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ANTI-HUMAN TRAFFICKING POLICIES AND FREEDOM OF THE PRESS: A CROSS-COUNTRY STUDY

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ABSTRACT

Human trafficking has been called the ‘dark side’ of globalization. Interpol estimates that human trafficking is now the third largest transnational crime and the number of victims increases with each passing year. In an effort to combat the crime, the United Nations created the Protocol to Prevent, Suppress, and Punish Trafficking in Persons (Protocol) which outlines three anti-human trafficking policy dimensions. Some countries have been very successful in complying with the Protocol and fighting human traffickers while other countries struggle. It is hypothesized in this study that the degree of press freedom within a country significantly affects a country’s ability to comply with the Protocol. It is argued that greater press freedom enables the media to increase public awareness of the atrocities of human trafficking, sway public opinion, and call on government officials to take action and adhere to the laws prescribed in the Protocol. This hypothesis is tested using a cross-country data set of 119 countries. The results indicate that countries that allow for greater press freedom are more successful in their compliance with the Protocol.

JEL: O57, O15

KEYWORDS: Anti-Human Trafficking Policies, Press Freedom, Cross-Country

INTRODUCTION

As a result of increased foreign competition and trade and the dissemination of information and technologies, globalization has brought many positive economic changes such as a higher quality and quantity of products and services and greater levels of human capital. Nonetheless, the process of globalization has brought a host of negative outcomes such as environmental degradation, problems associated with economic inequality and poverty, spread of terrorism and terrorist ideals, and the loss of employment in host countries. While a wealth of literature exists that explored these positive and negative outcomes, a growing body of literature has recently considered the effect of globalization on human trafficking. Advances in technologies, transportations, and the ability to share information across the globe instantaneously have connected countries and people in ways that transcend geographical distances and, as a result, have allowed for an increased illicit flow of human beings. As Cho et al. (2012) state, human trafficking can be viewed as one of the dark sides of globalization.

The United Nations (2001) defines human trafficking in persons as the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. The United Nations estimates that almost every country in the world has been affected by human trafficking and Interpol (2009) estimates that human trafficking is the third largest transnational crime. In the 2012 Trafficking of Humans Report, the U.S. Department of

State estimates that as many as 27 million men, women, and children around the world are victims of human trafficking.

Increased global awareness of the severity of this issue has led to the creation and adoption of major international treaties and laws to fight human trafficking such as the Council of Europe Convention on Action against Trafficking in Human Beings and the United Nation's Protocol to Prevent, Suppress, and Punish Trafficking in Persons, Especially Women and Children (Protocol). The United Nation's Protocol outlines three distinct policy dimensions to combat human trafficking: the *prosecution* or criminalization of traffickers, the *protection* and assistance for victims of human trafficking, and the *prevention* of the crime itself. For the prosecution dimension, the Protocol calls for each state to adopt legislative and other legal measures necessary to establish participation in human trafficking as a criminal offense such that offenders can be prosecuted. In reference to the protection policies, the Protocol requires that states maintain the privacy and identity of human trafficking victims, assist victims in the prosecution of offenders, provide aid in regards to their physical, psychological, and social recovery, ensure their physical safety, and offer a legal system that allows for the possibility of obtaining compensation for damage suffered. Finally, in reference to the prevention, the Protocol calls for states to establish comprehensive policies to prevent and combat human trafficking such as creating social initiatives and mass media campaigns to combat trafficking and to strengthen educational, social, and cultural measures to discourage all forms of human exploitation, with a special focus on those groups most susceptible to human trafficking.

Despite the international efforts to combat human trafficking, the U.S. State Department reports that human trafficking is one of the fastest growing crimes in the world. Nevertheless, some countries have been more successful than others in fighting human trafficking. Thus, the question arises as to why the crime continues to grow despite significant international efforts to prevent human trafficking and, more specifically, why have some countries been more effective in combating human traffickers than others? A small body of research has recently started to explore the factors that either assist, or hinder a country's ability to fight human trafficking. To date, the country factors such as level of economic development and freedom and income distribution, among others have been found to influence a country's anti-human trafficking efforts.

Interestingly, a factor that has not yet been considered is the role that press freedom plays in a country's ability to adhere to international anti-trafficking laws and successfully fight human trafficking. The media has the power to bring news and stories of human rights violations and injustices to the attention of a population and can use this power to influence public opinion and call for action from domestic and international leaders. However, the degree to which the media can call upon leaders and influence the public on issues such as human trafficking violations is dependent on the freedoms that are afforded to the media. Thus, it is hypothesized that an unregulated, free media should positively influence a country's ability to fight human trafficking by exposing violations and calling on government officials to adhere to the anti-human trafficking laws. This study contributes to the anti-human trafficking literature by empirically testing this hypothesis using a cross-country data set of 119 countries.

The remainder of the document is organized as follows. The next section discusses the current literature and findings related to press freedom and human trafficking. The Data and Methodology section provides a greater description of the data and control variables used in this analysis in addition to summary statistics and a discussion of the methodology used to empirically test the hypothesis. The following section, Results and Discussion, presents the analysis results and discusses the empirical findings with an emphasis on the results of the hypothesis test. Finally, the section Concluding Comments provides a brief summary of the study and offers policy implications associated with the findings in addition to providing avenues for future research.

LITERATURE REVIEW

A recent study by Cho (2012) examines four broad determinants of human trafficking in origin and destination countries – migration, crime, vulnerability, and policy and institutional efforts. With respect to the latter, she finds that the extent of human trafficking is decreasing in institutional quality in origin countries, but finds no evidence of a link between policy and human trafficking in destination countries, indicating that “anti-trafficking measures are still not well-grounded in general law and enforcement in many countries” (p. 15-16). However, recent evidence by Bartilow (2010) and Jac-Kucharski (2012) suggests that women’s representation in institutions is associated with the extent of human trafficking, since female politicians are more likely to express concern for this crime, given that most of its victims are women. While Cho (2012) also notes the need to examine policy efforts for the root causes of human trafficking, including poverty, inequality and gender discrimination, among others, our study examines whether the institutional implementation of anti-human trafficking laws is influenced by press freedom.

While past research has not considered the relationship between press freedom enjoyed within a country and its adherence to anti-human trafficking laws, previous studies have explored the impact of press freedom on a variety of country-level outcomes. Specifically, Norris and Zinnbauer (2002) find that societies with widespread access to an independent free press tend to also enjoy governments with greater administrative efficiency, improved social and economic conditions, and less corruption, which suggests that such societies would also be more likely to participate in and observe anti-human trafficking treaties. Bhathangar (2000) notes that societies with greater access to unrestricted information also tend to enjoy greater transparency and accountability throughout all facets of the government. The greater transparency that is associated with access to unrestricted, free information suggests that governments are more easily held accountable for their actions and responses to criminal acts, such as human trafficking. Further, through its ability to share news on an international stage, Pal (2011) theorizes that unregulated national media can bring international exposure to a multitude of issues such as human rights violations that can lead to external, international pressure on domestic governments to act in the best interest of their citizens. In sum, it is widely accepted that nations with a free, unregulated media tend to be more economically and politically stable, enjoy greater efficiency and transparency, and experience lower levels of corruption (Ades and Di Tella, 1999; Treisman, 2000; and Wei, 2000), all of which suggest a greater capability to combat human trafficking.

An unregulated, free press can expose the atrocities associated with human trafficking on both the domestic and international stage and use this platform to call for action and to hold government officials accountable to the international anti-trafficking laws. While a free press is associated with more economically and politically stable countries with lower corruption levels and greater government efficiency, it is hypothesized that through its ability to expose crimes and call upon governments to comply with international laws, a free press should also be associated with countries that are more successful in combating human trafficking. Alternatively, a media that is highly controlled by the government is unlikely to have the ability to disseminate news that can incite conflict or show the government in a poor light. In such a society, the government typically regulates messages and images to mask potential sources of contention and hide such issues as human rights violations. A controlled press can be used as a means to share government propaganda that promotes a sense of national identity and pride and news of human trafficking occurring within the country would counter such efforts. Thus, it is hypothesized that,

H1: Greater levels of press freedom enable countries to more effectively fight human trafficking through its compliance with international anti-human trafficking laws.

This hypothesis is empirically tested using sample data from 119 countries. The data and research methods are discussed in the following section.

DATA AND METHODOLOGY

Anti-Human Trafficking and Press Freedom Data

In order to test the hypothesis, it is necessary to have a measure of country compliance with international anti-human trafficking laws. Using the three policy dimensions, *prosecution*, *protection*, and *prevention* outlined in the United Nation's Protocol, Cho et al. (2012) have developed a new anti-human trafficking country index. The index is designed to measure a governments' compliance with the multitude of requirements for each of these three policy areas over the time period 2000-2009. For each policy dimension, Cho et al. (2012) assign each country a score on a discrete one to five scale such that a score of five represents the greatest level of compliance on the policy dimension and a score of one represents complete non-compliance. Cho et al. (2012) then aggregate these three sub-indices to create the anti-human trafficking index (*3P*) by taking the un-weighted sum of the three scores. The *3P* data is available for 175 countries and is used in this study to proxy country compliance with anti-human trafficking laws. In the 2010 *3P* data, the Netherlands, Sweden, and Italy each received the highest *3P* score of 15, indicating that these countries demonstrate the greatest level of compliance with the Protocol's three anti-human trafficking policy dimensions. Alternatively, Iran, Libya, and Somalia received a *3P* score of four, which represented the lowest score given in the 2010 data, indicating that these countries exhibited the least compliance with the anti-human trafficking policies. Japan, Nepal, Singapore, and Ukraine are examples of countries that received a score of ten, which is closer to the mean score of 9.8 from the 2010 *3P* data.

The 2009 World Press Freedom Index (PF) index, published by Reporters Without Borders (RWB) is used to measure the media and press freedoms enjoyed within a country. RWB is an international organization that aims to promote the freedom to be informed and to inform others throughout the world. The organization is based in France with offices and constituents located on all five continents. The PF index reflects the freedoms afforded to journalists and news organizations at the country level and the efforts made by leaders to respect and protect these freedoms. The index also captures the level of self-censorship and the ability of the media to investigate and criticize government and leadership.

