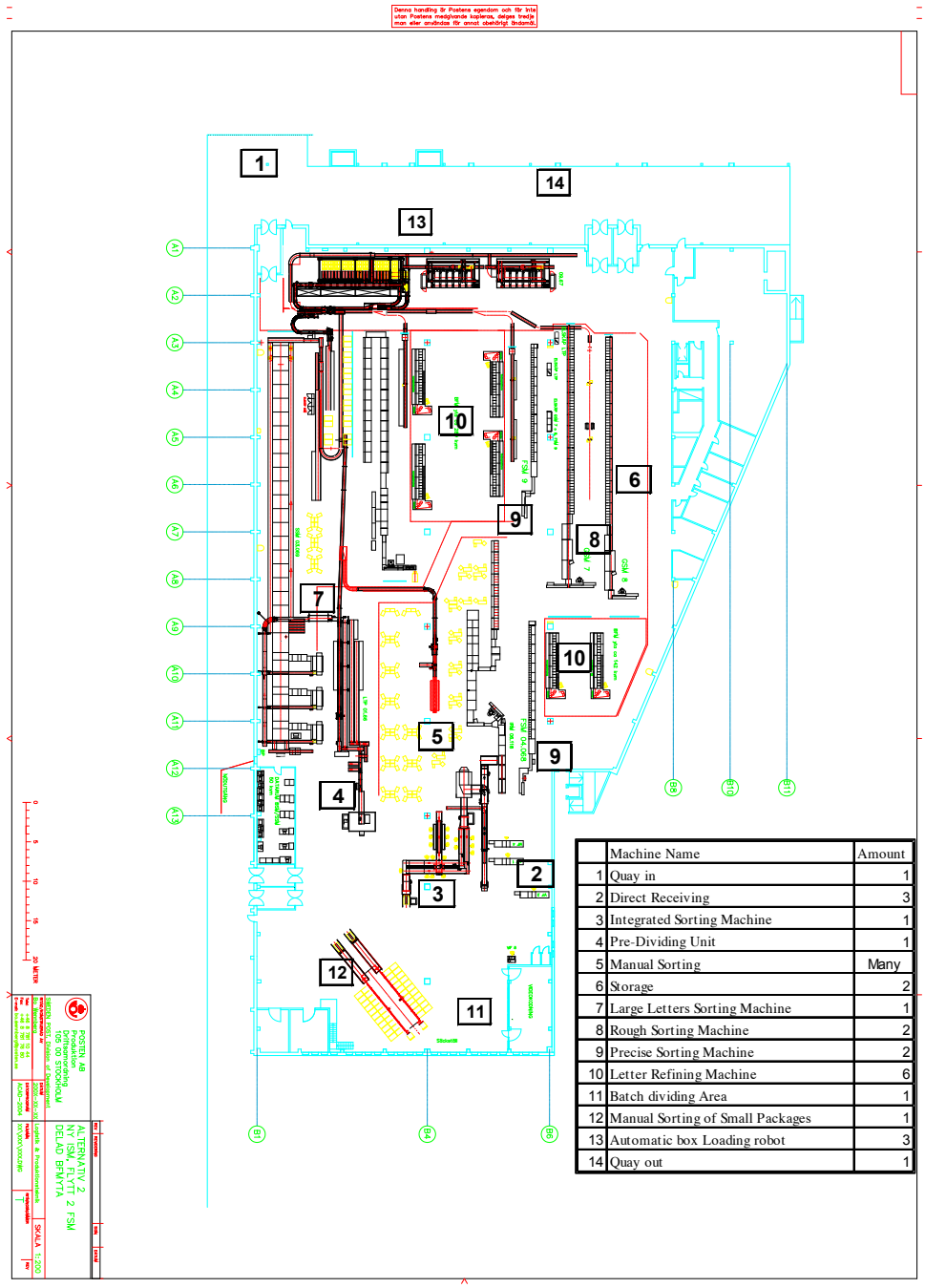
Table 5 Total Annual Cost for MH (Thousand SEK)

	L1	L2	L3
Pallet Truck	4 770	4 770	4 770
Support Arm	270	270	270
Conveyor Belt	2 427	2 374	2 439
Manual Handling	1 605	1 735	685
TACMH	9 072	9 149	8 164



	Machine Name	Amount
1	Quay in	1
2	Direct Receiving	3
3	Integrated Sorting Machine	1
4	Pre-Dividing Unit	1
5	Manual Sorting	Many
6	Storage	2
7	Large Letters Sorting Machine	1
8	Rough Sorting Machine	2
9	Precise Sorting Machine	2
10	Letter Refining Machine	6
11	Batch dividing Area	1
12	Manual Sorting of Small Packages	1
13	Automatic box Loading robot	3
14	Quay out	1

Figure 4 Layout 1 (Created by the Mail Terminal)



	Machine Name	Amount
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5	Manual Sorting	Many
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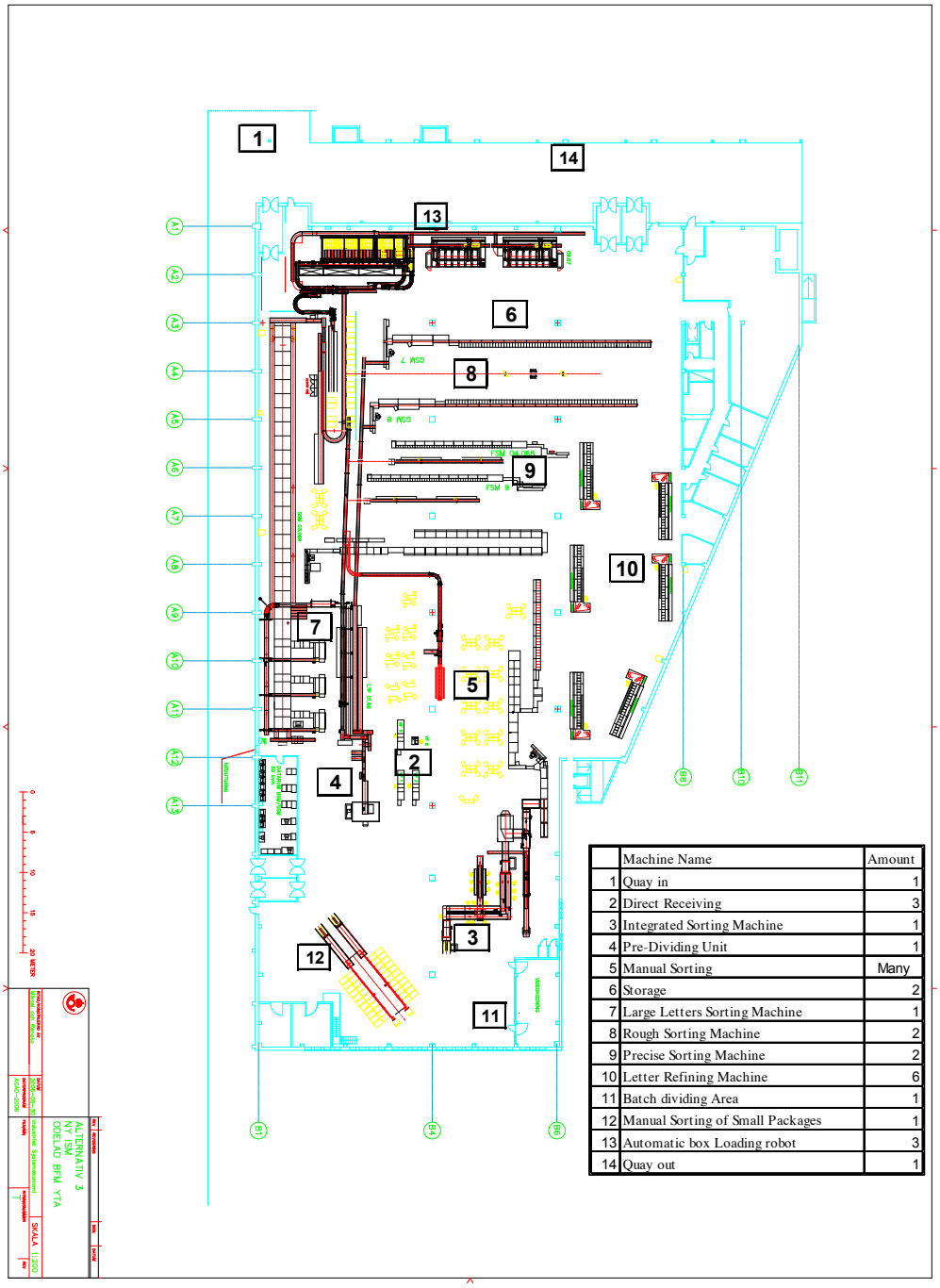
7	Large Letters Sorting Machine	1
8	Rough Sorting Machine	2
9	Precise Sorting Machine	2
10	Letter Refining Machine	6
11	Batch dividing Area	1
12	Manual Sorting of Small Packages	1
13	Automatic box Loading robot	3
14	Quay out	1

Figure 5 Layout 2 (Created by Posten Sweden AB)



	Machine Name	Amount
1	Quay in	1
2	Direct Receiving	3
3	Integrated Sorting Machine	1
4	Pre-Dividing Unit	1
5	Manual Sorting	Many
6	Storage	2
7	Large Letters Sorting Machine	1
8	Rough Sorting Machine	2
9	Precise Sorting Machine	2
10	Letter Refining Machine	6
11	Batch dividing Area	1
12	Manual Sorting of Small Packages	1
13	Automatic box Loading robot	3
14	Quay out	1

Figure 6 Layout 3 (Created by the authors)

Four Pallet Trucks and two support arm machines are used in the three layouts. Using the information in table 2 and the number of machines used in each layout, the first three columns are calculated. While, the manual handling costs consist of sorting (i.e. pre-dividing) and movement costs. Both are calculated based on data from table 3 and table 4, respectively, given that the main terminal in Alvesta operates for 6 days a week, 52 weeks per year, and the average man-hour cost is 160 SEK. Table 6 summaries the present equivalent value (PEV) of the cash flow of the life cycle of the three alternatives. The calculations are based on a life length of 10 years and an internal rate of return of 10% which is based on Posten Sweden AB policy.

Table 6: PEV of LCC of The Layouts (Thousand SEK)

	L1	L2	L3
Life cycle costs	55 744	56 222	50 134

5) Consider working environmental aspects, and also non-economical aspects.

For considering the working environmental aspects, the AutoCAD-drawings of the new layouts were analysed with respect to three criteria. The first criterion is the area allocated for pallet trucks within the facility. The larger the area the higher the possibility of safety hazard for the workers because of having large-truck traffic inside the facility. The other two criteria are the number of curves and gates passed per day and the number of loading and unloading. These two criteria were analyses with respect to manual- and truck handling.

Table 7: E*nvironmental and Non-Economical Aspects*

	L1	L2	L3
Area for trucks (square meter)	800	712	682
Curves and gates passed per day (trucks)	863	692	651
Curves and gates passed per day (manual)	179	690	516
Loading and unloading (trucks)	604	638	554
Loading and unloading (manual)	2010	1849	2000

Phase four is to consider extra cost for rearrangement the new layouts. This is divided into two parts: cost of rearranging the facility, i.e. direct cost, and down-time cost, i.e. indirect costs. The cost for rearranging the existing facility according to the suggested layout can be calculated based on equation (2). All cost parameters needed for the equation were calculated or estimated with help of the personal at the case company. Total cost of rearrangements are summarised in Table 8.

Table 8: Total re-Arrangement Costs (Thousand SEK)

	L1	L2	L3
Machines	812	627	1 607
Conveyor belts	1 523	260	1 740
Rebuilding	800	800	800
Downtime	0	0	600
Total costs	3 135	1687	4 747

$$\sum_{i=1}^{n}(C_m + C_e + C_o + C_c + C_v + C_{co} + C_l + C_r + C_{nc} + C_{sc}) \ldots \quad (2)$$

$n = number\ of\ machines$
$C_m = Cost\ for\ movements$
$C_e = Cost\ for\ electricity$
$C_c = Cost\ for\ contactors$
$C_v = Cost\ for\ vacuum$
$C_{co} = Cost\ for\ compressed\ air$
$C_l = Cost\ for\ labour$
$C_r = Cost\ for\ rebuilding$
$C_{nc} = Cost\ for\ new\ conveyor\ belts$
$C_{sc} = Cost\ for\ scrap\ of\ conveyor\ belts$

Phase five is to select the most preferable layout. It consists of two steps. First all economical data should be put together. Second MCDM methodology can be used to select the preferred alternative layout considering economical and non-economical, e.g. ergonomic, aspects. Table 9 presents the summary of the LCCA results achieved for the three layouts alternatives.

Table 9: LCCA Results (Thousand SEK)

	L1	L2	L3
Re-arrangement costs	3 135	1687	4 747
Life cycle costs	55 744	56 222	50 164
Total costs PEV	58 879	57 909	54 911

Based on the previous analysis, the MCDM methodology is used to select the preferred alternative layout. The decision problem is composed of a matrix of m layout alternatives rated on a set of n criteria. Let {Rij, for i= 1,2, ... ,m; j=1,2, …. ,n} be the rating of the ith layout alternative with respect to the jth criterion. When we have indices of different nature, i.e. different measurement units used or different types of indices adopted. Thus, we should normalise all the indices to the same scale so that they can be compared and integrated on the same basis.

In this case we have identifies twelve criteria, i.e. n=12, to be used for comparing the three layouts, i.e. m=3. Although it could look that part of these criteria are already considered in the LCCA, however, we are considering here the ergonomic part of these criteria and not only the economic part that was considered in LCCA. The weights of the criteria were obtained based on their average importance as assigned by three managers at the Post Terminal in Alvesta, i.e. Maintenance-, Quality-, and Terminal- managers. Every manger was asked to allocate a weight w_j to every criterion

so that all the weight must sum up to 100. Then the average values were considered. On the other hand, the three layout alternatives have different quantitative indices value coming from the measurement units used, i.e. R11, R21, R31. These values were obtained from the study and normalised. The normalisation was performed by making the sum of the normalised values equal to one. For example, suppose R11, R21, R31 are three index values of a criterion. Then, the normalisation for R11 is calculated as R11/ (R11+R21+R31). Finally, the simple additive weighting method was used to rank order the layout alternatives using equation (3)

$$SAW_i = \sum_{j=1}^{n} W_j R_{ij} \qquad (3)$$

Table 10 presents the results obtained from using MCDM to rank-order the three layout alternatives.

Table 10: MCDM for The Three Different Layouts

Criteria	W	L1	L2	L3
Re-arrangement costs	0.09	0.33	0.18	0.50
Life cycle costs	0.19	0.34	0.35	0.31
Area for trucks	0.04	0.36	0.32	0.31
Manual handling time	0.06	0.34	0.48	0.18
Manual lifts	0.04	0.34	0.32	0.34
Manual sorting time	0.08	0.42	0.42	0.17
Truck handling time	0.03	0.31	0.36	0.32
Curves and gates passed	0.02	0.39	0.31	0.30
Lead times for Collection Economy (B-letters)	0.07	0.34	0.33	0.33
Lead times for Distribution Economy (B-letters)	0.09	0.34	0.33	0.33
Lead times for Collection Normal (A-letters)	0.16	0.33	0.33	0.34
Lead times for Distribution Normal (A-letters)	0.14	0.33	0.33	0.34
SAW		**31.31**	**31.83**	**27.53**

Among alternatives, we are interested in selecting the layout alternative that minimizes SAW. The results obtained show that layout 3 is ranked first with SAW= 27.53%. Second comes layout 1 with SAW=31.31%. And finally layout 2 with SAW=31.83%.