The PF index is published annually and uses 40 criteria to assess press freedom at the country level. To create the index, RWB uses a questionnaire that is sent to its partner organizations, which consists of 15 freedom of expression organizations, a network of 130 global correspondents, journalists, researchers, jurists, and human rights activists. The questionnaire considers every kind of violation journalists and new media can face such as imprisonment, physical attacks, murder, threats, censorship, searches, harassment, financial pressures, and the confiscation of information. The PF index ranges from zero to 100 and a score of zero represents complete respect for media freedom. From the 2009 PF data, Denmark, Finland, Ireland, Norway, and Sweden were recognized as having the greatest levels of press freedom, each with PF values of zero, while Eritrea, Iran, Myanmar, Turkmenistan, and North Korea were ranked at the opposite end of the PF scale.

Control Variables

Gartze (2005) states that economically free markets encourage cooperation across nations through their relationships developed through trade. This suggests that countries that are more economically free have stronger international relationships and are more likely to adhere to international laws and treaties. Thus, countries that enjoy greater levels of economic freedom are more connected to the global community and would be more inclined to comply with the anti-human trafficking laws outlined in the Protocol. Economic freedom is controlled for in this analysis using the Economic Freedom of the World (EFW) index published by Gwartney and Lawson (2009) and the Fraser Institute. The EFW index measures government size, legal structure and security of property rights, access to sound money, freedom to

exchange with foreigners, and regulation of credit, labor, and business, and ranges from zero to ten with higher scores indicating more economically free countries.

In empirical analysis of the predictors of human trafficking, Bales (2007) finds that the overall economic well-being and the degree of poverty significantly affect the degree of human trafficking in a country. Specifically, greater poverty and lower levels of economic well-being are found to drive human trafficking. Income inequality and the level of economic development are controlled for in this analysis to capture the overall economic well-being and poverty within a country. Income inequality is measured with the 2009 Gini coefficient developed by Corrado Gini in 1912. The Gini coefficient measures inequality of income distribution in a country and ranges from zero to one such that values closer to zero represent a more equal distribution of income and values closer to one represent an unequal distribution of wealth. In the extreme case a Gini coefficient of one indicates that one individual holds all of the income while the rest have none. The level of economic development is measured by the natural log of 2009 GDP per capita (*LnGDPPC*), which is available through the World Bank. Table 1 provides the descriptive statistics for all data used in the analysis.

Table 1: Data Summary and Descriptive Statistics

Variable	Proxy (Name, Year Reported)	Mean	St. Deviation	N
<i>3P</i>	Anti-Human Trafficking (Cho et al. 2012)	10.71	0.224	119
<i>PF</i>	World Press Freedom Index (Reporters Without Borders, 2009)	24.60	20.447	119
<i>Gini</i>	Income Inequality (Gini Coefficient, 2009)	41.00	0.953	119
<i>EFW</i>	Economic Freedom (Economic Freedom of the World, 2009)	6.70	0.076	119
<i>LnGDPPC</i>	Economic Development (World Bank, 2009)	8.31	0.144	119

Table 1 provides a summary of the data sources used in the analysis in addition to the descriptive statistics. The independent variables are lagged by approximately one to two years in relation to the dependent variable, *3P*, as their effect on a country compliance with anti-human trafficking laws cannot be expected to occur immediately.

Table 2 provides the correlation matrix of all variables used in the analysis. As shown below, *3P* is negatively and significantly correlated with *PF* and *Gini* and positively and significantly correlated with *EFW* and *LnGDPPC*. These relationships suggest that countries with greater press freedom, income equality, and economic freedom and development tend to also exhibit greater compliance with the international anti-human trafficking laws as outlined in the Protocol. Nonetheless, the correlations only suggest associations and in order to test for the causal relationship between *PF* and *3P* as stated in H1, a regression analysis is necessary.

Table 2: Correlation Table

	<i>3P</i>	<i>PF</i>	<i>PF</i>	<i>PF</i>	<i>PF</i>
<i>3P</i>	1				
<i>PF</i>	-0.42777***	1			
<i>Gini</i>	-0.39511***	0.13689	1		
<i>EFW</i>	0.552225***	-0.45247***	-0.29756***	1	
<i>LnGDPPC</i>	0.586827***	-0.46132***	-0.37108***	0.676656***	1

Table 2 provides the correlation matrix of all of the data used in the analyses. The correlations indicate that countries with greater press freedom, income equality, and economic freedom and development tend to also exhibit greater compliance with the international anti-human trafficking laws outlined in the Protocol.

To test H1, the following regression is estimated using the data described in Table 1 for 119 countries:

$$3P = \beta_0 + \beta_1 PF + \beta_2 EFW + \beta_3 Gini + \beta_4 LGDPPC + \varepsilon$$

If the coefficient on PF, β_1 , is significant and negative, this will provide empirical evidence to support H1.

RESULTS AND DISCUSSION

As shown in Table 3, the regression results provide overall support for the model with an Adjusted R^2 of 0.4216 and a significant F at the 99 percent confidence level. White’s (1980) general test for heteroscedasticity suggests that the residuals are homoscedastic and Variance Inflation Factor (VIF) for each of the explanatory variables is less than 10, the VIF cutoff suggested by Field (2005). In reference to the control variables, all of the coefficient estimates are significant and have the expected signs. Specifically, the results indicate that countries that enjoy higher levels of economic freedom and development, and have a more equal distribution of income tend to comply with the international anti-human trafficking laws outlined in the Protocol.

Table 3: Estimated Regression Results

	Coefficient Estimate	Std Err	t Stat	p-value	VIF
<i>Intercept</i>	5.013**	2.085	2.400	0.0178	0
<i>PF</i>	-0.020**	0.010	-2.08	0.0401	1.336
<i>EFW</i>	0.668**	0.289	2.31	0.0227	1.949
<i>Gini</i>	-0.047***	0.018	-2.64	0.0093	1.169
<i>LnGDPPC</i>	0.438***	0.157	2.80	0.0061	2.081
Adj. $R^2 = 0.4216$ F stat = 22.51*** $p < 0.10^*$; ** $p < 0.05$; *** $p < 0.01$					

Table 3 provides the estimated regression results. The positive and significant coefficient on PF supports H. The remaining coefficients are significant and have the expected sign.

In reference to H1, the coefficient on PF is significant and positive, which suggests that countries with greater press freedom tend to be more successful in adhering to the anti-human trafficking laws in the Protocol. It is argued here that an unrestricted, free media can expose human rights violations associated with trafficking to increase public awareness and use this influence to call on both domestic leaders and the international community to take action against these atrocities. Further, a free media can hold government officials accountable to international anti-trafficking laws. Alternatively, a media that is highly controlled by the government is likely to be censored such that it cannot call attention to issues that would invoke tensions and paint the government in a poor light. As shown in Table 3, the cross-country empirical results support this hypothesis.

Nonetheless, some regions of the world have historically experienced a greater degree of human trafficking than others. Specifically, some countries located in the Eastern Pacific / Southern Asia (EPSA), Latin America (LA), and the Sub-Saharan African (SSA) regions have had notably higher rates of human trafficking and, in an effort to test whether the above results are dependent on regional effects, a second regression model is estimated that includes these regional indicators. The second regression model is defined as:

$$3P = \beta_0 + \beta_1 PF + \beta_2 EFW + \beta_3 Gini + \beta_4 LGDPPC + \beta_5 EPSA + \beta_6 LA + \beta_7 SSA + \varepsilon$$

The estimated regression results are presented in Table 4 below.

Table 4: Estimated Regression Results with Regional Controls

	Coefficient Estimate	Std Err	t Stat	p-value	VIF
<i>Intercept</i>	6.200**	2.588	2.400	0.0183	0
<i>PF</i>	-0.022**	0.011	-2.05	0.0424	1.695
<i>EFW</i>	0.573*	0.312	1.840	0.0685	2.235
<i>Gini</i>	-0.057**	0.023	-2.430	0.0165	1.990
<i>LnGDPPC</i>	0.412**	0.189	2.180	0.0314	2.991
<i>EPSA</i>	0.379	0.587	0.650	0.5195	1.441
<i>LA</i>	0.550	0.675	0.810	0.4174	2.351
<i>SSA</i>	-0.110	0.721	-0.150	0.8795	3.630

Adj. $R^2 = 0.4157$ F stat = 12.97*** $p < 0.10^*$; ** $p < 0.05$; *** $p < 0.01$

Table 4 provides the estimated regression results of the regression with the added regional controls. The signs and significance of the coefficients from the original regression remain the same and the coefficients on the regional indicators are insignificant. These results offers further support for H1 as the press freedom is still found to significantly affect 3P even with the inclusion of regional controls.

The results presented in Table 4 indicate that the signs and significance of the coefficients from the original regression remain the same and each of the estimated coefficients for the regional controls are insignificant. These results offer further support for H1 as press freedom is found to significantly affect a country's ability to adhere to international anti-human trafficking laws even when regional controls are taken into consideration. In other words, the effect of press freedom on country compliance with anti-human trafficking laws is not dependent on global regions.

CONCLUDING COMMENTS

While globalization has brought the international community many positive economic outcomes, it has unfortunately also increased the flow of human trafficking and has affected almost every corner of the world. A recent example is the report by the Environmental Justice Foundation (2013) finding that human trafficking is prevalent in Thailand's fishing industry. Thailand's economy relies heavily on labor-intensive industries; however, as a result of the country's growing prosperity, "many Thai citizens have turned away from hard, manual jobs," leading to a labor shortage in many industries, such as fishing and seafood processing. According the Environmental Justice Foundation (2013), the need for migrant workers, coupled with a costly and complicated immigration system, has ratcheted up illegal human trafficking in the fishing industry, where, as DiPietro (2013) states "the trafficked workers are subject to long hours, little or no pay and physical and mental abuse up to and including murder."

In our analysis using data from 119 countries, the empirical results suggest that countries that are more economically free and developed and have greater income equality, tend to be more successful in complying with the anti-human trafficking laws outlined in the Protocol, which supports previous research. Further, the results indicate that countries that enjoy greater press freedom also tend to have a greater degree of compliance with the anti-trafficking laws. We argue that an unrestricted, free media has the ability to expose the atrocities of human trafficking to rally both the public and call upon the domestic government and the international community to take action and hold officials accountable to anti-human trafficking laws such as those described in the Protocol.

Our results have implications for the United Nations' efforts to use the media as a means to combat human trafficking. Specifically, the website for the United Nations Global Initiative to Fight Human

Trafficking (UN.GIFT) states “[t]he media has a large role to play in mobilizing public support and involvement to help prevent and combat trafficking.” UN.GIFT also emphasizes that effective implementation of the three dimensions of the Protocol –prosecution, protection and prevention – requires not only the involvement of law enforcement, but a “synergy of efforts” among stakeholders, such as the media, among others. Thus, our findings can be used by U.N. policymakers to lobby for increased press freedom, particularly in those countries where human trafficking compliance is low.