5. Conclusion

The paper presents a multiple criteria decision making model for finding the most cost effective layout. The model includes aspects such as lead times. rearrangement costs and downtime costs that were not considered by other models in the literature. The model is aimed at providing guidance of how to create, evaluate, and find the most cost effective layout solution among alternatives. The multiple-phase model is a general model developed for manufacturing companies. The model provides a structured approach for evaluating layout alternatives based on both qualitative and quantitative factors. Each step of the model can be modified to fit each particular case. The model utilizes LCCA for analyzing facility costs. The model accounts for rearrangement and downtime costs. These aspects have proven to be of great importance for finding the most cost effective solution. The model has been applied on a real life case at the Mail Terminal in Alvesta. a part of Posten Sweden AB. Results obtained for the case study show that by following the model the most cost effective layout is achieved.

6. Acknowledgments

We would sincerely like to thank the management and employees at the Mail Terminal in Alvesta for their contribution.

References

[1] Kochhar J. S. and S. S. Heragu. 1999. Facility layout design in a changing environment. International journal of production research. 37. pp: 2429-2446.

[2] Tompkins J. A.. J. A. White. Y. A. Bozer and J. M. A. Tanchoco. 2003. Facilities Planning. third edition (John Wiley & sons. Inc.).

[3] Asef-Vaziri A. and G. Laporte. 2005. Loop based facility planning and material handling. European Journal of Operational Research. 164. pp: 1-11.

[4] Baykasoglu A.. T. Dereli and I. Sabuncu. 2006. An ant colony algorithm for solving budget constrained and unconstrained dynamic facility layout problems. Omega. the international journal of management science. 34. pp: 385-396.

[5] Vollman T. E.. W. L. Berry. D. C. Whybark and F. R. Jacobs. 2005. Manufacturing Planning and Control for Supply Chain Management. fifth edition (McGraw-Hill/Irwin).

[6] Lie C. L. and G. P. Sharp. 1999. Quantitative and qualitative indices for the plant layout evaluation problem. European Journal of Operational Research. 116. pp: 100-117.

[7] Lie C. L. and G. P. Sharp. 1999.Application of the integrated framework for the plant layout evaluation problem. European Journal of Operational Research. 147. pp: 118-138.

[8] Yang Taho and Kuo Chunwei. 2003. A hierarchical AHP/DEA methodology for the facilities layout design problem. European Journal of Operational Research. 147. pp: 128-136.

[9] Durairaj. Senthil KumaranOng. S.K. Nee.A.Y.C. and Tan. R.B.H.. 2002. Evaluation of Life Cycle Cost Analysis Methodologies. Corporate Environmental Strategy. 9. pp: 30-40.

[10] Fabrycky W. and B. Blanchard. 1991. Life cycle cost and economic analysis (Prentice Hall: New Jersey).

[11] Blanchard Benjamin. 2004. logistics engineering and management. (Pearson/ Prentice Hall).

[12] Al-Najjar. B. and Alsyouf. I.. 2003. Selecting the Most Efficient Maintenance Approach using Fuzzy Multiple Criteria Decision Making. International Journal of Production Economics. 83/3. pp: 81-96.

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Abstract

Given the uncertainty of a possible exit of the United States of America (USA) from the North American Free Trade Agreement (NAFTA); the main destination on exports of Mexican companies engaged in agro-industry; for Mexico, it is important strengthen new trade ties with nations with which it already has bilateral treaties and cooperation agreements that facilitate trade. The Asia-Pacific Economic Cooperation (APEC) becomes an attractive area due to the countries that compound it. However, Mexico also faces the challenge of complying with non-tariff barriers imposed by governments in the form of international certifications such as sanitary and phytosanitary measures. Although the adoption of these standards promises to increase exports or open new markets; in recent years, the number of protectionist measures has increased, in addition to the fact that there has not been a general consensus on the issue in this economic zone. On the other hand whereas there is controversy about achieving the purpose of internationalization and the impact that non-tariff restrictions may have on trade for countries such as Mexico, it is essential to standardize regulations in this area, and to delimit it to a reasonable and generalized number that allows the flow of agri-food products between Mexico and the rest of APEC countries.

Keywords: APEC, Exports, Internationalization, International Standards, Non-Tariff Barriers, Sanitary and Phytosanitary Measures

1. Introduction

The World Health Organization (WHO) argues that access to safe and nutritious food in sufficient quantity is essential to sustain life and promote good health, for which it collaborates closely with the United Nations Food and Agriculture Organization (FAO) (OMS, 2014). Safety is defined as the characteristic that guarantees that the food that is consumed does not cause harm to health, that is, during its production, hygiene measures were applied to reduce the risk of food contamination with residues of pesticides, heavy metals, physical agents or microorganisms (SENASICA, 2016).

The supply of safe food strengthens economies, trade and tourism, and serves as a foundation for sustainable development. Given that globalization has increased the demand for a greater variety of foods, the global food chain is increasingly long and complex (OMS, 2014). Besides this consumers are more aware about environmental and social problems (Kellou, 2014). This trend has impacted the areas of innovation in companies, with the development of products that adhere to the recommended nutrition needs (ProMéxico, 2012). In 1962 the Codex Alimentarius Commission was formed to develop global food standards (FAO , 1995). In terms of food certifications and health, the tendency is to create rigorous standards of quality and hygiene to ensure the safety of food consumption (Brown, 2015).

México in the APEC

Mexico is currently facing the negotiations of the Free Trade Agreement with North America (NAFTA) in which the agricultural sector has been one of the axes of attack (Yuste, 2017). This dilemma forces Mexico to direct efforts towards other markets that allow it to continue participating with the same export levels.

The growth perspective for Asia and the Pacific and a regional integration can help further trade liberalization and the reduction of non-tariff barriers (Banco Mundial, 2017). It would be part of a strategy to strengthen Mexico's external trade, which could offset the effects of an eventual US exit from NAFTA (Ramos, 2017).

Asia-Pacific is the most dynamic region in recent years. The economic weight of APEC is very significant: its 21 members represent 54 percent of world gross domestic product (GDP) and 44 percent of world trade. All of the above provides certainty and confidence to the operators of the region to do business (Secretaría de Economía, 2017). Since its creation, its members have adhered to the objective of expanding and diversifying ties with Asia-Pacific and have greater economic presence in the world. (See Table Nº1)

Table 1 APEC Members and Integration Date

APEC members	**Integration date**	**APEC members**	**Integration date**
Australia	Nov 6-7, 1989	Mexico	Nov 17-19, 1993
Brunei Darussalam	Nov 6-7, 1989	New Zealand	Nov 6-7, 1989
Canadá	Nov 6-7, 1989	Papua New Guinea	Nov 17-19, 1993
Chile	Nov 11-12, 1994	Peru	Nov 14-15, 1998
Republic of China	Nov 12-14, 1991	Philippines	Nov 6-7,1989
Hong Kong, China	Nov 12-14, 1991	Russia	Nov 14-15, 1998
Indonesia	Nov 6-7, 1989	Singapore	Nov 6-7, 1989
Japan	Nov 6-7, 1989	Taipei, China	Nov 12-14, 1991
Republic of Korea	Nov 6-7, 1989	Thailand	Nov 6-7,1989
Malaysia	Nov 6-7,1989	United States	Nov 6-7, 1989
		Vietnam	Nov 14-15, 1998

Source: Own elaboration based on APEC data (2017).

APEC seeks to facilitate trade through faster customs procedures at borders; more favorable commercial climates; and align regulations and standards throughout the region. A product can be exported more easily with only a set of common standards in all its economies (APEC, 2018).

Currently there are several agencies that accredit and implement standard systems for certification in the food industry, which are based on compliance and implementation of government regulations. Programs that today's large food processors demand in the food chain around the world (Monreal, 2012).

The certification coordination for the export of food products in the region was established to facilitate trade and improve food security through international standards based on science. However, the establishment of the requirements for export certificates for food products in the APEC region is still at an early stage, as there has not been a general consensus on the subject in recent times (APEC Sub- committee on standards and conformance, 2017). While average tariff rates have declined, non-tariff barriers in agriculture and food trade continue to rise, meaning tariffs are being replaced by "creative" protectionist non-tariff barriers. The APEC Business Advisory Council (ABAC) point out

that the main restrictive trade economies are: 1.- China; 2.- Japan; 3.- United States of America; 4.- Indonesia and 5.- Australia (APEC Business Advisory Council, 2016).

Non-tariff barriers to foreign trade

Non-tariff barriers to market access derive from specific prohibitions, restrictions or requirements that result in exporting products with difficulty or with higher costs. The term covers any restriction or fee, charge, or policy, in addition to traditional customs taxes, such as domestic support programs, discriminatory labeling and sanitation standards, and exclusive business practices that limit access to imported items, these may be actions that are generated by governments or by the private sector (BANCOMEXT, 2014).

The World Trade Organization (WTO) promotes the use of international standards as a basis for regulation when appropriate and effective, as well as best practices in the development of standards, including greater openness and inclusion. Transparency allows the participation of regulatory bodies, consumers and producers. In addition, it promotes cooperation between countries and helps to avoid unnecessary friction (Shark, 2014).

Nevertheless after the crisis detonated in 2008, several countries intensified protectionist measures against third-party imports, damaging global trade, industries and consumers, flagrantly violating international agreements and although the WTO, like many of its member countries, has pronounced against, this trend increases (Camacho, 2012).

Thus, in spite the WTO allows the imposition of such measures to correct market failures, it is undeniable that on certain occasions they are used as protectionist actions that cause commercial and economic distortions. For example, the consequences derived from non-tariff regulations and restrictions have a special impact on Mexican agricultural producers, since they have been shown to be more susceptible to facing negative effects on their commercial capacity (Lopez Rocha, 2014). Sanitary and phytosanitary are the main non-tariff barriers for Mexican exports (Ruiz Durán, 2005).

2. Literature Review

The internationalization of the company is an economic phenomenon that, from different perspectives, has aroused the interest of a large number of researchers. By internationalization is meant all that set of operations that facilitate the establishment of links between the company and international markets, along a process of growing international involvement and projection (Root, 1998).

This process explains that the internationalization decision must be supported in an internal analysis of the competitive advantages of the company (Trujillo, Rodríguez, Guzman, & Becerra, 2006). In this sense it is understood that the advantage is not only the product itself, but also the value it acquires through the international certifications that guarantee its attributes. However, about certifications in the literature there are different positions regarding its effectiveness in the search of its final objective.

In the study *The development of competitive advantages: successful exporting SMEs in Argentina, Chile and Colombia*, published by Milesi, Moori, Robert & Yoguel (2007) the successful exporting countries applied a greater number of actions in the productive, technological and commercial areas; This indicates that they had a more comprehensive strategy to insert themselves in

a sustainable manner in external markets. In this framework, it is found that certain measures are associated with export success, in which stands out among other efforts those aimed at obtaining the certification of the US Food and Drug Administration (FDA).

As well, in the empirical research Certification of international standards, institutional gaps and exports of companies from developing countries, the authors analyze the impact of certifications of international standards on the participation of exports and the scale of exports of companies based on 89 developing countries. The results show that certified companies are more likely to export on a large scale. The impact of certifications of international standards is executed through two channels: productivity and transaction cost economics (Goedhuys & Sleuwaegen, 2016).

Furthermore other researchers have linked international certifications with more endogenous and exogenous variables with the performance of the internationalization of companies, found that quality certifications have a positive effect on internationalization to gain credibility in developed markets (Upadhyayula, Dhandapani, & Karna, 2017).

On the other hand, in the study: Do sanitary, phytosanitary, and quality related standards affect international trade? Evidence from Chilean fruit exports, published by Melo, Engler, Nahuehual, Cofre, & Barrena (2014) the authors emphasize that the intensive use of sanitary, phytosanitary regulations and regulations related to quality and standards impose a heavy burden on exporting countries. The results suggest that an increase in rigor has a negative effect on export volumes. They mention the two sides of the impact of regulations on international trade, stating that they are varied and complex. Therefore, focusing on only one aspect of sanitary, phytosanitary and quality standards can result in misleading estimates. The evidence supports that stricter regulation has a negative effect on trade and that the effect is greater if a country imposes the standard.

In addition, the study carried out by the ABAC (2016) identified that the number of certifications continues to grow, as more than 80 different official certificates are used in the region, inhibiting the efficient movement of food between APEC economies, 53% of respondents saw certifications as the most onerous measures of the phytosanitary system, the interviewees spoke of an increasingly difficult food trade in which they perceive non-tariff barriers as a source of higher transaction costs, which increases operating expenses and food prices. This proliferation tenses governments and the ability of companies to meet the requirements (Leaders' Declaration APEC, 2016).

Sanitary and phytosanitary requirements to trade have increased substantially in the last ten years. Businesses are frustrated that food trade regulations in APEC are increasing in complexity in the context of globalization, therefore the elimination of non-tariff barriers acquires a fundamental importance to preserve not only trade flows and access to commodities, but also diplomatic goodwill (APEC Business Advisory Council, 2016).

Analysis on the effectiveness of exports by imposing non-tariff barriers in the form of international certifications in the agro-industry

It is possible to appreciate that the international certifications demanded by the different nations could be beneficial for the agroindustry of Mexico. This would project the nation to better global marketing opportunities. However, although WTO regulations succeeded in reducing and eliminating tariffs in the world, some non-tariff barriers such as sanitary and phytosanitary measures became a major concern for trade. (Chin & Ahmad, 2015).

In the mission of being a participant in these exports, companies in this sector are faced with a growing range of options on certifications that promise to help them to enter the different regions more easily. An example of this are non-tariff barriers in APEC, for the agri-food industry, which are increasing in importance and complexity, which forces new participating companies to adopt the regulations required to guarantee their products in different foreign markets. However, the results on the benefits in exports and market opening are contradictory.

Some authors claim that the proliferation of non-tariff barriers that accompany any process of liberalization of the economy is due to the fact that governments, when setting their trade policies, are especially concerned about the effects of these policies on the benefits of national companies (Calo Blanco & Méndez Naya, 2017).

3. Discussion and Conclusion

The primary function of non-tariff barriers is to safeguard the welfare of countries and their inhabitants, but in many cases they are measures to restrict the free flow of foreign trade. In the case of international certifications, it is concluded that there is evidence that they do not contribute to exports and the internationalization of agro-industry products in developing economies, so it is important for Mexico to establish the adoption of international certifications that effectively fulfill their function , that is, regulations based on science and international standards related to food recognized by the WTO, that allow bilateral cooperation to minimize non-tariff barriers in the region, allowing easier access to APEC markets.

It is suggested that future research consider analyzing the evidence of the effectiveness in internationalization and increase of exports to APEC economies of those Mexican companies that have implemented international certifications in the Agro Industry.

References

APEC. (9 de Marzo de 2018). About APEC. Obtenido de APEC.ORG Web site: https://www.apec.org/About-Us/About-APEC.