While the results support previous research findings and offer evidence that press freedom can play an important role in fighting human trafficking, there are limitations of the study that should be noted. Specifically, when attempting to quantitatively measure broad country characteristics such economic freedom, income equality, economic development, and press freedom, there will undoubtedly be measurement error. As with all cross-country studies exploring such country factors, the results presented here are limited to the quality of these data measures, which are imperfect.

As researchers continue to explore methods to combat human trafficking, an avenue for future research would be to explore how policies aimed at enhancing press freedom can affect human trafficking within a country over time. Another area of research would explore the impact of developed countries’ increasing consumption of outsourced goods and services on emerging economies’ need for migrant workers. Does the ramp up of capacity to meet such consumption needs, facilitate human trafficking within the supply chain or does compliance with such policies such as the California Transparency in Supply Chains Act of 2010 create awareness within multinational companies to better assess risk, conduct audits and provide training to suppliers within high risk locals and reduce human trafficking? Given that human trafficking has continued to increase despite international efforts to stop the practice, researchers, policy makers, and political leaders need to devote more resources to the anti-human trafficking effort.

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SERVICE SWITCHING, WORD-OF-MOUTH, AND NEW PROVIDER SEARCH: A FIVE COUNTRY EXPLORATORY STUDY

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ABSTRACT

Based on a conceptual framework provided by Keaveney (1995), the current study explores the reasons service customers switch providers and the related post-switching behaviors in five countries. Specifically, we identify statistically significant differences between the investigated nations in 1) the frequency of the types of reported switching incidents, and 2) the word-of-mouth (private voice and public complaint) behavior. Search strategies for a new service provider were not found to differ substantially across the countries. The paper includes a discussion of the managerial implications of the findings as well as study limitations and potential future research directions.

JEL: M300

KEYWORDS: Consumer Research, Customer, Relationship

INTRODUCTION

An important aspect of services marketing involves understanding customer (dis)satisfaction, switching behavior, and ensuing behavioral outcomes. Development of a more thorough understanding of customers' switching behavior can help service managers to better avoid the negative consequences of customer defection and provide an important step towards preserving and improving valuable existing relationships. Unfortunately, most of the studies in the marketing literature examine customer acquisition and retention rather than customer switching behavior (Gupta, Kim and Sharma 2011). As service organizations continue to expand internationally it becomes more important to understand cross-national differences, and similarities, to serve consumer needs successfully in a global environment. Clark, Rajaratnam and Smith (1996) define international services as "deeds, performances and efforts conducted across national boundaries in critical contact with foreign cultures" (p. 15). Defining relationships among variables that are sensitive to cultural influences should be an important part of cross-cultural research.

This study utilizes Keaveney's model of customer service switching behavior (1995) to explore service switching incidents. Specifically, we examine how the incidents that trigger switching and related behaviors differ across five different countries. The next section of our paper briefly discusses culture and provides the foundation for the importance of exploring potential cross-national differences in 1) service switching factors, 2) post-switching word-of-mouth (private voice and public complaint), and 3) search activities utilized to obtain a new service provider. We then report the results of an empirical study that sampled customers of services in five countries (i.e., China, Brazil, Poland, Russia, United States) and follow that with a discussion of the managerial implications of the findings. The report concludes with noted study limitations and potential future research directions.

LITURATURE REVIEW

Culture refers to the set of ideas, beliefs, assumptions, and norms that are widely shared among a group of people and that serve to guide their behavior (Goodenough 1973). Hofstede (1991) states that based on relatively similar history, language, political, legal and educational environment, nations “are the source of a considerable amount of common mental programming of their citizens” (p. 12). Culture is important in understanding behavioral differences as they create predispositions that link directly to the roles that members of a society accept (Kim, Wen and Doh 2010). “Culture is to human collectivity what personality is to the individual; it determines the identity of the human group in the same way as personality determines the identity of the individual” (Jones and McCleary 2004, p. 429). Particular values can be shared by numerous cultures, but the combination of value orientations within a culture is likely to be unique. A greater understanding of how differences across countries might be associated with switching behaviors may provide services managers insights to better identify appropriate practices when responding to service failure situations.

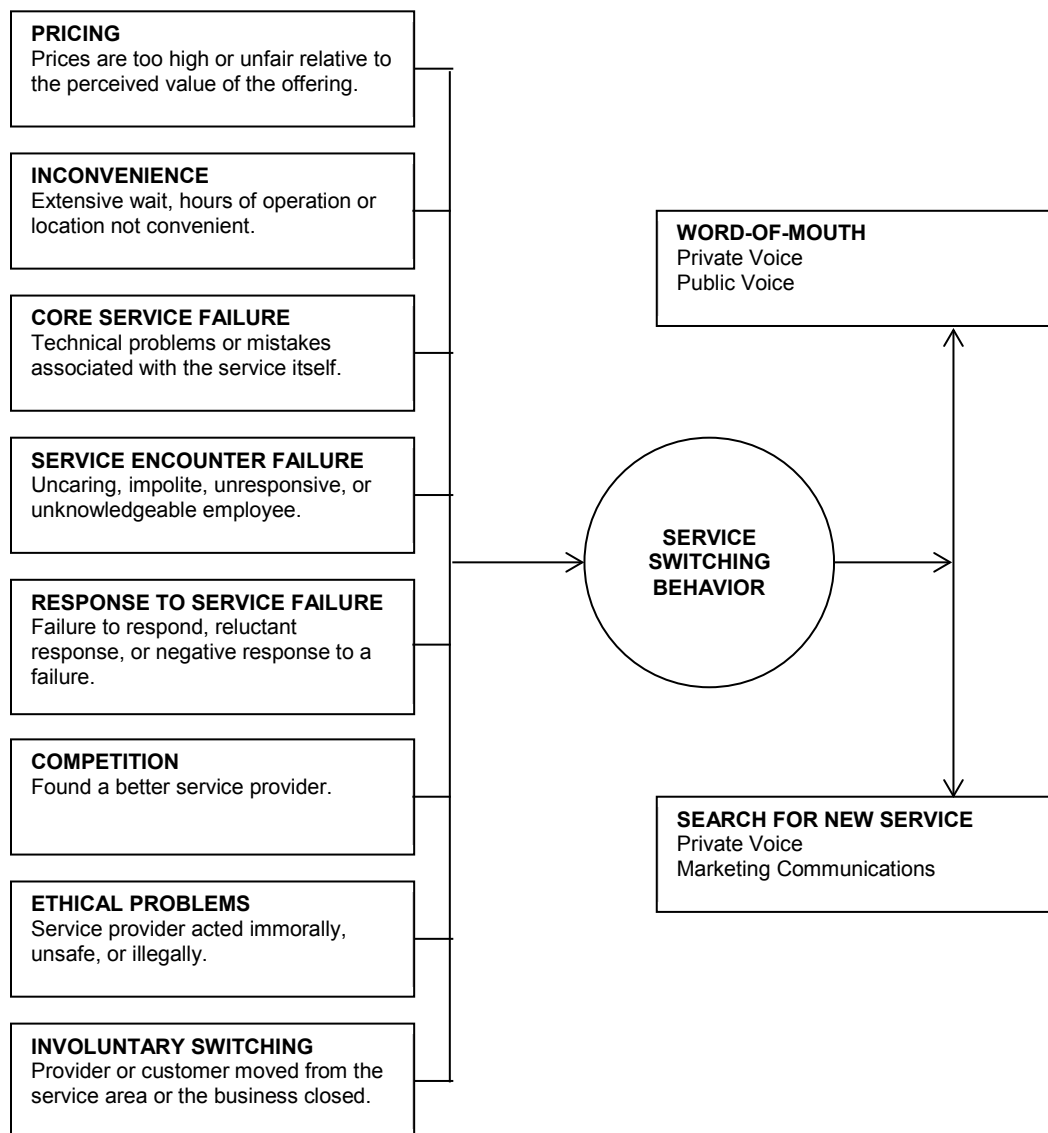
The inevitability of failure suggests that service organizations must be pro-active in identifying differences in cultural expectations in order to reduce switching behaviors and gain insights into preferences for recovery strategies (Becker 2000; Lin and Mattila 2006). Based on the conceptual framework provided by Keaveney (1995), the current study explores the reasons service customers switch providers and the related post-switching behaviors across five different national cultures. Specifically, we seek to identify if there are significant differences between nations in: 1) the frequency of the types of reported switching incidents, 2) the word-of-mouth (private voice and public complaint) behavior, and 3) the search for a new service provider. Maintaining a base of long-term customers is widely recognized as important by services marketers, while customers that do not return are lost market opportunities (Dutta, Venkatesh and Parsa 2007). Understanding why customers switch is important for firms to understand, yet “many CEOs have little insight into the causes of their customers’ switching behavior because they do not measure customer defections or know why customers are defecting” (Scanlan and McPhail 2000, p. 492). When there are opportunities for customers to engage in switching behavior, there are a number of switching factors that may affect their long-term loyalty (Keaveney 1995).

Based on a study of 45 different services, Keaveney (1995) provides a conceptual model of customers’ service switching behavior. The framework identifies eight key switching factors: 1) pricing (prices are too high, deceptive, or unfair relative to the perceived value of the service offering), 2) inconvenience (time to receive the service or appointment involves a perceived extensive wait, hours of operation or service provider location are not convenient), 3) core service failure (technical problems or mistakes associated with the service itself), 4) service encounter failure (a failure in the personal interaction between an employee of the service firm and the customer attributed to the employee being uncaring, impolite, unresponsive, or unknowledgeable), 5) response to service failure (the service provider failed to adequately address a failure situation by not responding, reluctantly responding, or responding in a negative way), 6) competition (customer found a service provider that provided a higher quality service, was more personable, or more reliable), 7) ethical problems (service provider deviated widely from social norms via immoral, unsafe, or illegal activities), and 8) involuntary switching (factors beyond the control of the service provider or customer such as either party moving from the service area or the business closing). In addition to identifying prominent switching factors, Keaveney (1995) suggested that post-switching behaviors include: 1) engaging in word-of-mouth and/or complaining, and 2) searching for a new service provider (see Figure 1).

After a customer has decided to discontinue utilizing a particular service provider, s/he may engage in word-of-mouth activities that could negatively impact the switched from firm. Private voice involves “informal communications directed at other consumers about the ownership, usage, or characteristics of particular goods and services and/or their sellers” (Westbrook 1987, p. 261). Persuading others not to do

business with an organization may increase the customer’s confidence in their decision to switch and is a way to reduce the cognitive dissonance potentially caused by a concern that the wrong decision was made (Wangenheim 2005). Private voice communication, positive and negative, is motivated not only by informational considerations, but also by the desire to influence the actions of friends, relatives, and others. Private voice can be particularly effective as social pressure can be used to ensure that the receiver of the communication conforms to the provided recommendations (Arndt 1967). As such, the nature of word-of-mouth communication lends it particular impact in discouraging others from purchase, (Keaveney 1995).

Figure 1: A Model of Customers’ Service Switching Behavior



Public voice (i.e., complaining) is a confrontational form of word-of-mouth. As “complaints are regarded as key indicators signaling when recovery should be implemented, it is important to recognize cultural distinctions associated with complaint behavior” (Becker, 2000 p. 535). Actively engaging in public voice not only can help consumers to remedy their own situation, but also provides a chance to vent

negative emotions, reduce cognitive dissonance, and/or seek retaliation (Wangenheim 2005). Once a problem has been recognized, service consumers need adequate information to resolve it. Information search is the process in which the consumer surveys his or her environment for appropriate data to make a reasonable decision. An explicit search for information to find a new service provider may range from simply scanning memory to assembling information about possible service alternatives via private voice or the consulting of marketing communications.

Private voice is often actively sought and due to its perceived unbiased nature lends it particular impact in bringing new customers to a firm (Keaveney 1995) by reducing the perceived risk associated with making a buying decision (Murray 1991). Private voice is particularly important to service firms as the intangibility and experiential nature of many services can make pre-purchase evaluation more difficult and, therefore, much more risky for consumers considering purchase. When evaluating alternatives prior to making a choice for a new service provider, service customers not only rely on personal sources of information available to them, but also marketing communications (Grace and O’Cass 2003). Effective communication by the service organization can guide potential customers’ purchase decisions by informing them about a service as well as enhancing the image of that service. Specifically, marketing communications can act to capture the attention of potential customers, provide information, and reduce perceived purchase risks (Davies 1996).

DATA AND METHODOLOGY

Cooperation from a variety of businesses generated through the authors’ professional contacts was utilized in each country investigated. Data collection was completed in the spring of 2011. The countries were selected to provide global diversity by including cultures from Asia, Europe, South America, and North America. A researcher personally delivered the questionnaires to the managers of the employees. Respondents were not compensated for their participation in the research. In general, employees were hourly or low-to-mid level managers. This resulted in 1,858 usable responses. Respondents ranged in age from 17 to 87 years (mean = 31.8, SD = 12.8), with females making up 60.2% of the sample.

Table 1: Summary Statistics of Respondents by Country

Country	n	Gender		Mean	SD	Age Median	Minimum	Maximum
		Female	Male					
Brazil	259	171	88	41.2	13.6	40.0	17	87
China	177	99	78	30.6	9.0	28.0	18	72
Poland	353	220	133	27.6	9.5	24.0	17	80
Russia	351	230	121	28.8	11.7	23.0	17	63
United States	718	400	318	32.3	13.4	26.0	17	86
Total	1,858	1120	738	31.8	12.8	27.0	17	87

Respondents were first asked to think about the last time they had changed a service provider. They then noted, in response to an open-ended question, the service type and described what had caused them to switch service providers. The reporting of the switching incident was used to get the respondents to think clearly about a specific encounter before answering the questions of interest in this study. Keaveney’s (1995) categories for switching services were provided and respondents were asked to check the reason(s) that best explained why they had switched from the service provider. Subjects were then asked whether they had discussed the incident and with whom. If the subject had discussed the incident, he or she indicated the valence of the provided word-of-mouth via a three-item, 7-point, Likert-type scale adapted from Chiou, Droge and Havanich (2002) with anchors of Strongly Disagree (1) and Strongly Agree (7).

Specifically, subjects were asked if they had said negative things about, warned others, or tried to convince others not to use the switched from service. The word-of-mouth valence scale demonstrated strong internal consistency for the total sample ($\alpha = .88$) as well as within each country-based sample

($\alpha_{\text{Brazil}} = .84$, $\alpha_{\text{China}} = .84$, $\alpha_{\text{Poland}} = .83$, $\alpha_{\text{Russia}} = .86$, $\alpha_{\text{United States}} = .92$). Two 7-point, Likert-type questions were created to identify the search process(es) utilized to identify a new service provider. Respondents were asked to indicate how important (Not Important at All = 1, Very Important = 7) were each of the following: 1) word-of-mouth provided by friends, colleagues, and/or relatives, and 2) external search via articles, reviews, and traditional advertisements. Demographic information (i.e., gender, age in years) was sought in the last section of the questionnaire. To establish translation equivalence, the questionnaire was translated into the appropriate language(s), by bilingual native speaker(s), for each country where data was to be collected. Back translation into English was performed by a second bilingual individual, and then the back-translated English version and the original versions were compared by a third [bilingual] individual (Mullen 1995). When no further changes were recommended in a particular language, the questionnaire was finalized for usage. As the response options utilized the same units of measure in each country calibration equivalence was achieved (Mullen 1995).

RESULTS

Switching factors were most frequently noted in the following order – competition, pricing, core service failure, response to failed service, failed service encounter, inconvenience, and ethical problems (see Table 2). The category for involuntary switching was dropped from the analysis due to lack of response. Chi Square tests identified statistically significant differences between the countries for all switching behaviors other than price ($\chi^2 = 4.97$, $p = .290$). Switching due to inconvenience of the service provider ($\chi^2 = 46.51$, $p = .000$) was most likely to occur among the Chinese respondents. Core service failures ($\chi^2 = 64.47$, $p = .000$) and inadequate responses ($\chi^2 = 76.38$, $p = .000$) to service failures were most likely to be reported by the Brazil and China sample subjects. Unsatisfactory interactions with employees ($\chi^2 = 28.44$, $p = .000$) leading to switching were reported most often by respondents from China and Russia. Switching attributed to finding a higher quality or more reliable service provider ($\chi^2 = 42.46$, $p = .000$) was least likely to be identified in the sample from Poland. The service provider acting illegally, in an unsafe, or an unethical manner ($\chi^2 = 164.26$, $p = .000$) was indicated most often by Brazilian respondents.

Table 2: Classification of Critical Behaviors That Lead to Services Switching

Service Switching Category	Brazil		China		Poland		Russia		United States		Totals	
	n	%	n	%	n	%	n	%	n	%	n	%
Competition***	141	54.4	72	40.7	109	30.9	176	50.1	322	44.8	820	44.1
Pricing	97	37.5	62	35.0	130	35.8	107	30.5	263	35.6	659	35.5
Core Service Failure***	128	49.4	63	35.6	67	19.0	113	32.2	254	35.4	625	33.6
Response to Failed Service***	117	45.2	62	35.0	56	15.9	76	21.7	192	26.7	503	27.1
Failed Service Encounter***	75	29.0	68	38.4	72	20.4	112	31.9	170	23.7	497	26.7
Inconvenience***	61	23.6	65	36.7	60	17.0	91	25.9	115	16.0	392	21.1
Ethical Problems***	66	25.5	20	11.3	9	2.5	9	2.6	31	4.3	135	7.3

* $p < .10$; ** $p < .05$; *** $p < .01$

Overall valence of the respondents' word-of-mouth was negative in nature (mean = 4.41, SD = 1.89). Analysis of variance (ANOVA) suggests that word-of-mouth valence differed significantly ($F_{4,1227} = 3.76$, $p = .005$) between countries. Duncan post-hoc analysis indicates that respondents from Poland were significantly less negative in their comments than respondents from Brazil, China or the United States, with Russian respondents falling in the middle (see Table 3).

As reported in Table 4, the majority (66.4%) of respondents indicated that they did discuss the reported service switching incident with friends, family members, and co-workers. Chi Square analysis ($\chi^2 = 33.06$, $p = .000$) suggests that Russian subjects were significantly less likely (54.4%) and Chinese respondents significantly more likely (75.1%), to have engaged in private word-of-mouth about the switched from company than did those participants from Brazil (65.3%), Poland (67.7%), or the United

States (69.9%). With whom the incident was discussed also differed significantly based on the respondents' country ($\chi^2_{\text{Family}} = 55.60, p = .000$; $\chi^2_{\text{Friends}} = 13.28, p = .010$; $\chi^2_{\text{Co-workers}} = 89.35, p = .000$).

Table 3: ANOVA Results for Word-of-Mouth Valence by Country of Sample***

Word-of-Mouth Valence	Respondent Category									
	Brazil		China		Poland		Russia		United States	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1					4.02	1.72	4.35	2.12		
2	4.60	1.93	4.48	1.68			4.35	2.12	4.55	1.89

* $p < .10$; ** $p < .05$; *** $p < .01$

Specifically, Chinese subjects appeared to be much less likely (30.5%) to discuss the switching incident with family members relative to any of the other samples (Brazil = 58.8%, Poland = 60.4%, Russia = 59.7%, United States = 66.5%). Discussing the switching incident with friends was likely for all of the cultures, although findings suggest that this was less likely in the United States (60.8%) than in the other countries investigated (China = 69.5%, Brazil = 69.1%, Poland = 68.7%, Russia = 73.8%). As the social network expands to co-workers, greater discrepancies in discussing the switching incident were reported. Least likely to have discussed the incident with co-workers were respondents from Poland (8.3%) and Russia (12.6%). Subjects from Brazil and the United States were substantially more likely to include co-workers in a discussion of their switching incident at 23.0% and 17.8% respectively. However, the Chinese participants were most talkative with co-workers with 46.6% indicating that they had engaged co-workers in this discussion.

Table 4: Percentage of Respondents Using Private Voice By Country of Sample

Country	Discussed***	Incident Discussed and with Whom		
		Family***	Friends**	Co-workers***
Brazil	65.3%	58.8%	69.1%	23.0%
China	75.1%	30.5%	69.5%	46.6%
Poland	67.7%	60.4%	68.7%	8.3%
Russia	54.4%	59.7%	73.8%	12.6%
United States	69.9%	66.5%	60.8%	17.8%
Total	66.4%	59.3%	66.4%	19.0%

* $p < .10$; ** $p < .05$; *** $p < .01$

Chi Square analysis ($\chi^2 = 56.97, p = .000$) indicates that respondents were significantly different in their complaint behavior. Specifically, Brazilian (18.2%) and American (13.7 %) subjects were substantially more likely to have indicated that they had complained directly to the switched from service provider, relative to participants from Poland (5.7%), Russian (1.6%), or China (0.0%). The majority of respondents indicated that they had found a new service provider (85.1%). Findings indicate that the respondents relied predominately on private voice provided by friends, colleagues, relatives, and/or others (mean = 5.20, SD = 1.84), relative to more formalized marketing communications (mean = 3.55, SD = 2.08) when choosing a new service provider. There were no statistically significant differences between group means for either private voice ($F_{4,1569} = .55, p = .69$) or external search ($F_{4,1569} = 1.73, p = .14$) strategies, as determined by one-way ANOVA (see Table 5).