APEC Business Advisory Council. (2016). Non-Tariff Barriers in Agriculture and Food Trade in APEC: Business Perspectives on Impacts and Solutions. University of Southern California.

APEC Sub- comittee on standards and conformance. (2017). Streamlining export certificate requirements for Food Products in the APEC region.

Banco Mundial. (2017). México Datos. Recuperado el 17 de Febrero de 2018, de https://datos.bancomundial.org/indicator/TX.VAL.MRCH.HI.ZS?end=2016&locations=MX&start=1960&view=chart,

BANCOMEXT. (31 de Julio de 2014). (Nontariff measures, NTBs). Recuperado el 16 de Febrero de 2018, de http://www.bancomext.com/glosario/medidas-no-arancelarias-nontariff-measures-ntbs.

Brown, G. (2015). La tendencia futura para ganar la confianza del consumidor hoy. Food Tech Summit. México: Ingredión.

Calo Blanco, A., & Méndez Naya, J. (2017). Integración económica y Barreras no arancelarias. Versión preliminar.

Camacho, E. (16 de Abril de 2012). Ola de proteccionismo invade a comercio global. El Universal. Obtenido de http://archivo.eluniversal.com.mx/finanzas/94409.html.

Chin, L., & Ahmad, K. (2015). The Determinants of Non-Tariff Barriers: The role of WTO Membership. International Journal of Economics and Management, 155-175.

FAO . (Julio de 1995). Corporate Document Repository. Obtenido de Codex Alimentarius: Una normativa dinámica: http://www.fao.org/docrep/V9723T/v9723t02.htm#TopOfPage.

FAO. (2013). Agroindustrias para el desarrollo. (C. A. da Silva, D. Baker, A. W. Shepherd, C. Jenane, & S. Miranda da Cruz, Edits.) Roma, Italia: Autor.

FDA. (December, 4th,2016). U.S. Food & Drug Administration. Obtenido de http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/ucm448728.htm

Goedhuys, M., & Sleuwaegen, L. (2016). International standards certification, institutional voids and exports from developing country firms. International Business Review.

IDEA FSI. (Febrero de 2014). IDEA Food Safety Innovation. Obtenido de http://www.ideafoodsafetyinnovation.com/newsletters/2014/02/te-interesa-exportar-alimentos-a-los-estados-unidos.

Kellou, I. (2014). Alternative Food Systems: The Case of Agri-food SMEs. Journal on Food System Dynamics, 7(1), 155-160.

Leaders' Declaration APEC. (2016). Lima, Perú. Obtenido de http://www.apec.org/Meeting-Papers/Leaders-Declarations/2016/2016_aelm

López Rocha, S. C. (2014). Barreras no arancelarias y su influencia en la relación económica entre China y México. Orientando.Temas de Asia Oriental, Sociedad, Cultura y Economía, 17-40.

Melo, O., Engler, A., Nahuehual, L., Cofre, G., & Barrena, J. (2014). Do Sanitary, Phytosanitary, and Quality-related Standards Affect International Trade? Evidence from Chilean Fruit Exports. World Development, 54, 350–359.

Milesi, D., Moori, V., Robert, V., & Yoguel, G. (2007). Desarrollo de ventajas competitivas: pymes exportadoras exitosas en Argentina, Chile y Colombia. Revista de la CEPAL, 25-43.

Monreal, L. (3 de Agosto de 2012). Estandares de Certificaciones. Obtenido de Industria Alimenticia: http://www.industriaalimenticia.com/articles/85998-estandares-de-certificaciones

OMS. (2014). Inocuidad de los alimentos. Washington, D.C.: Centro de prensa.

Organización de Naciones Unidas para la Alimentación y la Agricultura FAO. (16 de Octubre de 2014). FAO propone más inversión en el sector primario. Obtenido de Excelsior: http://www.dineroenimagen.com.

Organización Mundial del Comercio. (16 de Febrero de 2018). Glosario de términos. Obtenido de https://www.wto.org/spanish/thewto_s/glossary_s/glossary_s.htm

Ramos, R. (6 de Noviembre de 2017). Peña participará en reunión de la APEC. El Economista. Obtenido de https://www.eleconomista.com.mx/empresas/Pena-participara-en-reunion-de-la-APEC-20171107-0011.html

Root, F. R. (1998). Entry strategies for international markets. San Francisco: Jossey-Bass.

Ruiz Durán, C. (2005). APEC: non tariff barriers to mexican exports. Recuperado el 15 de Febrero de 2018, de The World Bank: http://www.worldbank.org/en/search?q=non+tariff+barriers+APEC&currentTab=1

SAGARPA. (2013). Indicadores macroeconómicos. Monitor Agroeconómico e Indicadores de la Agroindustria, 5.

Secretaría de Economía. (1º de Noviembre de 2017). Foro de Cooperación Económica Asia-Pacífico (APEC). Obtenido de http://www.2006-2012.economia.gob.mx/comunidad-negocios/comercio-exterior/tlc-acuerdos/organismos-multilaterales/foro-de-cooperacion-economica-asia-pacifico-apec

SENASICA. (2016). ¿Qué es la inocuidad? 2000 AGRO.

Shark, D. (19 de Noviembre de 2014). OMC Noticias. Recuperado el 16 de Febrero de 2018, de https://www.wto.org/spanish/news_s/news14_s/ddgra_19nov14_s.htm

Trujillo Dávila, M., Rodríguez Ospina, D., Guzmán Vásquez, A., & Becerra Plaza, G. (2006). Perspectivas teóricas sobre la internacionalización de empresa. Bogotá: Universidad del Rosario.

U.S. FDA. (5 de Diciembre de 2016). Ingredients, Packaging & Labeling. Obtenido de http://www.fda.gov/Food/IngredientsPackagingLabeling/default.htm

UNCTAD. (2015). Key statistics and trends. Génova.

Upadhyayula, R. S., Dhandapani, K., & Karna, A. (2017). The Role of Cluster Presence and Quality Certification in Internationalization and Performance of Offshore Service Providers. Journal of International Management, 23, 72–86.

Yuste, J. (20 de Noviembre de 2017). TLCAN, V Ronda muy lenta. EXCELSIOR, pág. 2.

The Use of Component Analysis Determines the Marketing Mix (4Ps): The Case of Home and Residence in Bangkok and its Vicinity

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Abstract

This research aims to study the level of opinions on the marketing mix of home and residential customers, as well as investigate the 4P weight on marketing mix elements. The weight of the observed variables on the marketing mix elements was studied. The population is residential customers in housing estates and condominiums in Bangkok and its vicinities. The study used 500 samples with random sampling. The instrument used was a five-level questionnaire with a validity of 0.50 and a reliability of 0.976. The statistics used were percentage, mean, standard deviation and component analysis. The study identified four elements of the marketing mix, including mean variance of the marketing mix of 77.23% with the eigen-value of 3.09%. The mean KMO of 0.842 was statistically significant with the chi-square of 125.36, p value of 0.000. Each component contains the weight from high to low showing as follows: product, price, place, and promotion, respectively. When considering each component, it was found that the product component, the most weighted variables were a central lighting system and a drain system, along with a cleaning system. For the price component, the most weighted variables were interest rate, and home and banking fees for loan applications. For the place component had the most weighted variable of employees' service and sales staff, along with office/corporate office hours. Finally, for the promotion component, the most weighted variables were after-sales service, discounts, and maintenance, respectively.

Keywords: Marketing Mix, Home, Residence

1. Introduction

The competition in home and residential real estate has been intensified in 2017 due to the large number of homes and residences from the year 2016 (based on real estate data, there were 522,879 units sold in 2019, and there were about 65 percent in 2017). 107,000-109,000 new homes and residences were built (Kasikorn Research Center, 2017) due to the development of a mass transit network of the green, red, purple and blue metro lines that have been implemented from the years 2018 to 2021 (AREA Research and Database Department, 2017). Real estate along the metro line is built towards the suburbs significantly, in order to meet the needs of residential areas along the nearby Bangkok metropolitan. However, the global and domestic economy has slowed down; resulting in the competition in this business is more intense. This is the year that the marketing of homes and residences is very competitive due to increased supply. Many marketing strategies have been created such as discounted deals, discounted giveaways, or media outlets to accelerate the old stocks sold. Combining the launch of new jointly strategies might allow entrepreneurs using the marketing mix or 4P that consists of product, price, place, and promotion.

In the present situation, the marketing mix of 4Ps allows customers to weight on any levels. The information that entrepreneurs should focus should be a good answer for home and residential business. The importance of the marketing mix is determined by the average of the customer's level of feedback. There are also high-level statistics that can determine the weight of the four market mixes, in terms of the weight of the observed variables. In all four components and the weight of the four components above are the marketing mix elements by using the factor analysis. Due to the aforementioned problems, the research objectives were as follows: 1) to identify the level of opinions on the marketing mix of home and residential customers, 2) to investigate the weight of 4P on the marketing mix elements, 3) to investigate the weight of observed variables on the marketing mix elements in various fields.

1.1 Scope of the Study

1. Scope of content

The content of this research study was 4P's market mix of home and residential customers that include product, price, place, promotion by inquiring the opinions from customers, business homes, and residences located in Bangkok and its vicinity.

2. Scope of source

The source of the data collection was representatives of home and residential customers in both high and low rise housing projects in Bangkok and its vicinities, with a random sampling of 500 samples.

3. Scope of the variables

The variables included 4P's marketing mix of home and residential customers containing product, price, place, and promotion.

1.2 The benefits of Research

1. To acknowledge the weight of four components of the marketing mix including product, price, place, and promotion.

2. To understand the weight of each variable for further strategic planning of the home and residential business management.

2. Conceptual Framework

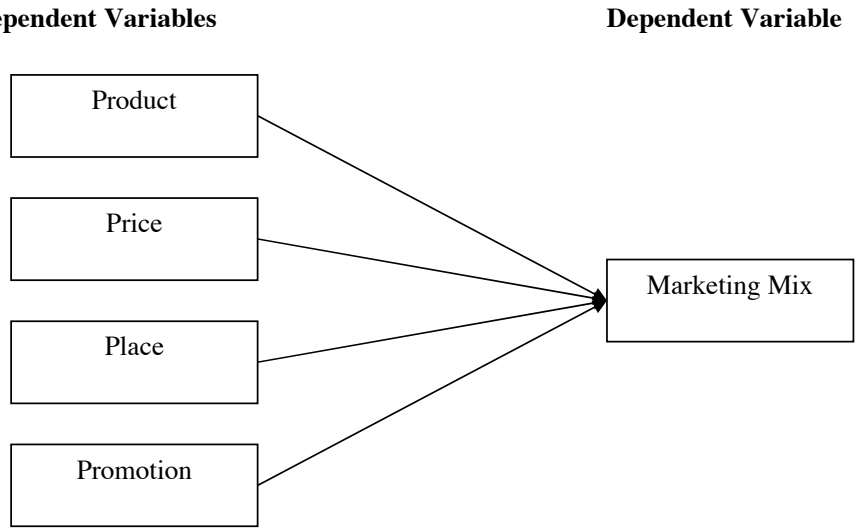

Figure 1 Conceptual Framework

Figure 1 shows the factor of product, price, place, and promotion that are hypothesized to be a component of marketing mix.

3. Research Methodology

This research study used quantitative research methodology, and its process is shown as follows:

3.1 Population and Sample

The population in the study was residential housing clients and/or condominiums in Bangkok and its vicinity. Random sampling was used with accidental sampling of 500 people.

3.2 Data Source

The source of data collection was the customer who comes to be serviced with buy and/or visit a home and residential distribution project located in Bangkok and its vicinities. 500 condominiums were given with a questionnaire.

3.3 Research Tools

The tools used to collect data were five levels of evaluation questionnaire for the marketing mix (4Ps) of one residential project in Bangkok and perimeter. One questionnaire contained 29 items, and the demographic characteristics of 15 items.

3.4 Research Tools and Quality Testing

1. Content validity of the questionnaire was tested by 5 experts using IOC that was over 0.5.
2. Reliability testing was made that equals to 0.976, the result was greater than 0.70.

3.5 Data Collection

The researcher collected the data by asking for cooperation from various residential and housing projects in Bangkok and suburbs, and self-managed.

3.6 Statistical Analysis

1. Frequency and percentage in the counting and percentage calculation that describe the demographic characteristics of the customer group.

2. Mean and standard deviation were used to describe the marketing mix in all four aspects.

3. Factor analysis was conducted with the Principal Component (PC) extraction method that determines the number of components in each of the factors. It was used for determining the weight of observed variables in four components of the market mix.

4. The use of inferential statistics was tested with a significance level of 0.05.

4. Results Analysis

Demographics of home and residential customers were used as examples in the study.

The samples were 45.4% male and 54.6% female. The majority of them were aged between 31-40 years, accounted for 43.8%, 41.4% and 26.4%, respectively. Married couples were accounted for 69.0%, 23.6% had single, 28.0% had no children, 34.2% had one child, and 32.2% had two children. Most of the samples graduated above a Bachelor's degree that were more than 53.8%, and were employed by private companies of 42.0%. The business owner was accounted for 17.8%, with the average monthly household income of 45,243.0 baht. 65.0% was accounted for horizontal building, 35.0% was accounted for vertical building, and 50.0% for travelling private, respectively.