Table 5: Country by Search for New Service Provider

Country	n	Private Voice		External Search	
		Mean	SD	Mean	SD
China	125	5.34	1.50	3.26	1.92
Brazil	227	5.19	2.15	3.50	2.41
Poland	299	5.18	1.66	3.42	1.91
Russia	281	5.30	2.02	3.77	2.29
United States	641	5.14	1.79	3.58	1.96
Total	1573	5.20	1.84	3.55	2.08

* $p < .10$; ** $p < .05$; *** $p < .01$

CONCLUDING COMMENTS

This research extends previous findings on service switching by comparing five culturally diverse subject groups. Shamkarmahesh, Ford and LaTour (2003) suggest that studying why relationships end can provide insight in to how to maintain and enhance current relationships. Overall, the results of this study suggest that cultural differences can play an important part in understanding service consumers' switching and exploratory behaviors. As service organizations become more globally diverse, understanding cultural differences becomes increasingly important for building effective customer relationships. Specifically, the determinants of customers' decisions to switch service providers appear to vary in different countries. The presence and/or introduction of "competition" was (with the exception of Poland) the most frequently identified factor that determined service customer switching. Interestingly, while the existence and intensity of competition certainly varies across the economic models of the five countries in our study, our results reveal that such competition remains a driving determinant nonetheless.

Second, despite considerable noticeable differences in the pattern of switching incidents, the "pricing" factor was also consistently identified as an important determinant of service customer switching. Thus, pricing that was perceived as unfair equally resulted in switching actions in all five of the cultures investigated in this study. This finding supports previous research suggesting that consumer's tend to be price conscious, often relying heavily on price in choice situations (Beckett, Hewer and Howcroft 2000). Third, while the critical behaviors identified by customers ranged widely (e.g., from most mentioned to least mentioned) in Brazil, Poland, Russia, and the United States, it is intriguing that Chinese consumers exhibited a notable consistency of emphasis across each of the critical behaviors with the exception of "ethical problems." Fourth, the lack of respondents reporting involuntary switching in this current study is notable. Switching due to factors that are beyond the control of either customers or service providers had been previously identified as a common switching trigger by Keaveney (1995). This finding may be due to how the study was positioned. By asking respondents to recall their most recent service provider switching incident, it is likely that they focused on situations that evoked a negative or dissatisfactory experience, rather than something that neither they nor the respective service provider could control.

Summarizing the role of the critical behaviors that lead to service switching, it seems advisable for service providers to pay strict attention to the competition, and especially to heed their pricing strategies. As noted immediately above, ignoring the potential role of involuntary switching is not advisable either. Clearly other factors come into play as well, as illustrated in Table 2, and should be noted; however, competition and pricing appear to be dominant. Regarding word-of-mouth, the negative valence of respondents is to be expected. Interestingly, the very strong negative tone of Chinese consumers is surprising – as is the more muted negative comments from Poland. Strong feelings clearly exist, but they are not shared openly. This provides a cautionary note to service providers: silence does not imply a lack of displeasure. Regarding private voice, approximately 2/3 of respondents did discuss the reported switching incident (with family, friends, or co-workers). This result verifies the requirement that service providers recognize the impact of consumer dis-satisfaction, irrespective of country or culture. Moreover, when respondents did discuss the incident, they were, generally speaking, most likely to do so with friends, then family, and then with co-workers.

In examining private voice by specific country, the "quieter" voice exhibited in Russia may result, perhaps, from the government's historical "monitoring" of society – and thus may play a role in Russian consumers' unwillingness to discuss an incident with others. However, when such discussion does occur in Russia, it is not surprising that private voice occurs with friends and/or family rather than with co-workers (due to the monitoring issue). The high level of private voice in China, which initially may seem surprising, occurs with friends and co-workers, and to a much lesser extent with the family – but perhaps can be explained because of the strong collective nature of the culture. The much greater willingness of

respondents from Brazil and the United States (relative to Russia and Poland) to discuss incidents with co-workers likely reflects the relatively more open culture in both countries.

Regarding complaining behavior, the findings support previous contentions that Asian consumers often do not complain directly to the service provider, as the taking of such a public action would be viewed as an extreme behavior (Lin and Mattila 2006). This is likely a consequence of the importance of saving face and maintaining harmony. A similar discomfort or unwillingness to complain directly to the service provider exists in Russia; previous research is scant or non-existent on this subject. Again, we surmise that perhaps the historical government “monitoring” of society may play a role in Russian consumers’ unwillingness to confront the service provider, whom might be viewed as an “authority” of sorts.

Once a service customer has made the decision to switch providers the findings suggest that marketing communications should not be used in isolation, irrespective of the culture. Talking with others is noted as being utilized at a substantially higher level than engaging with marketing-controlled communications. We emphasize that the powerful influence of private voice cannot be under-estimated. While relative differences (with regard to family, friends, and co-workers) across countries do exist, it appears that people do, in fact, talk and that their voices matter. The development and usage of related budgets of marketing communication efforts should take this fact into consideration.

The current study explored both the reasons service customers switch providers and related post-switching behaviors. Respondents were 1,858 hourly employees and low-to-mid level managers in five countries. Utilizing chi square analysis and ANOVA, statistically significant differences were found between the investigated nations in 1) the frequency of the types of reported switching incidents, and 2) the word-of-mouth (private voice and public complaint) behavior. Search strategies for a new service provider were not found to differ substantially across the countries. The current study utilized self-reported switching incidents. Scenario-based experiments could provide some advantages over self-report by improving internal validity (Michel 2001) and avoiding response bias due to memory lapse (Smith, Bolton and Wagner 1999). Future researchers may wish to investigate the constructs in the current study via additional methodologies. Using national culture does provide a convenient unit of analysis. However, future researchers may be able to add additional insights into switching behavior differences by examining other sources of national differences. Finally, the current cross-cultural study relied on broad cultural dimensions which may overlook the potential effects of intro-cultural variations. As Au (1999) suggests, ignoring the population distribution of a characteristic within a culture (i.e., intra-cultural variation) can reduce the accuracy of an investigation by over-simplifying the concept of culture. It is important that other levels of culture analysis be considered.

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FACTORS THAT DRIVE INTERNET USAGE AMONG SMALL AND MEDIUM SCALE ENTERPRISES: EVIDENCE FROM GHANA

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ABSTRACT

The internet continues to significantly affect the way business is carried out globally. As businesses of all sizes align information communication technology to its processes to achieve operational excellence while reducing cost, using the internet has become even more critical than ever. This study uses both quantitative and qualitative approaches to assess factors that drive the usage of internet as part of the business operations of small and medium-scale enterprises. The analysis compares internet usage with the use of mobile phones and televisions. From the results, service-related businesses are more likely to use the internet for business operations than other business typologies. However, the length of experience in internet usage is strongly associated with business operators that use the internet. Results also indicated that the small and medium-scale enterprises are gradually adopting more sophisticated internet technologies in business. Although respondents assert to the benefits derived from the use of the internet in business, replacing conventional media with internet services is unlikely. Issues about cost, slow access speed and customer communication preferences are major internet usage challenges. We propose that further studies should adopt extensive statistics financial indices to measure internet usage against perceived outputs and benefits in these enterprises.

JEL: M15, O33

KEYWORDS: Small and Medium-Scale Enterprises, Information and Communication Technology, Internet Adoption, Business Operations

INTRODUCTION

The internet represents one of the most successful examples of sustained investment and commitment to research and development in information infrastructure. A survey conducted in Ghana by Frempong and Essegbey (2006) on the use of information communication technology (ICT) indicates that despite the wide availability of internet service and relatively high literacy rate among the owners of SMEs only a few of them (7%) use the internet for business activities in the Ghanaian economy. The issue that immediately rises is that if it is neither a question of literacy nor the availability of the service, then what other factors drive internet usage patterns in Ghana?

One determinant, well noted in literature is the proliferation of devious individuals who wish to exploit the internet for their own selfish interests. This type of conduct makes sincere users vulnerable to a host of possible attacks that compromise the confidentiality, integrity, and availability of information they exchange through the internet. As a result of such illicit activities, people tend to lose trust on the security of doing business using the internet and thus, forego its huge potential to stimulate business growth.

Findings from Bessen (2000) indicate that the higher the costs associated with adopting innovation, the slower the pace of usage expansion. This suggests that the cost of adoption is an important factor in the adoption and use of the internet for business.

Literature findings of Mohammad and Alam (2009) suggest that small businesses tend to avoid internet usage in their business because it is perceived as complex to use. Literature findings of Poon & Strom (1997) also suggest that the benefits perceived by the small businesses from internet usage are vestigial and hence discourage the adoption of this technology. But do these factors apply within the Ghanaian context?

Although extensive research literature exists on the usage of the internet in supporting competitiveness of small and medium-scale enterprises (SMEs), there is still the need for a deeper understanding of the factors that either promote or inhibit the adoption and usage of this facility by SMEs within specific contexts. The need for this study is therefore for two main reasons. First, most of the empirical research studies available about determinants of Internet usage for business activities are related to larger formal companies. Secondly, identifying the major driving factors of internet usage among SMEs will provide appropriate information to these businesses to make informed choices and consequently promote internet usage as part of their business operations.

The rest of this paper is organized into four main sections. The first section is a review of literature relevant to the study. The research design, sampling procedure and the data collection techniques are described in the second section on data and methodology. Empirical results of the study are presented in the third section. The final section of this paper is a conclusion to the study, which includes recommendations made to the findings from the results.

LITERATURE REVIEW

According to Ion and Andreea (2008), the internet has become a driving force for development and innovation in many countries with millions of businesses connected to it worldwide. This assertion is supported by a study conducted in 2008 which indicates that 68% of large companies in Albania make use of online ordering facilities (Sevrani & Bahiti, 2008). Earlier statistics by Dixon, Thompson, and McAllister (2002) also indicate that 63% of all UK SMEs were connected to the internet in 2001 with 540,000 SMEs trading online. Their findings further indicate that over half (57%) of SMEs in UK attributed broadband to improved profits and two thirds to lowering the cost base.