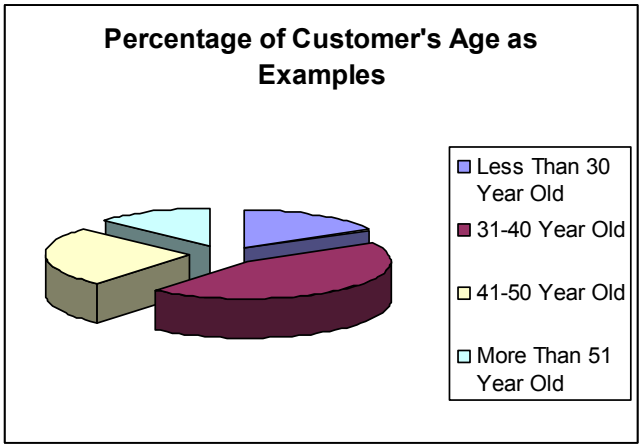

Figure 2 Percentage of Customer's Age as Examples

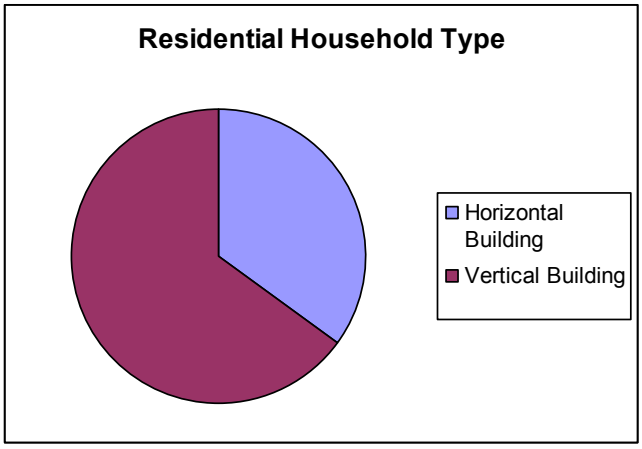

Figure 3 Residential Household Type

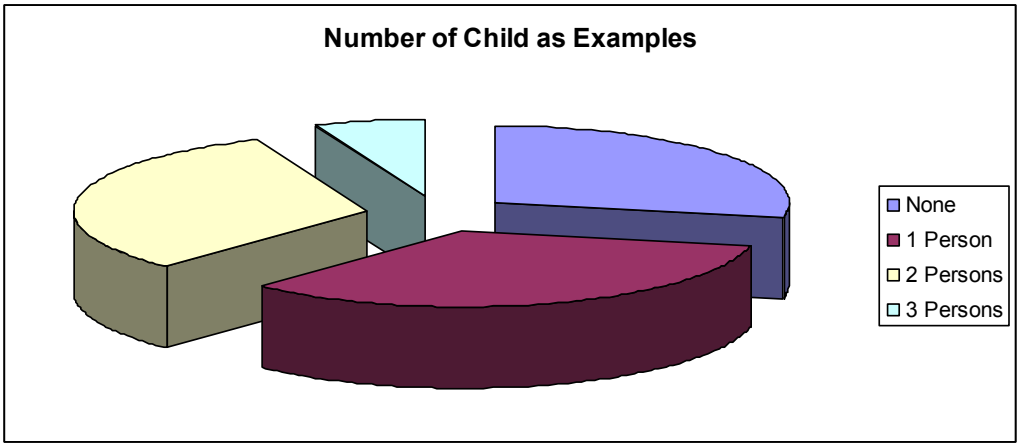

Figure 4 Number of Child as Examples

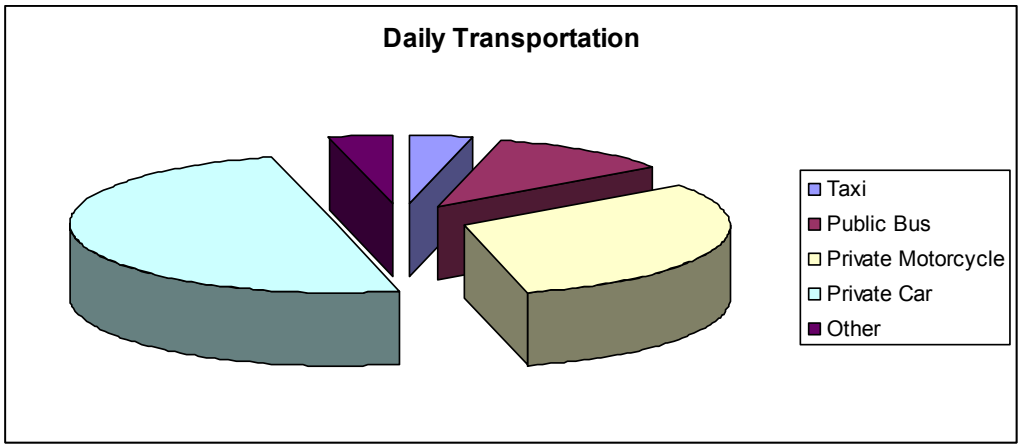

Figure 5 Daily Transportation

Figures 2 to 5 show the demographic characteristics of the clients used in the marketing mix.

The overall marketing mix was 3.92 at a high level. The highest average was the product that was 4.03 at a high level. Secondly, the average price was 3.94, average promotion was 3.83, and average place was 3.73 at a high level.

Table 1 Mean and Standard Deviation of Marketing Mix

Marketing Mix	$\bar{X}$	**S.D.**
Product	4.03	.69
Price	3.94	.73
Place	3.73	.70
Promotion	3.83	.77
Total	3.92	.64

Composition Marketing Mix Weight

The results from the component analysis for an overall marketing mix with each facet are shown as follows.

3.1 The results analysis of the compositional weight for 4 components of the marketing mix. It was found that the marketing mix of the place had Eigen = 3.090, explaining its variation of 77.23 percents. KMO equals to 08.42 with being statistically significant of $x^2 = 125.63$, $p = 0.000$). The weight of observed variables in four components was ranked as follows: place, product, price, promotion, respectively that is shown in Table 2.

Table 2 Weight of Components for Variables

Observed Variable	Weight of Component
Place	0.907
Product	0.893
Price	0.881
Promotion	0.833

3.2 The results analysis of the compositional weight for 4 components of the product. It was found that Eigen = 9.50, explaining its variation of 73.11 percents. KMO equals to 0.971 with being statistically significant of x^2 = 6603.93, p = 0.000). The weight of observed variables in four components was ranked as follows: central lighting system, drainage system, cleaning system, home interior, respectively that is shown in Table 3.

Table 3 Weight of Components for Product

Observed Variable	Weight of Component
Central Lighting System	0.887
Drainage System	0.887
Cleaning System	0.881
Home Interior	0.881
Water Supply System	0.872
Security System	0.865
Road and Public Area	0.860
Home Structure, Floor, Ceiling, Roof	0.847
Termite Control System	0.842
Parking Area	0.837
Material and Tool Quality	0.836
Travelling Comfort	0.812
Neighborhood	0.803

3.3 The results analysis of the compositional weight for 4 components of the price. It was found that Eigen = 4.01, explaining its variation of 80.20 percents. KMO equals to 0.899 with being statistically significant of x^2 = 2142.56, p = 0.000). The weight of observed variables in four components was ranked as follows: interest rate, home purchase fee, bank fee, respectively that is shown in Table 4.

Table 4 Weight of Components for Price

Observed Variable	Weight of Component
Interest Rate	0.916
Home Purchase Fee	0.907
Bank Fee	0.900
Public Service Fee	0.877
Home Price	0.877

3.4 The results analysis of the compositional weight for 4 components of the place. It was found that Eigen = 4.54, explaining its variation of 75.71 percents. KMO equals to 0.874 with being statistically significant of x^2 = 2937.79, p = 0.000). The weight of observed variables in four

components was ranked as follows: staff service and sale staff, hour of corporate office and sale office, distribution channel and comfort in contacting with corporate office staff, respectively that is shown in Table 5.

Table 5 Weight of Components for Place

Observed Variable	Weight of Component
Staff Service and Sale Staff	0.902
Hour of Corporate Office and Sale Office	0.882
Distribution Channel and Comfort in Contacting with Corporate Office Staff	0.867
Distribution Channel and Comfort in Contacting with Sale Staff	0.862
Corporate Office and Sale Office	0.861
Service Staff and Sale Staff	0.846

3.5 The results analysis of the compositional weight for 4 components of the promotion. It was found that Eigen = 4.06, explaining its variation of 81.16 percents. KMO equals to 0.867 with being statistically significant of $x^2 = 2398.83$, $p = 0.000$). The weight of observed variables in four components was ranked as follows: service after sales, discount, maintenance, respectively that is shown in Table 6.

Table 6 Weight of Components for Promotion

Observed Variable	Weight of Component
Service After Sales	0.936
Discount	0.912
Maintenance	0.903
Home Warranty	0.877
Premiums	0.876

5. Discussion and Recommendation

5.1 Discussion

The results of the four components were product, price, place, and promotion revealed that the compositional weight was 0.833-0.907; indicating that the four variables had a significant effect on the market mix. This was consistent with the study of Thongchai Chusun (2007) of the factors affecting the decision to buy condominiums. The marketing mix factors affect the decision to buy condominiums in accordance with the study of Chakrapan Siripanpong (2007). It was the marketing mix aspect that influences consumers' home buying decisions in housing projects. The results indicated that product, price, promotion, and place influenced the decision to buy a home.

Home and residential operators needed to focus on four aspects of business conduct for business competition. If the entrepreneur wanted to determine which elements should focus more on each other, the weight of the composition could be used as a reference in determining the marketing mix. From the study of market mix factors that affect the most marketing mix was the place scored as 0.907. It was composed of 6 observation variables, in which the variables used as the channel

management approach were the service staff and sales staff, hour of corporate office and sale office, distribution channel and comfort in contacting with corporate office staff, distribution channel and comfort in contacting with sale staff, corporate office and sale office, and service staff and sale staff. The indicated results were in accordance with the study of Prapapang Prasit et al. (2010), titled "the marketing strategies of upper detached houses in Bangkok and its vicinity". It was revealed that place, such as booths in shopping malls, were effective for the marketing strategies.

Furthermore, the product component revealed that the weight of the element was 0.893, consisting of 13 observation variables. The variables used as product management guidelines were the central lighting system, drainage system, cleaning system, water supply system, security system, road and public area, home structure/floor/ceiling/roof, termite control system, parking area, material and tool quality, travelling comfort, and neighborhood had a compositional weight of 0.881. It comprised of five variable observations that guide price management, interest rates, home purchase fees, bank rates for home loans, and home prices. The last part was the promotion component that had the compositional weight of 0.833, consisting of 5 variable observations. The variables used as promotion were service after sales, discount, maintenance, home warranty, and premiums.

In the presented study, four components were conducted in more details in order to rank importance or weight of the observable variables used for a strategic plan. The results indicated that the product component reviews a central lighting system as the most important variable and followed by drainage system, cleaning system, home interior, water supply system, security system, road and public area, home structure/floor/ceiling/floor/roof, termite control system, parking area, material and tool quality, travelling comfort, and neighborhood, respectively. Considering the weight of 13 variables, it appeared that all variables were important for the product component with higher levels. Therefore, home and residential program must consider all 13 variables in order to attract customers to buy their home and residence. Moreover, the price component reviewed all 5 variables ranking from high to low of interest rate with the weight of 0.916. It means that the interest rate was important for the price component, followed by home purchase fee, bank fee, public service fee, and home price. Many projects were used as a strategy to invite customers to the project, such as starting price with low interest rate, or joined banks and home/residential project. It was due to some clients might be interested in each component, and that they received direct benefits in line with the study of Weena Thira Sophon (2015). Buying a home in Bangkok and its vicinity could be the price factor, service, environment, quality, and safety, respectively.

For the place of the marketing mix, it appeared that the most important variable was the service staff and sale staff. Secondly, it was hour of corporate office and sale office and place and comfort in contacting with corporate office staff. For the promotion, it appeared that the most important variable was the service after sales, discount, and maintenance. The results were in accordance with the study of Anchalee Thongpin (2011), indicating the marketing factors affecting the decision-making process of single houses of Pruksa Real Estate Public Company Limited. It also showed that the cash discount was in line with the study of Supakorn Buenim (1998), identifying the factors influencing the purchase of housing for living. The results of this study were found that promotion that was a component of the marketing mix influencing decision making of buying home, especially advertising on low down payment.

This was summarized that product, price, place, and promotion combined into the marketing mix could describe the variation of 77.23%. The four elements had different weights in the marketing mix.

5.2 Recommendation

Structural Equation Modeling or SEM should be conducted to determine the causal factors that affect the marketing mix. More than 4 marketing mixes should be studied. The results of this research should be used in the strategic planning of home and land management.

References

Cervero, Robert (2007). Effects of Expenditure on Buying Home, California, USA: Lincoln Institute.

Jakarpan Sirijatarapong (2007). Market Factors Influencing Consumers' Home Buying Decisions of the Housing Project, Master of Business Administration, Burapa university, Cholburi, Thailand.

Prapai Saengprasit et al. (2011). Strategic Marketing of Single Detached Houses in Bangkok and its Vicinities, "BERAC II.

Real Estate Information Center: Real Estate Information Center (2017). Brief Situation of Bangkok Residential Market [Online Available]: 2 November 2017, from https://thinkofliving.com/2016/11/26.

Real Estate Information Center (2017). Brief Situation of Bangkok Residential Market and the perimeter of Q3/2016, [Online Available]: 2 November 2017 from https://thinkofliving.com/2016/11/26.

Research and Database Agency for Real Estate Affairs (2017). Real Estate Market Trends in Bangkok, November 2, 2017, from https://www.cbre.co.th/en/ResearchCentre/ Research/Bangkok-Real-Estate-Market-Outlook-2017.

Thachana Thongmuanglaung (2011). Marketing Factors Affecting the Single House Buying Process of Pruksa Real Estate Public Company Limited, Rajamangala University of Technology Thanyaburi, Pathumthani.

Thongchai Khoosoon (2014). Factors Influencing Decision to Buy a Condominium, Graduate School, Bangkok University, Bangkok, Thailand.

Veena Thirasopon (2015). Factors Affecting Housing Buying Decision, Faculty of Commerce and Accounting, Thammasat University, Bangkok, Thailand.

The Search for Self-Revelation Must Inform Leadership Development Inner Development Key to Nurturing Leaders

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Abstract

Successfully meeting the challenge of effective management education has two aspects that are integral to it. The first of these consists in restoring primacy to *dharma* or righteousness and *satyam* or fidelity to truth as its essential success indicators, while the second might be termed as 'outer' development and 'inner' development. This paper suggests that four attributes need to be firmly anchored upon the management agenda not in the distant future but in the here and now. What is missing in mainstream discourse on leadership development are the insights that can be found in ancient Indian wisdom. This explains why our ancients spoke of the Pusharthas. Derived from two words including *Purusha* (meaning the indweller of the human body) and *artha* (referring to health, wealth and experience). In the Vedic view, reality is shaped by our thinking or as Swami Rama once expressed it: *"You are the architect of your life. You build your own philosophy and construct your own attitudes". In general, this means that just as we are careful about food we provide to our bodies, we need to be cautious about thought currents that we provide to feed our mental make-up.* The Purusharthas help in defining the goals of human existence and these include (a) *dharma* or righteousness considered in its entirety, (b) *artha* or material prosperity and mental equaminity (c) *kāma* or material pleasure and (d) *moksha* or liberation from attachment born out of desire. If the Purusharthas help to define the goals of human existence, it is righteousness and truth that are weapons with which we engage worldly existence. The challenge of management education in the universe we live is as urgent as it is compelling. While the country has reached a watershed moment in her history and is poised to play a greater role in world affairs, we need to nurture leadership talent across state and civil society take it forward. The crisis of leadership in the world is a direct result of the fact that people occupying leadership positions lack the wherewithal to deal with the challenges they confront because they have not been through a trial by fire. Touching fire is tantamount to becoming fire. This torch was lit in ancient India. It now needs to embrace the universe.

Keywords: Management, Leadership, Righteousness, Fidelity

1. Introduction

The space occupied by leadership, creativity and innovation in management thinking, education and practice is indisputably immense. The same remark applies equally to the world of creativity and innovation. There is little doubt that the turbulence that we are witnessing in the world today can only be effectively engaged by employing creativity to produce radical innovation.

Both have grown and evolved over time and today form critical components in the establishment of a strategic mindset oriented to grapple with the challenges that we face in both the

rapidly changing domestic and external context. The spread of terrorism, the closing of borders, the growing attraction of what might loosely be called right-wing thinking and the marked predilection to erect barriers are giving way to a global context that is becoming increasingly difficult to anticipate or much less predict. There is a palpable need for leadership in the world of ideas and their execution, moving away from the standard way of doing things and exploring altogether newer ways of negotiating old problem by generating innovative solutions that are uniquely customized to our respective contexts.

Successfully meeting the challenge of effective leadership in management education has two aspects that are integral to it. The first of these consists in restoring primacy to *dharma* or righteousness and *satyam* or fidelity to truth as its essential success indicators, while the second might be termed as the tension between 'outer' development and 'inner' development. These four attributes need to be firmly anchored upon the management agenda not in the distant future but in the here and now. What is sorely missing in mainstream discourse on leadership development are the insights that can be found in ancient Indian wisdom.

These insights need to be contemporized so that they speak a modern idiom and contextualized to enable grasping their relevance to what we are witnessing in the world today whether this refers to the unprecedented emergence of the Right in different parts of the world, the closing or borders, terrorism or racism or the distinct possibility of violent conflict. What the world desperately needs today is precisely the ability to uphold *dharma* and practice *satyam* that is responsible for the ills that we are trying to overcome today.

This explains why our ancients spoke of the Purusharthas. Derived from two words including *Purusha* (meaning the indweller of the human body) and *artha* (referring to health, wealth and experience). In the Vedic view, reality is shaped by our thinking or as Swami Rama once expressed it: *"You are the architect of your life. You build your own philosophy and construct your own attitudes". (Introduction, Swami Rama, 1978) In general this means that just as we are careful about food we provide to our bodies, we need to be cautious about thought currents that we provide to feed our mental make-up.*

2. The Message from Purusharthas

The Purusharthas help in defining the goals of human existence and these include (a) *dharma* or righteousness considered in its entirety, (b) *artha* or material prosperity and mental equanimity though it is often translated as wealth (c) *kāma* or material pleasure and (d) *moksha* or liberation from attachment born out of desire. If the Purusharthas help to define the goals of human existence, it is righteousness and truth that are weapons with which we engage worldly existence.

Let us consider each one of them in turn. Dharma must be distinguished from *swadharma* or the dharma that is applicable to every individual stemming from his position in society. It is the dharma of a thief to steal and the dharma of a teacher to teach. Moral and ethical standards are applicable to each. Dharma also has its enemies: "The enemies of dharma are lust (*kama*), attachment (*moha*), egoism (*ahankara*), anger (*krodha*), jealousy (*matsarya*), pride (*mada*) and greed (*lobha*). Adherence to dharma aids an individual in conquering these enemies, live and individually and socially beneficial life on earth, and eventually attain moksha, the final goal of life." (Bansi Pandit, p. 280, 281) They are described as enemies as they have the capacity to distract the seeker from being in harmony with both himself and his environment. They can distort perception, create

obstacles and result in negative outcomes. We are therefore cautioned to exercise vigilance in the pursuit of righteousness. Dharma is above all a moral law.

The second goal is artha or wealth, but this does not refer to the untrammeled pursuit of wealth, instead the idea is to earn in proportion need: "Artha (wealth) is not an end in itself, but a basic necessity for living in this world. An individual must live physically before he can live spiritually. For this purpose, a certain level of economic prosperity is necessary. Poverty is the enemy of spirituality and the fundamental cause of many ills in the world. Poverty can drive a human to commit sin, thus depriving him of spiritual progress. One must, therefore, earn enough wealth to raise a family, maintain a household, and ensure a reasonably comfortable life for dependents. Wealth must not be earned for hoarding, but for sharing with those who are poor, handicapped or less fortunate." (Bansi Pandit, p. 281)

The third objective is Kama or material pleasures and desires. Again, the principle here is temperance and no excess: "Kama denotes the wants and appetites of an individual's body and mind in the form of one's desires, passions, emotions, and drives. Hindu thought recognizes the need for satisfying genuine human desires. Life would be dull without recreation and entertainment, such as art, music, dance, sports, conjugal love, filial affection, savory food and drink, fine clothes, jewelry, ornaments, and pleasant company. Hindu thought does not attempt to suppress these desires but seeks to satisfy them in a controlled fashion. Excessive indulgence in desires and passions can ruin an individual's spiritual progress. Excessive desires can lead to greed, anger, jealousy, attachment, and temptation, the enemies of spiritual progress" (Banso, p. 281, 282).

Finally, the fourth aim is moksha or liberation from all desire: "Although there are various views among Hindu thinkers regarding the content of moksha, all systems agree that moksha is the liberation of the soul from the bondage of flesh and the limitations of the finite body. Moksha is the ultimate goal of the Hindu religious life. Moksha is called *Mukti* by the yogis, *Nirvana* by the Buddhists, and the *Kingdom of Heaven* by the Christians. The individual soul (atman), in its liberated state, possesses divine qualities such a purity, omnipresence, and omnipotence, and is beyond limitations. Within the individual, however, the atman is involved in the workings of samsara (the cycle of birth and death in the phenomenal world), thereby subjecting itself to bondage by the Law of Karma. Moksha is attained when the individual becomes liberated from the cycle of birth and death" (Bansi Pandit, p. 282, 283).

Accordingly, it is easily evident that in the Vedic worldview, the key principle embodied behind each of the goals of human existence is *transcendence*. As a principle it is as profound as it is extraordinary. It means that everything that we receive in this world must be transcended. This includes the body, mind, intellect, ego and indeed life and – death. Everything we receive in this world in succession is on rent: it is meant to be with us for a certain time at a certain place. Once its purpose is fulfilled, it passes away. Nothing is permanent. There is a role and place and a function that inheres in each stage of the human journey and we follow them in letter and spirit, there is an ascending movement that progressively enables us to leap into the final exit and irreversibly escape the endless cycle of birth and death. But there is a descending order as well and if we are not vigilant enough, we could go down that path as well. (Narayanswamy, 2014, pp. 164. 165) The late Sri Sathya Sai Baba was once asked what the purpose of birth was and the answer was swift and immediate. He is reported to have said that the purpose of birth was to avoid rebirth.

Dharma admittedly has many meanings and can justifiably be explained in multiple ways. But it essentially refers to the need to be in a state of flow with our higher nature. Indeed, it can be posited that we are given the gift of life precisely so that we can conquer our lower natures through

our higher natures. Anything that contributes to promoting harmony in the universe can therefore be qualified as protecting or uplifting dharma.

Truth on the other hand is more complex. The scriptures also tell us to refrain from exposing the truth if the other is not ready to absorb its bitterness. In that case our duty lies in creating the wherewithal to help the person absorb the truth. These are precious truths that require a high degree of internalization for them to be practiced.

The other set of issues that need to be distinguished in leadership development is the nurturing of the inner and outer world. Inner development is about realizing the perfection present within from individual experience. Is that not what Swami Vivekananda had in mind when he said that education was the manifestation of perfection already present in man? Outer development is gross while inner development is supple and subtle. Outer development cannot lead to inner development, but inner development can lead to outer development. It is important to develop both with the strong conviction that the inner space needs to be grasped for what it actually represents because it is no less than the seat of intuitive and transcendental knowledge.

Engaging the outer world is to engage the world as it appears to us through our five senses. Engaging the inner world is meeting the challenge of conquering the inner space by understanding our real identity as consciousness. Or to express the matter differently, unconditional love is to experience the truth of "I am." The outer refers to the head (intellect), while the inner represents the heart (feeling). Of the two, the inner occupies primacy but it has been grossly neglected. It needs to be rescued from the oblivion it has been consigned, especially in leadership thinking and practice.

The biggest challenge confronting management education in general education and leadership development lies in installing inner development at the core of leadership development. The first question that comes to mind is why and the second lies in outlining what this involves in practical terms. The German writer, Herman Hesse once said: "Within you there is a stillness and sanctuary to which you can retreat any time." Elsewhere again in Siddhartha: "There is, so I believe, in the essence of everything, something that we cannot call learning. There is, my friend, only a knowledge-that is everywhere, that is Atman, that is in me and you and in every creature, and I am beginning to believe that this knowledge has no worse enemy than the man of knowledge, than learning." (1) Finding this space through experience is conquering the inner space. Or as Pierre Teilhard de Chardin expressed it: "You are not a human being in search of a spiritual experience. You are a spiritual being immersed in a human experience." And more importantly: "Science alone cannot discover Christ. But Christ satisfies the yearnings that are born in our hearts in the school of science... Science will, in all probability, be increasingly impregnated by mysticism." (2)

The writings and outpourings of spiritual masters from across the traditions who were or are established in realizing their divinity are unambiguous in their assertion that this space cannot be discovered by the mind or even by the intellect. This extraordinary state can be approached on the contrary only by abandoning the ego, mind and intellect. Complete stillness must prevail because it involves giving up all mental constructions. This is a fundamental prerequisite to realizing the Self. This is perhaps what Mata Amritanandamayi meant in response to a question on the place of reasoning in spirituality, she answered by saying that to give up all reasoning was the place of reasoning in spirituality. It has no place at all. The Western mind is befuddled by this observation because it appears unscientific. But the truth is this world is not about just analytics. Laws of the outer world do not apply to the inner world. Inner science is just as rigorous and exacting.

This is not very different from the Platonic idea of self-realization. As George Boeree expressed it: "The soul includes reason, of course, as well as self-awareness and moral sense. Plato says the soul will always choose to do good, if it recognizes what is good. This is a similar conception of good and bad as the Buddhists have: Rather than bad being sin, it is considered a matter of ignorance. So, someone who does something bad requires education, not punishment."

"The soul is drawn to the good, the ideal, and so is drawn to God. We gradually move closer and closer to God through reincarnation as well as in our individual lives. Our ethical goal in life is resemblance to God, to come closer to the pure world of ideas and ideal, to liberate ourselves from matter, time, and space, and to become more real in this deeper sense. Our goal is, in other words, self-realization." (3)

The objective of inner development is the full awakening of the heart. The earth is said to be the kernel of the subtle body through which everything else in the mind is linked. As one Yogi called Ram Chandra of Shahjehanpur said: "The heart is the field of action of the mind." (Denley, p.12)

"The functions of the mind", writes Elizabeth Denley, "ego and intellect and thinking – all exist within this spectrum of consciousness but to varying depths. All of these works together. As we go deeper and deeper into the heart, we move from thinking to feeling and then deeper still beyond feeling to being, to becoming and eventually unbecoming. Intellect evolves to wisdom and eventually to higher ignorance or innocence. The ego evolves by refining and identifying with the intellect so that it no longer constricts the personality – eventually the purest, subtlest identity remains." (Denley, p.12) In Sanatana Dharma, self-realization is the proclaimed goal of human existence.

The Socratic exhortation that am unexamined life is not worth living refers to the need to delve within. This is an inner journey. It is about using the mind to get rid of the mind. It is about reaching a place where mental constructions cease, and inner reality is experienced. As Joseph Campbell once said, the seat of the soul is where the inner world and the outer world meet. (4) As somebody who extensively studied folklore and mythology across cultures, Campbell argued that a human being should reach a stage where his heartbeat matches the heartbeat of the universe. (Narayanswamy, 2017)

This is what the Roman emperor Marcus Aurelius had to say of the inner world: "Remember that the Hidden Power within us pulls the strings; there is the guiding force, there is the life, there, one might say, is the man himself never think of yourself as a mere body with its various appendages; the body is like the ax of a carpenter: dare we think that the ax is the carpenter himself? Without this Inner Cause, which dictates both action and inaction, the body is of no more use than the weaver's shuttle without a weaver, the writer's pen without a writer, or the coachman's whip without a horse and carriage." (5) Marcus was here referring to the principle of interconnectedness that pervades the outer universe, but he experienced it from the inside. Outer development is driven by the intellect, while the inner world is driven by experience.

Elsewhere Marcus elaborates: "Honor the highest thing in the Universe; it is the power on which all things depend; it is the light by which all of life is guided. Honor the highest within yourself; for it, too, is the power on which all things depend, and the light by which all life is guided." And again: "Dig within. Within is the well-spring of Good; and it is always ready to bubble up, if you just dig." (6)

There are three good reasons why the inner space needs to be addressed in management education. In the first instance and in contrast to outer development where the mind is encouraged to go outward, inner development is about reining the mind inwards in a manner where knowledge is abandoned in favor of wisdom. An exposure to the inner world helps managers and aspiring leaders grasp the incontrovertible truth that the reality of the universe as perceived by our senses cannot be fully captured by mental analytics. Such exposure helps then develop a respect for inner unfoldment and the treasures that can be accessed through the power of meditation and stilling the mind.

This means that there are vast realms of consciousness that are not accessible to our limited intellect, but they can be perceived in consciousness and indeed exist in consciousness. It is important to grasp and accept this truth. This truth can only be internalized through experience. The outer world is limited to the study of forms of matter and motion. The testimonies of spiritual masters reveal that all these too exist as fragments in consciousness and only a concerted attempt to go within will reveal the treasures of that reality. The autobiographical account of Sri M's sojourn with his Himalayan master and his latest book released a few weeks ago is a spectacular peep into that inner world and how much we can profit from that understanding. (Sri M, 2016, 2017)

This is another way of saying that memory is forsaken for the relentless pursuit of truth. It is to consciously recognize that knowledge is nothing but memory and belongs to the past, while truth is ever present in the here and now. The point is powerfully made and communicated by Sri Guru in both works by Sri M. This understanding must occupy the core of both management education and leadership development. Knowledge deals with the outer world while wisdom is distilled from the inner world. Leaders need to ne sensitized to the fact the pursuit of truth is not contradictory to worldly engagement; they can and should co-exist until they are fully integrated. While every soul is potentially capable of realizing his or her divinity, this objective is accomplished both as a result of self-effort and divine grace.

Secondly, the idea that leadership is not a destination to reach but a place to come from. This means that leaders need to consciously nurture processes that can awaken them from the inside and help them live from the inside. The twelve steps in a hero's journey elaborated by the American mythologist and scholar, Joseph Campbell, and his insight that human beings must discover their own bliss is extremely instructive. In his own words: "Now, I came to this idea of bliss because in Sanskrit, which is the great spiritual language of the world, there are three terms that represent the brink, the jumping-off place to the ocean of transcendence: sat-chit-ananda. The word 'Sat' means being. 'Chit' means consciousness. 'Ananda' means bliss or rapture. I thought, 'I don't know whether my consciousness is proper consciousness or not; I don't know whether what I know of my being is my proper being or not; but I do know where my rapture is. So, let me hang on to rapture, and that will bring me both my consciousness and my being.' I think it worked." (Campbell, 1988, p. 120)

While I do not want to dwell on the huge body of Campbell's extraordinary work, I do want to suggest that his idea that human beings are given the gift of birth in order that they discover their own bliss is critical, if not pivotal, to the process of leadership development. This strongly reinforces the view that leadership is first and foremost about internal transformation. It is about successfully undergoing a catharsis and emerging the better for it by tapping into their spiritual reservoirs that leaders are able to successfully reinvent themselves. In one of his famous observations, Campbell once declared that the heartbeat of a person must match with the heartbeat of the universe. (7)

Finally, leaders need to strive to lead from the seat of transcendental wisdom in order that they are effective. The operative word here is *strive*. This is principally though not exclusively because genuine knowledge is self-knowledge as it precedes everything else by opening up the path to wisdom. As Sri M's Guru so eloquently explains, for wisdom to prevail, both knowledge and

memory have to be discarded. (Sri M, 2017, pp. 93.94) The journey of self-revelation is therefore critical to the journey of leadership; in both, the objective of journey lies in meeting oneself. The outer must meet the inner and the inner must meet the outer and it is that confluence that wisdom radiates it effulgence.

This is why visionary leaders listen to their inner selves. Indeed, they find it impossible to lead without that inner conversation. Examples of such leaders include Mahatma Gandhi, Martin Luther King and the Dalai Lama. There are many more. There are numerous stories (all of them true) of how the physical might of Alexander the Great was humbled by the pristine wisdom of Indian sages.