The internet is also making commercial activities more effective, information more accessible for decision making, and producing more results, faster. A study on Canadian manufacturing establishments shows greater usage of advance ICTs among establishments that recorded higher productivity (Michael & Andrew, 2004). The internet is also known to offer new ways of displaying results, such as real-time financial systems that can be accessed from just about anywhere (Alam & Noor, 2009). Such access to both computer power and business information provides the platform for customers and suppliers to find answers to questions they could only imagine a few years ago. There are several other benefits the internet accrues to the business world (Dixon, Thompson, and McAllister, 2002, Ilavarasan & Levy, 2010, OECD, 2004, Sevrani & Bahiti, 2008). Literature by Ion and Andreea, (2008) categorize these benefits into three; operational tactical and strategic as shown in Appendix A.

Small and Medium Scale Enterprises

Studies on micro, small and medium-scale businesses mainly define SMEs either economically or statistically. The Bolton Committee categorized an enterprise as small if it has a relatively small share in the market place; if it is managed by owners or part owners in a personalized way and not through a medium of a formalized management structure; and if it is independent, in the sense of not forming part of a large enterprise (Bolton, 1971). Statistical definitions of SMEs are based on sector contribution to indices like GDP, employment and export; the dynamic nature of the firm's sector contribution over time; and the position of the firm when applying the statistical definition in a cross-country comparison of

small firms (Ayyagari, Beck & Demirgüç-Kunt, 2005). The European Commission (EC) for instance defines SMEs based on the number of workers employed; businesses with zero to nine (0-9) employees are classified as micro enterprises, those with ten to ninety-nine (10-99) employees as small enterprises; and those with one hundred to four hundred and ninety-nine (100-499) workers as medium enterprises (Ion & Andreea, 2008, Harindranath, Dyerson, & Barnes, 2008). The United Nations Industrial Development Organization (UNIDO) adopts the definition of the EC, but provides different thresholds for developing economies; zero to five (0-4) workers for micro enterprises, five to nineteen (5-19) workers for small businesses and twenty to ninety-nine (20-99) workers for medium-scale enterprises (Yon & Evans, 2011, Mensah, 2004). Studies conducted in developing economies emphasize other socioeconomic characteristics in defining SMEs. These include limited formal education, the lack of technical know-how as well as the inability to acquire skills and modern technology to definition of SMEs (Abor & Quartey, 2010, Antlová, 2009, Frempong & Essegbey, 2006, Katzeff & Abdallah, 2006, Mensah, 2004).

The usage of ICT among SMEs progress from the adoption of basic technology such as the traditional media and fixed lines to more advanced technology such as email, e-commerce, and information processing systems (Servani & Bahiti, 2008). Studies suggest that SMEs which move beyond the use of traditional media and fixed lines, usually adopt personal computers for basic word processing, accounting, and other business practices without internet connectivity. However, SMEs that advance to the usage of the internet are able to use more advanced communications capabilities such as email, file sharing, creating websites, and e-commerce (Frempong & Essegbey, 2006, Servani & Bahiti 2008).

DATA AND METHODOLOGY

A case study approach was employed to examine the research problem within the context of the locations chosen. For this reason there is little assurance on how representative the results of this study would be to all SMEs in Kumasi. Two geographical areas were targeted Ayeduase and Adum. Information about the number of SMEs available at these target areas were received from the Oforikrom sub-metro (for Ayeduase) and the Kumasi Metropolitan Assembly (KMA) (for Adum). The total population figures received corresponded with the SMEs which had registered with these institutional bodies.

Primary data for the study was collected through interviews and observational visits in August 2012. Interactions with each of the respondents under study consisted of a mix of closed-ended and open-ended survey questions. A questionnaire was designed for this purpose with numerical codes assigned to alternative responses where appropriate. This study was not designed to directly examine internet usage effects on revenue, productivity or cost. Instead, the study was limited to the assessment of the characteristics and internet usage behaviors, and linked them to the decision to use internet as part of business operations. For this reason, questions for the interview examined attitudes, opinions and organizational practices rather than financial indices. The close ended questions were dominantly used to receive responses concerning the characteristics of the businesses as well as the attitudes, behaviors and opinions of the respondents towards the use of the Internet. Data on respondent reactions and suggestions were collected using semi-structured, open ended questions.

The questionnaires were either self-administered or interviewer-administered depending on the preference of the respondent. Self-administered questionnaires were physically delivered to and collected from the intended respondent to reduce possibilities of contamination and unknown biases. Also, the reliability of the questions was assessed mainly through the alternative form approach. Other approaches such as the test re-test were used but sparingly to avoid possibilities of irritating a respondent by repeating questions. The targeted groups for the interviews were the managers and owners of the businesses since literature suggests that the decisions of these groups in such establishments invariably have major impacts on the operational behaviors of other employees (Abor & Quartey, 2010).

EMPIRICAL RESULTS

Socio-Demographic Characteristics of Respondents

Statistics on the socio-demographic characteristics of respondents from Ayeduase and Adum are presented in Table 1. Table 1 shows the distribution of the respondents by sex, age grouping, and highest formal educational level, ownership status and business typology within each study area. The percentage proportions for the distributions, which are relative to the total number of respondents within each study area, are also presented. The total number of respondents (X) for each study area is reported as (N=X) at the header rows for each panel.

Table 1: Summary Statistics on Socio-demographic Characteristics

Panel A: Sex distribution				
	Adum (N=306)		Ayeduase (N=27)	
	n	%	n	%
Male	182	59.5	15	55.6
Female	118	38.6	9	33.3
Missing	6	2.0	3	11.1
Panel B: Age Grouping				
	Adum (N=306)		Ayeduase (N=27)	
	n	%	n	%
18-25 yrs	7	2.3	3	11.1
26-35 yrs	68	22.2	14	51.9
36-40 yrs	110	36.0	4	14.8
41-45 yrs	68	22.2	2	7.4
46-55 yrs	43	14.1	1	3.7
56-60 yrs	5	1.6	0	0.0
Above 60 yrs	3	1.0	0	0.0
Missing	2	0.7	3	11.1
Panel C: Highest Educational Level				
	Adum (N=306)		Ayeduase (N=27)	
	n	%	n	%
None	14	4.6	0	0.0
Primary	74	24.2	0	0.0
Secondary	107	35.0	10	37.0
Tertiary	103	33.7	14	51.9
Missing	8	2.6	3	11.1
Panel D: Ownership status				
	Adum (N=306)		Ayeduase (N=27)	
	n	%	n	%
Owner	219	71.6	13	48.2
Manager	78	25.5	9	33.3
Other	6	2.0	2	7.4
Missing	3	1.0	3	11.1
Panel E: Business Type				
	Adum (N=306)		Ayeduase (N=27)	
	n	%	n	%
Manufacturing	23	7.5	0	0.0
Retailing	239	78.1	7	25.9
Service	42	13.7	17	63.0
Missing	2	0.7	3	11.1

Table 1 shows the socio-demographic characteristics of the respondents in this study. Panel A shows the sex distribution of the respondents. Panel B shows the age distribution of respondents in years (yrs). Panel C shows the highest level of education attained by respondents at the time of interview. Panel D shows the ownership status of the respondents in relation to the SMEs they operate. Panel E shows the type of business operated by the respondent. The last row in each panel represents the missing values for that observation. The first column in each panel shows the socio-demographic variables observed. The figures in the columns labeled 'n' for each panel show the observations for each response. The figures in the columns labeled '%' for each panel show the proportions of each observation in percentage. The total number of respondents (X) for each study area is reported as (N=X) at the header rows for each panel.

In Table 1, results from both Ayeduase and Adum indicate that majority (59.5% and 55.6% respectively) of SME operators are males. This suggests that the number of male and female operators of SMEs is fairly equal in both study areas. With regards to age, a majority (51.9%) of the respondents at Ayeduase are within a much younger age group of 26 to 35 years while most of the respondents at Adum are within the 36 to 40 year age group. Very few of the respondents are above the age of 55.

Results from Table 1 further indicate that as high as 88.9% from Ayeduase and 68.7% from Adum have at least secondary level formal education. The difference between those who have attained up to the secondary level and those who have tertiary level education is marginal for both study areas. Apart from the non-responses (11.1%), results from Ayeduase indicate that all respondents have at least secondary level formal education. At Adum however, there are about five percent (4.6%) of the respondents that have no formal educational background. Evidence from the results in Table 1 supports literature findings that most of the operators of SMEs are highly educated (Frempong & Essegbey, 2006).

More than two-thirds (71.6%) of respondents that operate the SMEs at Adum are owner managers shown in panel D of Table 1. This contrasts with results from Ayeduase where there is a fairly balanced distribution between owner managers and others who are employed as managers. However, most of the employed managers have family relations with the actual owners. These findings agree with the findings of Abor and Quartey (2010) who described SMEs as personalised businesses.

Results presented in Table 1 also indicate that over two-thirds (78.1%) of the SMEs are mainly engaged in retailing of products at Adum whilst the dominant business typology at Ayeduase is service (63%). For both study areas however, manufacturing businesses are the least; a few respondents (7.5%) manufacture products at Adum whilst none of the businesses at are engaged in manufacturing.

Following the socio-demographic characteristics of the SMEs studies, we now report statistics on the ICTs used by the SMEs and focus on three (3) ICTs; mobile phones, computers and the internet. This result is presented in Table 2. This result is not limited to the SME operators who use the aforementioned ICTs for business purpose only. In Table 2, Panels A and B show the number of SME operators who use mobile phones and computers respectively.

We also presented results on the knowledge of SME operators about the internet from two perspectives in Table 2; the operator's awareness of the internet which is presented in panel C and the operator's perception about what the internet as shown in panel D.

Panel E indicates the number of SME operators who use the internet whilst Panel F shows those who have adopted the internet in business. We also present the percentage proportions for the distributions relative to the total number of respondents within each study area. The total number of respondents (X) for each study area is reported as (N=X) at the header rows for each panel. In Table 3, the value of X is 306 for Adum and 27 for Ayeduase. The observations in panel D are not exclusive to each variable. This is because multiple responses were allowed from each respondent. The results in Table 2 indicate that a large number of respondents at both study areas (Adum = 95.4%, Ayeduase = 88.9%) use mobile phones. Results in Table 2 further indicate that a large proportion of respondents have heard about the internet (Adum = 97.7%, Ayeduase = 88.9%).