King Ashoka, Abraham Lincoln, Mother Theresa, Gautama Buddha, Nelson Mandela are yet other examples. But there are still others from the arts to the corporate world. There is no doubt about the fact that leaders realize the best they have in themselves when they realize that they are but instruments of a Higher Power. They reach this understanding through a trial of fire and it is this fiery engagement that helps them internalize greater truths. So, leadership is about conquering the outside from the inside. It is about developing the ability to see imperfection perfectly.

Successful leaders are unafraid of the trial by fire. Lord Jesus spent forty days in the desert and resisted temptation offered by Satan. Waging war, King Ashoka realized its utter futility. King Bhoja realized that he could not measure up to the greatness of King Vikramaditya. The hunter Ratnakar became renowned as the Sage Valmiki when the Sage Narada made him to realize that even his own family was unwilling to share his karma.

The successful leader must learn to function from the seat of transcendental wisdom. This understanding forms the core of that extraordinary work called the *Yoga Vasistha* in which the sage explains the art of self-realization to Sri Rama. This truth was understood and deeply inscribed in ancient India.

The role of the spiritual preceptor lay in helping the king to practice both truth and righteousness. Lord Rama had the sage Vasistha as his Guru, Lord Krishna had the sage Sandipani as his Guru and in more recent times, the great Maratha king, Shivaji, had saint Ramdas as his Guru.

In the Vaishnava tradition, the Guru is known as Acharya. In Sufism, the Guru is known as Murshad or Sheikh. Sikhism was founded by Guru Nanak and the last Guru was Guru Gobind Singh. Sikh temples are called Gurudwaras, clearly pointing to the fact that the Guru alone is the gateway to God. Moses taught the Ten Commandments to the Jews and showed them the path to liberation. Lord Jesus preached the Sermon on the Mount that gave birth to Christianity even while there is some dispute whether Jesus was the author of the text. Mohammad became the last Prophet after a series of divine revelations that gave him the tenets of the Holy Koran. After attaining self-realization both Lord Buddha and Lord Mahavira preached their respective codes of conduct to guide their followers.

This is why the Guru Gita emphatically proclaims: “There is no greater Truth than the Guru, there is no Penance greater than the Guru and there is no wisdom greater than the Guru.”

Inner development helps to embody this wisdom in the heart and not merely grasp them as intellectual truths. The search for inner revelation is not about building fancy theories about the existence of God or about proving His absence or yet about constructing elaborate theories of human and divine order. It is about devotion, faith, persistence, patience humility and surrender. As Sri M

(born as Mumtaz Ali Khan), author of the celebrated *Apprenticed to a Himalayan Master*, *A Yogi's Autobiography,* declared: "Go to the core. Theories are of no use." (Sri M, 2010)

The challenge of leadership education in the universe we live is as urgent as it is compelling. While the country has reached a watershed moment in her history and is poised to play a greater role in world affairs, we need to nurture leadership talent across state and civil society take it forward. What is true of India is true globally too: the crisis of leadership in the world is a direct result of the fact that people occupying leadership positions lack the wherewithal to deal with the challenges they confront because they have not been through a trial by fire. Touching fire is tantamount to becoming fire. This torch was lit in ancient India. It now needs to embrace the universe.

References

Campbell, Joseph Campbell and The Power of Myth with Bill Moyers, Edited by Betty Sue Flowers. Doubleday and Co, 1988, P.120.

Denley Elizabeth, The Evolution of Mindfulness, Heartfulness, March 2017.

Narayanswamy Ramnath, The Global Mission of Sadguru Sri Sharavana Baba, Third Impression, Aridra Printers, Bangalore, 2014.

Narayanswamy Ramnath, Follow your Bliss, The Deccan Herald, Bangalore. May 4, 2017.

Pandit Bansi, The Hindu Mind, New Age Books, New Delhi, 2001.

Sri M, Apprenticed to a Himalayan Master, A Yogi's Autobiography, Magenta Press, Kodagu, 2010.

Sri M, The Journey Continues. Magenta Press, Kodagu, 2017.

Subhash Waman Bhave, Learnig for a Manager, Vivekananda Kendra, Kanyakumari, Chennai, 2015.

Swami Rama, Living with Himalayan Masters, The Himalayan Institute Press, Pennsylvania, 1978.

http://www.goodreads.com/quotes/tag/siddhartha.

https://www.goodreads.com/author/quotes/5387.Pierre_Teilhard_de_Chardin.

https://quotefancy.com/quote/845515/Joseph-Campbell-The-seat-of-the-soul-is-where-the-inner-world-and-the-outer-world-meet.

http://www.onelittleangel.com/wisdom/quotes/saint.asp?mc=162 Ibid.

Creating Holograms: Virtual Media Teaching Technology in Nursing

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Abstract

Technology media are playing the significant role in teaching and learning in nursing education in order to increase the effectiveness of student learning. Hologram is invented as an example of augmented reality. The objective of this article is to describe the invention process of the hologram and to examine the quality of hologram. Such invention process includes designed hologram box, designed prism, designed animation and inserted voice. The quality of Hologram was rated as "good", and the level of satisfaction was ranked as "high" in the study. Some positive points of the hologram include "innovative", "update", and "interesting", enabling the learner to see the anatomy of skin layers clearly. However, the hologram needs further refinement in terms of the increased size of the prism and a clearer sound quality.

Keywords: Hologram, educational media, and nursing instruction

1. Introduction

Rapid economic and social growth is partly influenced by the development of technology, especially communication technology i.e. computer technology, iPad and multimedia, which affects the way people live. This trend of technological change has casted a strong impact on nursing education over the past 20 years.

Global social and economic development contributes to change and development of the health care system. Calls have been made for an improvement in the educational management system that can respond to various types of change in demography, consumption of goods and services, and cultural diversity. These factors make it necessary to prepare nursing students for health services in line with the expectations and changes in the health service system.

Necessary competencies of nurses in public health care include critical thinking, decision making, and clinical logic. These prompt nursing lecturers and instructors to change their educational management model to produce graduates who can respond to the needs of the healthcare system in the future.

Nursing instruction is divided into 3 parts: teaching in classrooms; teaching in laboratories; and teaching in clinics. Of crucial importance is clinical teaching. The learning environment is complex, as learners must absorb a variety of knowledge in a short time. In that regard, the teaching method is to provide a link between classroom knowledge, laboratory knowledge and clinical knowledge. Teaching innovation is an important part of modern day teaching, especially teaching with virtual reality. The role of technology in teaching and learning has increased.

Augmented Reality

Two words are commonly used in the media technology field for instructional purposes: augmented reality and virtual reality. Virtual reality (VR) means "virtual reality", whereas augmented means "to increase / expand / expand" (TC The Economist Explained, Apr 14th 2016). According to Auzuma, augmented reality is a combination of truth and virtual reality in a digital format. This is the connection or interaction of two things in real time or in the present time. By using the three-dimensional image.[1,3]Zhou means that. It is a technology that uses computer technology to create an image. The generated images overlap with physical objects in real time. Unlike virtual reality, which is just a digital image, augmented reality allows the user to be more fully integrated into the virtual environment. As a result, users can interact with virtual reality objects created in the real world.[2,3]

Virtual Reality with nursing education management

Nursing education has led to a practice-based approach, involving clinical practice, that has been used for more than 50years. The first mannequin was used in 1911 and was popular in 1950 (Hyland and Hawkins 2009). Teaching using virtual reality is popular, bringing technology to help make virtual reality more complex and more realistic. The learner will face a real-life scenario in a safe environment. Students can practise their skills acquired from the teacher as well as learn from the patient response and the related outcome of that particular lesson. In the process of skill and reflection, the learner will develop the confidence and competency through practice before facing real-life situations. Complex situations can develop skills and attitudes of learners. It also develops skills in areas of decision making and problem solving.

Cynthia, et al., 2017, brings together examples of virtual reality technologies used in nursing education.

1.”Body Explore” is a technology that combines physical reality and the virtual world together through software and network systems and devices, which are considered to create another piece of information on the virtual world, such as an X-ray image through a computer used in courses such as physiology and anatomy and cardiac stimulation and cardiac change images used in clinical procedures.

2. “Flight Simulator” is a technology used to train emergency care patients while transporting patients on the helicopter.

3. “Microsoft HoloLens” creates scenarios that are visible through Microsoft HoloLens, also known as Mixed-reality 3D rendering of the human body. It helps to see various muscle layers, which can be used for various fields.

The use of technology in teaching and learning management for nursing education is common in developed countries due to factors such as high costs and language barriers. Researchers are interested in developing learning tools using virtual reality as a model for developing instructional media.

Objective

The research objective is to develop a learning tool for nursing students using virtual reality technology as a teaching medium for injections.

Conceptual framework in education

Virtual media technology - an innovation or technology that has been around since. 2004 -is a branch of computer science research with computer graphics techniques that integrate virtual reality technology into visual technology through software and network systems and devices such as webcams, computers, and displays on a computer screen, mobile phone screen in animated still image format or maybe sound-production media. Such technology creates an immediate interaction with users in a360-degree view, real-time display. Virtual media technology can be applied in various fields such as industry, medical tourism, advertising business, and education[4].

Virtual Media Technology Development Process

This study discusses the process of developing a virtual media technology called "hologram", an animation from a three-dimensional program for the purposes of injections into the epidermis by placing syringes at different angles. The angle of the hypodermic needle is 15 degrees, 45 degrees and 90 degrees, respectively. This tool allows the student to review the anatomy of the skin and understand the reason for the angular position of the syringe.

The objective of the media

The media of nursing education technology is designed to enhance the understanding of injections in a variety of angles into the vein, including intravenous, intradermal, subcutaneous and intramuscular positions.

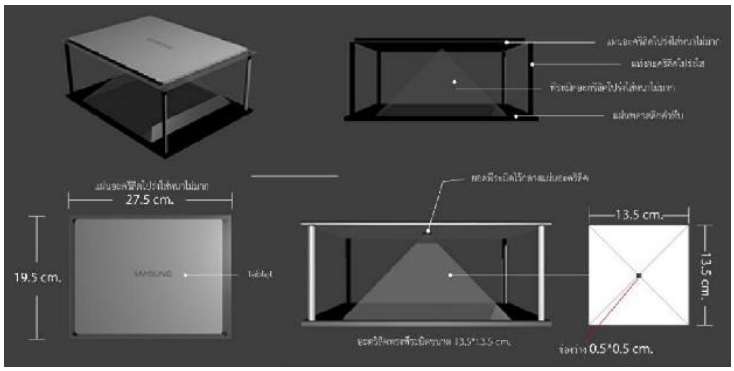
Development phase

The development process and the holographic process are as follows:

1. Design Equipment

1.1 Design a holographic box. Design a holographic box with a 3D program in the computer using 1) Transparent acrylic sheet which is 19.5 cm. long, 27.5 cm. wide; 2) 4 mm diameter acrylic cylinder rod; and 3) Black plastic sheet, which is opaque is 19.5 cm. wide and 27.5 cm. long.

1.2 Prism design using 4-sided acrylic sheet. The square-shaped prism is 13.5 cm. in width and 13 mm. in length and 1 mm. in thickness. It is cut into 3 polygons and cut to the top of 0.5 cm. in length with4 polyhedrons. Then, the four sides are put together as a pyramid, as shown in Figure 1.



2. Create an animation

2.1. Study of injection method. This injection method is drawn from a textbook in nursing science. Figure 2 depicts degrees of syringe injections, and figure 3 shows positions of injections.

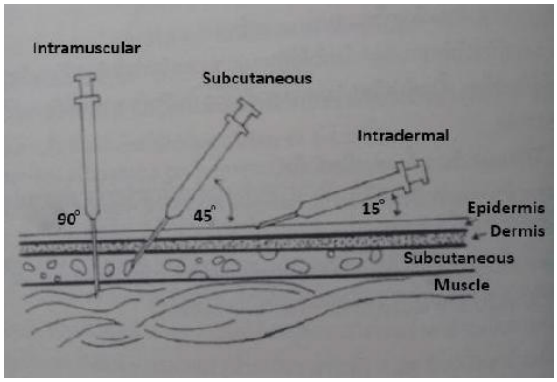


Figure 2 Degree of each injection method[5]

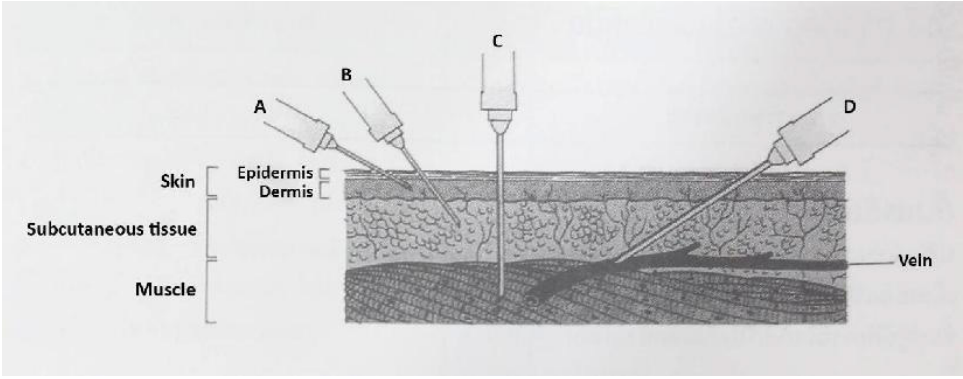


Figure 3 Positions of injections[6]

2.2 Create an animation. The animation process is divided into 3 steps.

Step 1: Create animations from the 3D model of the injection into various tissues such as the dermis, the epidermis, the subcutaneous, the muscles, and the veins. Syringe injections are applied in various degrees to the tissues and skin, and to illustrate this method, a video recording is made to cover 4 sides of injections, consisting of the front, left, right and back.

Step 2: get the video files on all four and put them into the video editing program on all four, as in figure 4.

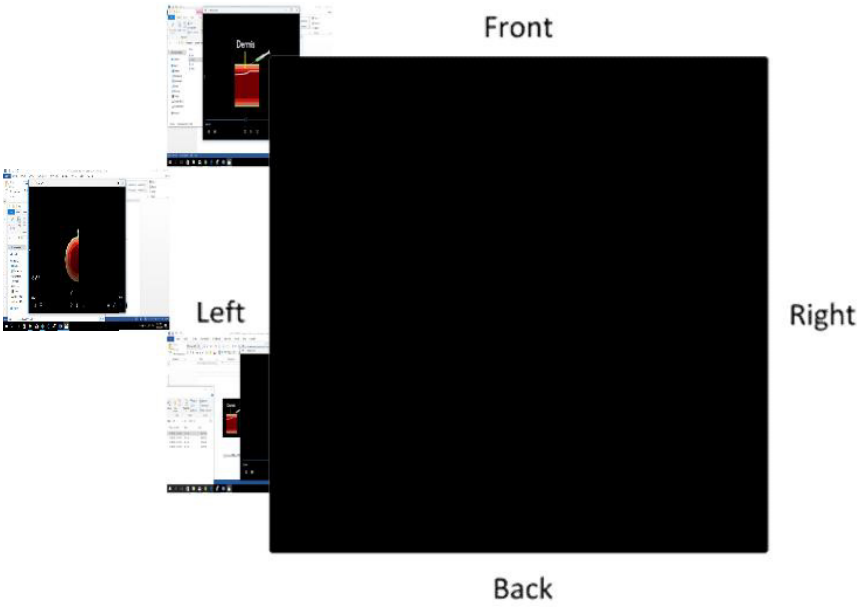


Figure 4 Placing an animation image in a video program

Step 3: Epidermis or dermis. Make a 15degree angle of the syringe to the skin, including skin, and subcutaneous tissues. For subcutaneous tissues, a 45 degree angle of the syringe is applied, whereas for the muscle, a 90 degree angle of injection is applied on the skin. Afterwards, video recordings are made.

How to use it?

How to optimize the use of the hologram? The first step is to choose the display room/area with dim lighting to show the hologram clearly and place the holographic box on the eye-level platform so that the viewer can look at it closely and systematically. Open a video file from a video player such as a media player or video player on a tablet and place the tablet faced down on the acrylic holographic box. It will reflect the virtual reality.

Figure 5 Holographic image formation in a holographic box

Figure 6 How to watch holograms?

Quality of Technology Media

In order to create an innovation as a beneficial learning tool for nursing instruction, the researcher has introduced a hologram, which is able to link between classroom, laboratory and clinical knowledge. The researcher analyzed the quality of the instruments by evaluating the quality of the instruments with 43 nursing students. The satisfaction level of the content, value and image was at the highest level. The level of satisfaction with the device is rated very high. The results showed that the nursing students preferred the learning tool that is contemporary, interesting, with visual presentations that can clearly visualize the body and teach them how to inject tissues, skin, and muscles at different angles. The technology is applied to the benefit of modern teaching, it is easy to use and can be used although the flaws that need to be improved, including enlarging the size of the image suitable for small group study, clearer lecture notes, and a better sound system.

Tables below show satisfaction levels of students on various aspects.

Table 1 Satisfaction of hologram gadget

	$\overline{X}$	SD	Level	Rank
1. Convenience	4.09	0.648	High	3
2. Up-to-date and interesting design	4.70	0.513	Very high	1
3. Clarity of hologram virtual reality	4.14	0.710	High	2
4. Clarity of sound	3.86	0.804	High	4
Total	4.20	0.669	High	

Table 2 Satisfaction of contents

	$\overline{X}$	SD	Level	Rank
1. Concrete instruction	4.23	0.684	Very high	3
2. Contents related to lessons	4.44	0.629	Very high	1
3. Length of hologram lessons	4.16	0.754	High	4
4. Completion of contents	4.30	0.674	Very high	2
Total	4.28	0.685	Very high	

Table 3 Satisfaction of values of learning

	$\overline{X}$	SD	Level	Rank
1. Promotion of self-learning	4.33	0.680	Very high	2
2. Concrete application	4.47	0.631	Very high	1
3. Ability to recall contents	4.26	0.759	Very high	4
4. Stimulation of thoughts and concepts	4.33	0.778	Very high	2
Total	4.34	0.712	Very high	

Table 4 Overall satisfaction of hologram invention

	$\overline{X}$	SD	Level	
	4.33	0.606	Very high	

Hypotheses tested

Hypothesis 1 The hologram virtual reality has values of learning and is applicable in real life.

The hologram virtual reality has values of learning and is applicable in real life reflected by the results of the student survey of 4.34.

Hypothesis 2 The clarity of hologram virtual reality affects the level of student satisfaction.

Research findings reveal that the clarity of hologram virtual reality affects the level of student satisfaction, reflected by the results of the student survey of 4.14

Hypothesis 3 The design of hologram virtual reality influences student understanding of contents.

Research findings show that the design of hologram virtual reality influences student understanding of contents, reflected by the results of the student survey of 4.28.

Conclusion

Hologram injection technology is a device that can be used well, especially for self-learning. It is a virtual reality with 3D subtitles. However, the quality of the hologram must be improved.

Suggestions for Use in Classroom Teaching:

Assignments should be given to the learners themselves in the topic of injection. In order to understand the principles of injection as well as to increase awareness of the application of needle injections to the tissues, skin, and muscles.

Policy Recommendations:

The use of holograms as an educational media tool for nursing instruction should be promoted among nursing colleges and institutions. More efforts should be made to widen networks with fields of studies in media, information, and communication.

Proposal for Further Research:

The quality of technology media should be developed and used in teaching and learning environments, and should be developed further for commercial purposes.

References

AzumaRT.A survey of augmented reality. Teleoperators and Virtual Environments 1997;6(4):355–385.

Meesuwan W. Augment reality technologyfor learning. Educational Technology and Communications Department. Naresuan University. [Database on the Internet]. 2012 [cited 2018 Apr. 23]. Available from: http://wiwatmee.blogspot.com/2012/09/augmented-reality.html

Phianphichan A. Nursing practice manual I. Nonthaburi: KhrongkanSawatdikan, WichakanSthaban, and PhraBoromratchanok, Thailand; 2013.

Srisailuan O,WongteerasupS, Setasuwan A, editors. Fundamentals of nursing II. Bangkok: Kuakarun College of Nursing, Thailand; 2014.

Tansiri P. Augmented Reality. Executive Journal.2010;30(2): 169-175.

ZhouF, Duh HBL, Billinghurst M. Trends in augmented reality tracking, interaction and display: A review of ten years of ISMAR. IEEE International Symposium on Mixed and Augmented Reality; 2008 Sep. 15 -18;UK. Cambridge, 193-200.

The Development of Logistics Industry and Logistics Service in Vietnam

by

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Abstract

Over years of developing, logistics plays a very important role in Vietnam's GDP growth. This paper will discuss about the logistics development in Vietnam through showing the current facts and solutions for transportation as well as logistics services in order to utilize its potential. Logistics is one of reasons that makes economic exchange among foreigner countries increase. Then, it will overview the circumstance of Vietnam's logistics and cover the general information of logistics providers in Vietnam both domestics and international firms. Not only the potential capability of logistics in advance will be found by doing the SWOT analysis, the drawback is also noticed in details. SWOT analysis is an analysis method used to evaluate the 'strengths', 'weaknesses', 'opportunities' and 'threats' involved in an organization, a plan, a project, a person or a business activity. In this paper, it is for logistics development that after that requiring come up with the productive solutions and strategic planning in order to achieve goals. At the last part, some recommendations are given below for the improvement to become an effective logistics system and to attract more investment in country. The most popular recommend is improving the infrastructure quality while cutting cost at the same time seems to be a hard step but if it can get over, it will be a best point to compete to other countries serving similar services. The report once confirms again about the essential position of logistics for imports and exports Vietnam goods which helps many enterprises to meet the requirements of more customers and brings the overall economy toward in the global market.

Keywords: GDP Growth, Logistics Service, Transportation

1. Introduction

Vietnam is situated in a favorable geographic location both land and sea area that is next to The Pacific Ocean and is a connected door to go deep inside mainland of Asia (for example, Laos uses Vietnam as a door to connect to the ocean because its country has no sea). With the coastline of more than 2,100 km, Vietnam has a very potential position to develop the ocean shipping business. Realizing this potential, Vietnam government has invested in a weight as well as call for the private domestics and foreigner investors. Many millions USD have been used for the investment to upgrade the port and quality of services in logistics flied but the outcomes are not absolutely affective. Although having the high account for in GDP growth and beside the dramatically changes, but to compare to two other shipping hubs is Singapore and Hong Kong, two biggest transshipment ports in the world, the development of logistics, especially sea transport is still at the medium scale. There are two main reasons that leads to this reality: foundation of logistics is weak and the ability of applying technology to facilitate the strong points is totally faint. To achieve goals that be a shipping hub of Asia, government needs to know about the strengths and weaknesses to invest on the right

direction that still have a lot of things need to be improved. The paper will go into details about logistics in the aspect of all transportation modes currently in Vietnam in order to see more clearly about its development.

2. Literature Review

In this section, several related literatures are mentioned as a base knowledge about logistics field and the development management for this research paper:

Alexander the Great and his Macedonia army (Engels, 1980): logistics activities originated from military field in such ancient wars, logistics has been seen as the basis of military strategy and tactics for thousands of year ago.

Merriam-Webster Online Dictionary (2016), logistics is defined as "the aspect of military science dealing with the procurement, maintenance, and transportation of military material, facilities, and personnel".

Council of Supply Chain Management Professionals (2013), logistics is "the process of planning, implementing and controlling the efficient flow and storage of raw materials, in-process inventory, finished goods, services, and related information from point of origin to point of consumption (including inbound, outbound, internal and external movements) for the purpose of conforming to customer requirements."

Luis C. Blancas, John Isbell, Monica Isbell, HuaJoo Tan, Wendy Tao, 2014. Efficient Logistics A key to Vietnam's Competitiveness. World Bank: Vietnam has achieved sustained economic growth, primarily driven by a rapidly expanding labor force and a shift in economic activity away from low-productivity subsistence agriculture toward the higher-productivity manufacturing and services sectors.

Ellram, Stock, Lambert, & Grant, (2006), logistics supports the movement of many economic transactions and it is an important aspect of facilitating the sale of all goods and services.

Halley and Guilhon (1997), the logistics performance of manufacturing and trading businesses can be examined from the point of view of (external) financial indicators (e.g. transportation costs, stock turnover) and through the value-creation indicators it appears as a proactive activity affecting the competencies which extends the control of the owner/manager.

Bagchiet et al. (2000), logistics performance "is the evaluation of the effectiveness of logistics activities from the point of view of efficiency (compliance with the consumer requirements), and economical operation (economical nature of the utilization of resources associated with a given service quality)".

Ansoff, 1965; Andrews, 1987; Porter, 1991; and Mintzberg, 1998: agree SWOT analysis provide the foundation for realization of the desired alignment of organizational variable issues.
Learned et al (1969): SWOT analysis has grown as a key tool for addressing complex strategic situation by reducing the quantity of information to improve the decision-making.

3. Current Circumstance of Logistics

Vietnam is set to see very strong growth in trade over the coming years, which will support ongoing development and expansion of its logistics. The logistics industry is one of the fastest growing industries in Vietnam and it is estimated to grow at a pace faster than the GDP growth rate. Currently, the logistics service accounts for 15-20% of GDP in Vietnam. However the underdeveloped logistics infrastructure and – rapidly expanding but currently inadequate - transport infrastructure results in a relative high cost. The main logistics hubs can be found in the Northern of Vietnam (Ha Noi – Hai Phong area) and in the Southern (Ho Chi Minh city area, including Dong Nai province, Binh Duong province and Ba Ria - Vung Tau province. (Source: https://www.netherlandsworldwide.nl/countries/vietnam/doing-business/key-sectors/logistics). Some big domestics companies in logistic such as Transimex Saigon, Saigon Newport, Vietrans, Vietfracht. Logistics services in Vietnam are about 20-22 billion USD / year, accounting for 20.9% of GDP of the country. The average growth rate of logistics services in the past years is from 16 - 20% per year. According to the World Bank, Vietnam is ranked 64th in terms of logistics development and fourth in ASEAN after Singapore, Malaysia and Thailand. With an annual growth rate of 16-20%, this is one of the fastest growing and most stable services sectors of Vietnam in recent years.

Transport infrastructure in Vietnam is growing fast in this five years. Government is on about to upgrade the quality and density of road transport because it plays very important role which accounts for 75.6% of all freight transport and 94.09% of all passengers transported. Most of the invested sea ports in Vietnam have had large scale instruction with the capacity of receiving ships over 100,000 tons from the foundation of small to medium size of ports. There are 166 ports in total, includes 37 sea ports and also because of the great location having long coastal road, Vietnam has a huge chance to welcome ships and include in many routes as a transshipment terminal. Two current biggest sea ports are Hai Phong port in Nothern are and Sai Gon - Cai Mep port (near Ho Chi Minh City) in Southern, which receive over 13.3 million TEUs a year. About air transportation, it has 9 international airports with more than 70 international flight routes that serves around 95 million passengers (data of year 2017). The biggest and having the most capability airport is on progress, Long Thanh international airport located at the Southern of Vietnam, which will be established in 2025. Additionally, Vietnam has a big advantage that owns large area and number of warehouse to serve logistics service.

According to Tran Tuan Anh - Minister of Industry and Trade said, logistics system in Vietnam is still limited although there has great potential. Problems are been for many years without any resolutions. For example, the connections between inter-branch planning is not done well enough as well as infrastructure and information technology is weak, not connected with other countries in the region. To reach the economic integration means to increase the volume of trade that make firm boost the competiveness by decreasing the cost, especially cost of logistics service. High transport costs are affecting domestic logistics costs. This cost accounts for 30% -40% of the cost of the product, compared to about 15% in other countries. This significantly reduces the competitiveness of Vietnamese enterprises. In addition, human resources for logistics activities have not met the requirements; for instance, the competitive capacity of logistics business enterprises in Vietnam is not high compared to other countries in the region and the world. In foreign countries, government creates many opportunities to reduce costs in order to increase competition in the logistics industry. While in Vietnam, although many deep sea ports and transit airports are favorable, shipping capacity is weak that leads to the need of outsourcing for export and import. At the same time, many logistics corporations in the world are step by step penetrating our market such as APL Group, OOCL, Mitsui OSK Line, Maerks Logistics and NYK Logistics… Those companies provide

fully international to domestic transportation service as well as the wide network, financial strength and modern information technology system to customers. Last but not least, Vietnamese logistics enterprises are only able to perform a very small part in the chain of activities, or just subcontractors for foreign logistics investors. The lack of links between logistics enterprises together is also a cause for hindering the sustainable development of domestic logistics enterprises. (Sources: Baomoi newspapers)

4. Logistics Firms or Logistics Providers in Vietnam

Our logistics service began to develop in the 1990s on the basis of shipping service. Recent statistics of the Association of Logistics Vietnam shows that Vietnam has more than 1,300 logistics enterprises are operating, including foreign-invested enterprises such as freight forwarding, warehousing, loading and unloading, transport agents, forwarding agents... mainly located in the city of Ho Chi Minh City and Hanoi.. The logistics companies in Vietnam are mostly small and medium enterprises (SMEs).

Vietnam logistics services can be classified as following:
1. Transporting enterprises: transport services (road, sea, air).
2. Enterprises exploiting infrastructure (ports, airports, stations)
3. Warehousing, loading and unloading services and logistic services
4. Forwarding enterprises, 3PLs and other enterprises such as logistics software solutions, consultancy, inspection, inspection and finance

According to the World Bank, Vietnam is ranked 64th in terms of logistics development and fourth in ASEAN after Singapore, Malaysia and Thailand. With an annual growth rate of 16-20%, this is one of the fastest growing and most stable services sectors of Vietnam in recent years. The majority of these domestic enterprises are small and medium sized with the current chartered capital of 4 - 6 billion VND (compared to 1-1.5 billion VND in 2005). However, the logistics companies only provide some services in logistics chain such as warehousing, freight forwarding, freight forwarding, loading and unloading, sorting services, packaging and storage. Vietnam's logistics service providers mainly are agents, or only take responsibilities on some specific parts in the chain as subcontractors for international logistics service providers. There are over 25 multinational logistics enterprises which is operating in Vietnam but occupies over 70-80% market share. Not only small market share, low added value causes the cost of logistics services in Vietnam to be too high, the capacity of the logistics companies in Vietnam is also limited because the quality of staff does not meet the customers' demand. Up to 93-95% of workers in the domestic logistics firms are not trained properly for both basic and specialized.