Taking into account the large number of SME operators that know about the internet, we examine the perceptions of SME operators about the internet and the proportion of operators who use the internet though not necessarily in business. Results in Table 2 indicate that majority of the SME operators at Adum describe the internet as a medium for communication. About Fifty-nine percent (59.2%) of the SME operators at Ayeduase however describe the internet a tool for research and learning. Results in

Table 2 also indicate that sixty-three percent (63.0%) of SME operators at Ayeduase use the internet. Although more than fifty percent (52.3%) of the SME operators at Adum use the internet. The number of SME operators who do not use the internet is significantly high (45.8%) at Adum.

Table 2: Summary Statistics on the ICTs used by SMEs and Awareness about the Internet

Panel A: Use of mobile phones in business				
	Adum (N=306)		Ayeduase (N=27)	
	N	%	n	%
Yes	292	95.4	24	88.9
No	11	3.6	0	0.0
Missing	3	1.0	3	11.1
Panel B: Use of Computers in business				
	Adum (N=306)		Ayeduase (N=27)	
	N	%	n	%
Yes	161	52.6	18	66.7
No	139	45.4	6	22.2
Missing	6	2.0	3	11.1
Panel C: Awareness About the Internet				
	Adum (N=306)		Ayeduase (N=27)	
	N	%	n	%
Yes	299	97.7	24	88.9
No	5	1.6	0	0.0
Missing	2	0.7	3	11.1
Panel D: What the Internet is about				
	Adum (N=306)		Ayeduase (N=27)	
	N	%	n	%
Used for communication	270	67.7	2	7.4
Used for business transactions	8	2.6	1	3.7
Used for information search	7	2.3	3	11.1
Getting clients	1	0.3	0	0
Used for learning and research	13	4.3	16	59.2
Used for finding and advertising products.	8	2.6	1	3.7
Used by the youth	4	1.3	0	0
Used for social networking with friends	8	2.6	1	3.7
Used for surfing and downloading	3	1.0	16	59.2
Panel E: General Internet Usage				
	Adum (N=306)		Ayeduase (N=27)	
	N	%	n	%
Yes	140	45.8	17	63.0
No	160	52.3	7	25.9
Missing	6	2.0	3	11.1
Panel F: Adoption of internet in business				
	Adum (N=306)		Ayeduase (N=27)	
	n	%	n	%
Yes	83	27.1	15	55.6
No	217	70.9	9	33.3
Missing	6	2.0	3	11.1

Table 2 shows summary statistics of the ICTs used by the respondents in business. Panels A and B indicate distributions on the use of mobile phones and computers by the SME operators in their business. Panels C and D indicate the awareness level of SMEs about the internet in this study and panel E and F indicate the use and adoption of internet by SMEs in this study. The last row in each panel is the missing values for the observation. The first column in each panel shows the variables observed. The figures in the columns labeled 'n' for each panel show the observations for each response. The figures in the columns labeled '%' for each panel show the proportions of each observation in percentage. The total number of respondents (X) for each study area is reported as (N=X) at the header rows for each panel.

Following findings from literature, it was anticipated that the internet may not be part of the operations of most of the SMEs studied. From the results, the level of adoption of the internet in business is generally low; 29.4%. We then examined the proportion of internet users who have integrated the internet in their business activities. Evidence from the results indicates that 59.3% of 140 operators at Adum and 88.2% of 17 operators at Ayeduase use the internet in business. This suggested

that individuals who used the internet are rapidly gaining understanding of how the internet facilitates in maximizing business benefits

Adoption and Usage of the Internet in Business

Table 3 shows statistics on the extent to which the internet is used by the SMEs in business. All statistics presented in Table 3 are on the ninety-eight (98) SMEs that use internet in business; eighty-three (83) from Adum and fifteen (15) from Ayeduase. Results show the purpose for using the internet in business, the internet services used and the perceived benefits of the services. The challenges the SMEs face in using the internet services and their level of satisfaction are also presented in Table 3. The total number of respondents (X) for each study area is reported as (N=X) at the header rows for each panel. In Table 3 the value of X is 83 for Adum and 15 for Ayeduase. The observations in Table 3 are not exclusive to each variable. This is because multiple responses were allowed from each respondent.

Results presented in Table 3 indicate that all SME operators who use the internet in business apply it as a medium of communication. This usage corresponded with the dominant description of what the internet was perceived to be. Results also indicate high use of the internet to search for new products, buyers or suppliers which contrasts with the low use for online purchasing; 14.5% at Adum and 6.7% at Ayeduase. Following the results that suggest a high use of the internet for communication and search in business, we examine the level of patronage of internet services for communication and search.

Results in Table 3 indicate a high use of email (97.6% at Adum and 100% at Ayeduase), search engines (100% at Adum and 93.3% at Ayeduase) and social networks (97.6% at Adum and 93.3% at Ayeduase). It was also interesting to realize that 98.8% of SME have websites. The functionality of the website was however not examined. The pattern of internet service adoption supports the model of Sevrani, et al (2008) and suggests that SMEs are progressively adopting more sophisticated internet services in business.

We also examine the perceived business benefits the internet contributes to the businesses. Results presented in Table 3 indicate that 80.7% of respondents from Adum increase their customer base. Additionally, 97.6% and 80% of the SMEs at Adum and Ayeduase respectively discover new products. The highest benefit at Ayeduase was an improvement in the quality of products (93.3%). The increase in customer base, discovery of new products and improve in product quality through internet usage substantiate the high use of the internet for searching.

Next, we examine the common challenges respondents face during the use of the internet in their businesses. This is presented in panel D in Table 3. In Table 3, cost and access speed are the main challenges SME operators face in using the internet in business. Other major challenges from both study areas included slow access speed (Adum=89.2%, Ayeduase=93.3%), privacy issues (Adum=32.5%, Ayeduase=40.0%) and too much information on the internet (Adum=22.9%, Ayeduase=46.7%). Notwithstanding the challenges, results indicated that 51.8% of SMEs from Adum and 40% from Ayeduase indicated full satisfaction.

TEST RESULTS

Determinants of the Use of the Internet in Business

Next, we examine four common factors that influence internet adoption; age, education, business type, and experience in using the internet (Taylor, Zhu, Dekkers, & Marshall, 2003). We examine the experience factor in three perspectives; how long the respondent has used the internet; the frequency

of usage; and the time spent per week in using the internet. We use the Pearson’s Chi-square test to determine the strength of association between the aforementioned factors and the decision to use the internet in business. The results are presented in Table 4. A P-value of 0.05 or less indicates a strong relationship.

Table 3: Summary Statistics of Adoption and Usage of the Internet in Business

Panel A: Purpose for using the Internet in Business				
	Adum (N=83)		Ayeduase (N=15)	
	n	%	n	%
Buying/Selling products online	12	14.5	1	6.7
Finding new buyers/suppliers	58	69.9	9	60.0
Researching/searching new products	75	90.4	15	100.0
Communication	83	100.0	15	100.0
Advertising products online	33	39.8	5	33.3
Panel B: Internet services patronized				
	Adum (N=83)		Ayeduase (N=15)	
	n	%	n	%
E – mail	81	97.6	15	100.0
www (world wide web) your own site	82	98.8	14	93.3
Search engine (e.g. Google)	81	97.6	14	93.3
Remote login (Telnet)	35	42.2	2	13.1
File transfer protocol (FTP)	36	43.4	3	20.0
Chatting (instant messaging)	67	80.7	4	26.7
Social networks (e.g. face book)	83	100.0	14	93.3
Panel C: Benefits to business operations				
	Adum (N=83)		Ayeduase (N=15)	
	n	%	n	%
Use of conventional media has decreased	44	53.0	10	66.7
Dependency on the internet has increased	81	97.6	12	80.0
Realization of new products	81	97.6	12	80.0
Improved product quality	75	90.4	14	93.3
Number of customers have increased	67	80.7	8	53.3
Panel D: Challenges of using internet for business				
	Adum (N=83)		Ayeduase (N=15)	
	n	%	n	%
Slow access speed	74	89.2	14	93.3
Difficulty in finding relevant information	9	10.8	5	33.3
Too much information on the internet	19	22.9	7	46.7
Privacy problem	27	32.5	6	40.0
The place I access internet is too far	8	9.6	1	6.7
My client don’t use internet	16	19.3	1	6.7
It’s too expensive	56	67.5	15	100.0
I don’t see results in using it	1	1.2	1	6.7
Panel E: Satisfaction with internet facilities				
	Adum (N=83)		Ayeduase (N=15)	
	n	%	n	%
Fully	43	51.8	6	40.0
Partially	27	32.5	4	26.7
Least satisfied	5	6.0	2	13.3
No comments	8	9.6	3	20.0

Table 3 shows the technologies used by the respondents in this study as well as awareness about the internet. Panel A indicates the categories of businesses operated by SMEs in this study. Panels B and C indicate the types of technologies used by SMEs in this study. Panels D and E indicate the awareness level of SMEs about the internet in this study and panel F and G indicate the use and adoption of internet by SMEs in this study. The last row in each panel is the missing values for the observation. The first column in each panel shows the variables observed. The figures in the columns labeled ‘n’ for each panel show the observations for each response. The figures in the columns labeled ‘%’ for each panel show the proportions of each observation in percentage. The total number of respondents (X) for each study area is reported as (N=X) at the header rows for each panel.

Table 4: Pearson's Chi-square Test on the Determinants of Using the Internet in Business

Common Factors Influencing Internet Adoption		
	Adum	Ayeduae
Age Groupings	<0.001**	0.542**
Highest Education Level	<0.001**	0.056**
Business type	0.001**	0.027**
Length of Exposure	<0.001**	0.002**
Frequency of Use	<0.001**	<0.001**
Time Spent per Week	<0.001**	<0.001**

*This table shows the results of the Pearson's Chi-square test on factors that influence internet adoption and the decision to use in internet in business. The figures in each cell are the P-values from the Pearson's Chi-square test. ***, ** and * indicate significance at 1, 5 and 10 percent levels respectively. The symbol '<0.001' indicates that the actual P-value is less than 0.001.*

Following evidence from literature (Taylor, Zhu, Dekkers, & Marshall, 2003), it was expected that age and education may affect the decision to use internet in business. In Table 4, the P-value for age at Adum is less than 0.001 but as high as 0.542 at Ayeduase. The P-value for education is also less than 0.001 at Adum and 0.056 at Ayeduase.

The P-value for the type of business and the decision to use the internet for business purposes is exactly 0.001 at Adum and 0.027 at Ayeduase. This suggests that the type of business operated influenced the use of internet in the business. This assertion supports findings of Doner (2006).