5. SWOT Analysis about Vietnam's Logistics Industry

SWOT is an analytical method which uses as an effective tool for planning and developing a strategy plan for an organization. SWOT method will help this report to analyze and assess the overall aspects of logistics industry in Vietnam by highlighting the strength, weakness, opportunity and threaten.

About the strength, logistics industry in Vietnam is very promising generally. The size of the logistics market in Vietnam is small (about 2% - 4% of GDP), but the growth rate is high (20% - 25% per year). With the geographical topographic of thousands kilometers on the north-south, the

demand for long distance freight transportation is increasing. The volume of cargo through seaports in 2020 is expected to increase to 900 - 1,100 million tons, in 2030 expected to reach 1600 - 2100 tons of logistics Vietnam. The number of enterprises established and operating in the logistics industry in Vietnam is quite large and consists of many components. Vietnam has about 1,300 enterprises (surpassing Thailand, Singapore), in which the leading multinational logistics companies in the world are present. Foreign companies are diversified, especially in the supply of 3PL services (Third Party Logistics) with the level of modern technology, professional as in developed countries.

On the other hand, the industry also has weaknesses that are needed to be developed. Firstly, the logistics business in Vietnam is still fragmented, lacking of experience and professionalism, most of them are only providing basic services, small supply chain services, less value added or outsourced. The financial capacity of Vietnamese logistics companies is still weak (80% of chartered capital has several billion dong) and global network organization, information system is limited. The human resources for logistics services are not well-trained and lacking, weak and fail to meet the requirements, especially the lack of good logistics experts, capable of applying and deploying in enterprises. The second one is the link between logistics service companies and import-export businesses is still limited, not tight and reliable. This is one of the reasons that logistics services of domestics firms are less developed than required. Third, logistics costs in Vietnam are quite high, accounting for 20.8% of GDP (2016), of which transportation costs account for 40% - 50% of product cost (compared to 15% in other countries) which directly make reduction about the competitiveness of goods and services of Vietnamese enterprises. High costs are due to poor transportation infrastructure and information technology, resulting in low traffic congestion and productivity, infrastructure connectivity, unloading and loading capacity. Additionally, transshipment for container is limited as well as the clearance of documents and customs at the port lasts quite long time.

Vietnam's economy expecting to maintain the high growth for many following years is one of its opportunities. Commercial activities in Vietnam with total trade value in 2016 amounting to $ 350 billion along with foreign direct investment will be motivations to the logistics industry to develop stronger. The government's orientation to improve areas including infrastructure development and restructure of the air transport market by 2020 will contribute to the development of the freight market and increase the role of transport, especially in the key economic zones and remote areas. The government has planned and in fact of investing and developing with many funds of infrastructure projects such as Cai Mep deep water port, Van Phong international transshipment port, Long Thanh International Airport, East-West Road Corridor (EWEC), Hanoi-Hai Phong-Ha Khau-Kunming corridor, expressway system, trans-Asia railway ... Institutions such as customs administrative procedures, accelerating the process of deep integration continue to be consolidated and improved.

Weak transportation infrastructure, in particular, is a huge threaten which has not created a multimodal transport system, while the need for high quality transshipment of goods between modes is growing. Road transport contributes the largest proportion of turnover that having the most developed transportation network. The volume of goods transported by road transport is high in the period from year 2006 to year 2017. However, the road system of Vietnam now has many limitations such as low highway rates and low capacity to carry that makes difficulties for businesses to increase costs, save time and reduce risks. On the other hand, rail transport has been consistently declining in recent years due to the outdated infrastructure and technology that cannot meet the transportation demand. Otherwise, sea transport in the past year has also faced many drawbacks because of the imbalance, for instance surplus ships leading to hard competition or the freight rates continue to decline. The fleet structure is still inadequate and the proportion of container ships is very low, accounting for only 3.5% overall investment. The quality of fleet is low and unsustainable with

limited management. The challenge is the huge gap between the demand for and investment in transport nowadays. Vietnam needs to consider mobilizing private capital, commercial loans, project loans, including PPP investment.

6. Recommendation for the Development and Conclusion

To improve the efficiency of logistics services, cutting costs and strengthening the connections are the top two solutions recommended by experts. Cutting freight charges is the first thing to do because this is the biggest factor affecting the total cost of logistics services. The issue needs to be address is to build up the Vietnamese ocean crews to regain the position in the region instead of outsourcing from foreigner firms. At the same time, restructuring of transport as well as improving the ability of transportation of cheap modes such as waterways, railways are needed. Build the North-South expressway is a good idea to support transit and transportation to the port and within region by reducing time consuming on the delivery. Additionally, the shipping agents need to fight with foreign shipping lines to eliminate the unreasonable charges on seaports to ensure fair competition for Vietnamese goods in the foreign market. On the other hand, logistics service providers need to improve the capacity and competitiveness by applying the information technology, especially e-commerce to the business process, such as exchange of information and electronic data in commerce and e-customs declaration which aims to bring high productivity, cost savings, minimizing negative situation, fraud in trade, and import and export… Last but not least, strengthen the role of collaboration between relevant industry associations is mentioned as well. For instance, the cooperation between the Vietnam Seaports Association and Vietnam Logistics Association should be strengthened that provide information exchange related to cargo handling activities, cargo delivery procedures ports, all types of seaport service charges, time of ship arrival, departure, transfer of transportation to avoid congestion at the port, cargo information and delivery, information about seaports and freight forwarding companies... At the same time, cooperation between cargo and port security also plays an important role in the development of logistics in the future, contributing to helping Vietnamese enterprises participate in the global logistics system.

In conclusion, this paper already went through all topics mentioned in introduction parts from current circumstance of Vietnam logistics, to overall about logistics provider firms and last to its SWOT analysis. The paper elaborates the idea of developing logistics in Vietnam with several literature review. It is necessary to confirm that logistics is a key economic sector and carry out centralized logistics management as other countries by assigning a sector Although meeting many difficulties on the developing path, but it still takes advantages from and develop years to years in order to achieve goals that develop country especially logistics business flied and also satisfy customers more. Take the goods from logistics means to develop country as well as reduce the gap with other developing countries' services. Development of logistics can be seen as a challenge for government to develop country as well, maximum developing with the help of technology means to get closer of change from developing countries to developed one. Logistics must be considered as a macro problem, not just a local problem.

References

Dang Dinh Dao, Vietnam logistics services in the process of international integration (2011); Logistics issues in theory and practice in Vietnam (2011), National Economics University Publishing.

Do Thi Hong Van, Logistics Manager (2006), Statistics Publishing; Logistics - Basic Issues (2010), Social Labor Publishing, University of Economics Ho Chi Minh.

Nguyen Nhu Tien, 2006, Logistics ability of application and development in transportation and forwarding services of Vietnam, Publishing of Transportation, Hanoi.

www.tapchitaichinh.vn; thongkeitnternet.vn.

www.customs.gov.vn; caphesach.wordpress.com.

https://www.netherlandsworldwide.nl/countries/vietnam/doing-business/key-sectors/logistics.

http://vnll.com.vn/vi/phan-tich-swot-nganh-logistics-viet-nam.

https://english.vietnamnet.vn/fms/special-reports/151882/vietnam-logistics-sector-and-new-opportunities.html.

https://baomoi.com/tim-giai-phap-nang-cao-hieu-qua-dich-vu-logistics-tai-viet-nam/c/24834123.epi.

http://tapchitaichinh.vn/tai-chinh-kinh-doanh/day-manh-va-phat-trien-doanh-nghiep-logistics-o-viet-nam-138420.html.

https://www.netherlandsworldwide.nl/countries/vietnam/doing-business/key-sectors/logistics.

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The editorial objectives of IJMBE are to advance knowledge and science and to stimulate greater thought and effort in the fields of business management, and by providing readers with:

- Novel and useful information;
- New business management theory or techniques;
- Research explaining about business management thought and practice;
- Articles in subject areas which have significant current impact on thought and practice in business management.

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The IJMBE will mainly consider for publication three types of articles:

1. Articles that report empirical research on business management issues.
2. Articles that report on the development of methodologies and techniques that can enhance business management decision making.
3. Articles that report the application of decision tools to generic or specific business management problems.

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Articles are considered for publication if they have not been published or accepted for publication elsewhere and are not being concurrently considered elsewhere. Authors will usually be notified of acceptance, rejection, or need for revision within 16 weeks of submission.

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Lukason, O. and Hoffman, R. C. (2014), "Firm Bankruptcy Probability and Causes: An Integrated Study," *International Journal of Business and Management,* Vol. 9, No. 11, p. 80-91.

Books:

Morden, T. (2007), *"Principles of Strategic Management"* (3 Eds.), Ashgate Publishing: Burlington, USA.

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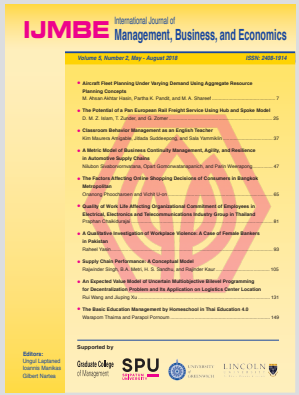

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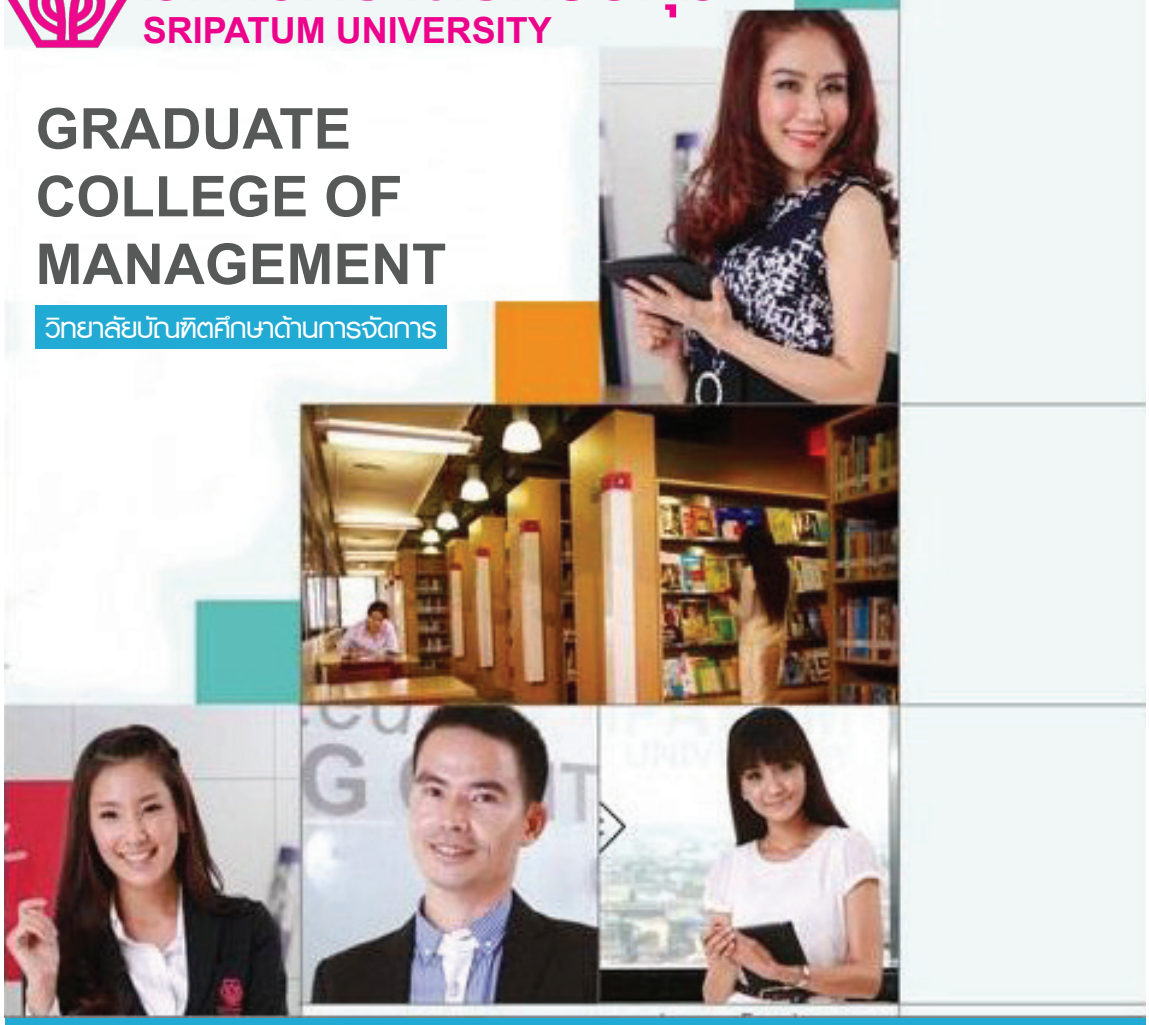

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Sripatum University, Thailand

Sripatum University is one of the oldest and most prestigious private universities in Bangkok, Thailand. Dr. Sook Pookayaporn established the university in 1970 under the name of "Thai Suriya College" in order to create opportunities for Thai youths to develop their potential. In 1987, the college was promoted to university status by the Ministry of University Affairs, and has since been known as Sripatum University. "Sripatum" means the "Source of Knowledge Blooming Like a Lotus" and was graciously conferred on the college by Her Royal Highness, the late Princess Mother Srinagarindra (Somdet Phra Srinagarindra Baromarajajanan). She presided over the official opening ceremony of SPU and awarded vocational certificates to the first three graduating classes. Sripatum University is therefore one of the first five private universities of Thailand. The university's main goal is to create well-rounded students who can develop themselves to their chosen fields of study and to instill students with correct attitudes towards education so that they are enthusiastic in their pursuit of knowledge and self-development. This will provide students with a firm foundation for the future after graduation. The university's philosophy is "Education develops human resources who enrich the nation" which focuses on characteristics of Wisdom, Skills, Cheerfulness and Morality.

University of Greenwich, United Kingdom

The University of Greenwich is a British university with campuses in south-east London and north Kent. These include the Greenwich Campus, located in the grounds of the Old Royal Naval College in the Royal Borough of Greenwich, London, England. It is the largest university in London by student numbers and the greenest in the UK as assessed by The People & Planet Green League. The university's wide range of subjects includes architecture, business, computing, education, engineering, humanities, natural sciences, pharmacy and social sciences. It has a strong research focus and well-established links to the scientific community.

Lincoln University, New Zealand

Lincoln is New Zealand's third oldest university. Founded in 1878 as a School of Agriculture, the organisation was linked to Canterbury College, welcoming its first intake of students in 1880. In 1896, with agriculture now well established as the mainstay of New Zealand's exports, the School of Agriculture separated from Canterbury College and became Canterbury Agricultural College, with its own governing body and the ability to award degrees through the University of New Zealand. In 1961, the university was officially renamed Lincoln College, becoming a constituent college of the University of Canterbury. In 1990 Lincoln University formally separated from the University of Canterbury and became the self-governing national university that it is today. Internationally Lincoln University has academic alliances with complementary institutions in Asia, the Middle East, Europe and the Americas. These alliances support academic relationships and enhance educational opportunities for teaching staff, students and those undertaking advanced research.

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