Results presented in Table 4 indicate that experience in internet usage had a significant association with the decision to make the internet part of business operations. In Table 4, The P-value for the length of experience in using the internet is less than 0.001 at Adum and 0.002 at Ayeduase. The P-value for frequency of use and the amount of time spent in using the internet is less than 0.001 for both study areas.

Evidence from the test indicates that samples from the Adum study area reflect more significance between the common factors and the decision to use the internet in business the samples from Ayeduase. This may be due to the small number of observations at Ayeduase as opposed to the number of observations at Adum

Following the higher significance of the samples from Adum, We develop univariate logical regression models to estimate the Odds Ratio and P-value of each observation for Adum at five percent level of significance. The following regression equation was estimated to identify the odds ratio for the determinants of the decision to use internet in business:

$$\text{Logit}(P_i) = \alpha + \beta(\text{vector of determinants}) \quad (1)$$

The results are presented in Table 5. The first column in each panel in Table 5 shows the variables for the observations that are tested. The figures in the second column of each panel are the Odds Ratios; the possible range of Odds Ratios for the true population of the sample from Adum is in brackets. The third column in each panel shows the P-value. The observations for education against internet use in business are not enough to develop a logit model.

In Table 5, results indicate that the likelihood that the 18-25 years age group of SME operator use internet in business is 85% less for operators 26-35 years, 95% less for those 36-45 years and 99% less for operators 46-55 years. The odds ratio for the true population of those aged 46 – 55 years is between 0.001 and 0.14 at 5% level of significance. This suggests that the younger age groups in both study areas are more active in using the internet in their businesses than the older aged groups.

Results presented in Table 5 indicate that the likelihood for manufacturing SMEs to use internet for businesses 1.15 times more for retail SMEs and 3.27 more for service-related SMEs. If the true population of SMEs at Adum is considered, at a 5% significance level, the Odds Ratio for retail SMEs is between 0.41 and 3.24 with a p-value of 0.787 while the Odds Ratio for service-related SMEs is between 1.02 and 10.45 with a p-value of 0.045. There is therefore more predictable that service related SMEs are more likely to use internet in business than manufacturing or retailing SMEs.

Results presented in Table 5 indicate that SME operators who have used the internet for more than four years are 16.7 times likely to use it in their business activities. This suggests that years of experience in internet usage may have considerable influence on the decision to make the internet part of business operations.

Table 5: Pearson’s Chi-square and Odds Ratio Test on determinants for Adum

Panel A: Age Groupings		
	Odds Ratio	P - value
18 – 25 yrs	1	
26 – 35 yrs	0.15 (0.02 – 1.38)**	0.095**
36 – 40 yrs	0.05 (0.01 – 0.43)**	0.006**
41 – 45 yrs	0.05 (0.01 – 0.46)**	0.008**
46 – 55 yrs	0.01 (0.001 – 0.14)**	<0.001**
Panel B: Business Type		
	Odds Ratio	P - value
Manufacturing	1	
Retailing	1.15 (0.41 – 3.24)**	0.787**
Service	3.27 (1.02 – 10.45)**	0.045**
Panel C: Length of Exposure		
	Odds Ratio	P - value
6 months – 1 yr	1	
1 – 2 yrs	1.67 (0.16 – 17.89)**	0.673**
2 – 4 yrs	2.27 (0.23 – 22.07)**	0.479**
Above 4 yrs	16.75 (1.85 – 151.82)**	0.012**
Panel D: Frequency of Use		
	Odds Ratio	P - value
Daily	1	
2 – 3 Times a week	0.06 (0.02 – 0.13)**	<0.001**
Panel E: Time spent per week		
	Odds Ratio	P - value
Less than 1 hr	1	
2 – 4 hrs	3.24 (0.69 – 15.20)**	0.136**
5 – 6 hrs	1.11 (0.27 – 4.51)**	0.886**
7 – 9 hrs	3.60 (0.71 – 18.25)**	0.122**
10 – 20 hrs	0.60 (0.15 – 2.33)**	0.460**
Over 20 hrs	11.57 (2.99 – 44.75)**	<0.001**

*This table shows logit models that use Odds Ratio and the Pearson’s Chi-square test to determine the significance of association for the observations at Adum. Panel A shows the logit model for age grouping. Panel B shows the logit model for business types. Panels C, D and E show logit models for experience in using internet. The first column in each panel in Table 5 shows the variables for the observations that are tested. The figures in the second column of each panel are the Odds Ratios; the possible range of Odds Ratios for the true population of the sample from Adum is in brackets. The third column in each panel shows the P-value. The observations for education against internet use in business are not enough to develop a logit model. ***, ** and * indicate significance at 1, 5 and 10 percent levels respectively. The symbol '<0.001' indicates that the actual P-value is less than 0.001.*

As presented in Table 5, an Odds Ratio of 11.57 is derived for those who spend over 20 hours of their time on the internet. If the true population of SMEs at Adum is considered, at a confidence interval of 95%, the Odds Ratio for respondents who spend over 20 hours of their time on the internet is between 2.99 and 44.75 with a p-value less than 0.001. The causation however is possibly in reverse; SMEs that

used the internet frequently or spent more time on the internet may be due to the fact that they were using it for business purposes.

Internet – Conventional Media Usage Comparison

We finally compare the use of conventional media namely mobile phones and televisions/radios to the use of internet services in businesses from two perspectives. The first is based on perceived benefits respondents derive from the use of internet services vis-à-vis the use of conventional media. The second perspective is the possibility of replacing conventional communication media with internet technologies. Table 6 shows results from the 98 SME operators who use the internet in business.

Panel A shows results for comparing benefits. Results on whether the internet can replace mobile phones are presented in Panel B. Panel C presents result on the possibility of replacing television or radio with the internet. The total number of respondents (X) for each study area is reported as (N=X) at the header rows for each panel. In Table 6 the value of X is 83 for Adum and 15 for Ayeduase. The observations in panel A are not exclusive to each variable. This is because multiple responses were allowed from each respondent.

Table 6: Comparing Perceptions about Internet Usage to Using Conventional Media in Business

Panel A: Benefit comparison with conventional media		ADUM (N=83)		AYEDUASE (N=15)	
	n	%	n	%	
Time saving	80	96.4	12	80.0	
More information	83	100.0	15	100.0	
Less expensive	29	34.9	1	6.7	
More useful	80	96.4	14	93.3	
More preferred	79	95.2	13	86.7	
Panel B: Internet can replace mobile phones		(ADUM N=83)		(AYEDUASE N=15)	
	n	%	n	%	
Yes	46	55.4	4	26.7	
No	36	43.4	11	73.3	
Missing	1	1.2	0	0.0	
Panel C: Internet can replace television or radio		(ADUM N=83)		(AYEDUASE N=15)	
	n	%	n	%	
Yes	45	54.2	5	33.3	
No	37	44.6	10	66.7	
Missing	1	1.2	0	0.0	

Table 6 shows a comparison of perceptions about conventional media use to the use of the internet in business. Panel A indicates benefits derived from using the internet for business rather than conventional media. Panel B indicates responses on the possibility of replacing mobile phone with the internet in business. Panel C indicates responses on the possibility of replacing television or radio with the internet in business. The first column in each panel shows the responses received. The figures in the columns labeled 'n' for each panel show the observations for each response. The figures in the columns labeled '%' for each panel show the proportions of each observation in percentage. The total number of respondents (X) for each study area is reported as (N=X) at the header rows for each panel.

Out of 83 respondents from Adum, results in Table 6 indicate that the internet is more informative than the conventional media and over two-thirds (96.4%) also suggest the advantage of time saving with the use of the internet. All respondents at Ayeduase also support the benefit of more information. Additionally, more than two-thirds of the respondents from both study areas consider the internet to be more useful (Adum=80, Ayeduase=93.3%) and more preferred (Adum=79, Ayeduase=86.7%).

Findings from the study show that although more than half (55.4%) of the respondents from Adum agreed that internet services could replace mobile phones in business, more than two-thirds (73.3%) of the respondents at Ayeduase thought otherwise (Table 5). As further depicted in Table 5, more than half (54.2%) of the respondents from Adum agreed that internet services could replace the use of televisions and radios in business. However 66.7% of the respondents at Ayeduase did not agree to this assertion.

To deepen insight about the possibility of replacing conventional media with the internet in business, personal quotes made by respondents are taken into account. The common argument that supports the possibility of replacing conventional media is the extensive and diverse functionalities of the internet over mobile phones and television/radio. Supporting quotes from two respondents follow;

“The computer on the internet can do more than the mobile phone especially for us business people” A RESPONDENT AT AYEDUASE

“We always use the technical support which the TV and Radio service can't do for us” A RESPONDENT AT ADUM

Another argument in favour of replacing conventional media points to the relatively lower cost of the internet. Again in the words of two respondents are;

“I almost use facebook and Google trader to contact all my big customers and I find it cost effective and time saving” A MALE RESPONDENT AT ADUM

“It is cheaper compared to television and radio in terms of adverts and orders” A FEMALE RESPONDENT AT ADUM

Other SME operators emphasize the flexibility, convenience and wider coverage achieved in using the internet. Three quotes to support this argument follow;

“I get the chance to see and choose the things I want online through various chats and It may sell ones business farther than conventional media” A RESPONDENT AT ADUM

“Major news is on the internet now, no need to sit down till a particular time before watching news” A RESPONDENT AT ADUM

“The use of internet helps me in getting any information within the country and outside the country anytime and anywhere” A RESPONDENT AT AYEDUASE

Other respondents though support the possibility of replacing conventional media, hold reservations and conditions for their answers. Three quotes to support this argument follow;

“If internet and web hosts improve and become faster it will cut down cost of phone calls” A RESPONDENT FROM ADUM

“If and only if the internet should be a household material like the electricity and is very fast” A RESPONDENT FROM AYEDUASE

“Yes, but provided the internet facilities will be less expensive” A RESPONDENT FROM AYEDUASE

Prominent among the arguments against the possibility of replacing conventional media with the internet is the reason that not all clients use the internet or can be reached via the internet. Other client-related responses are about the preference of the customers in using conventional media to the use of the internet for business. Two quotes that support these arguments follow;

“The mobile phone helps us to keep track of our various clients” A RESPONDENT FROM ADUM

“All our clients use mobile phones and sometimes they don't use their email for contacts” A RESPONDENT FROM ADUM

“Because with the internet chatting thing, you can only do it with people who have access to the net” A RESPONDENT FROM ADUM

The second major argument in opposition to replacing conventional media is the use of mobile phones for emergency situations. A quote from one respondent to suggest this follows;

“I always use the mobile phone to call clients and sometimes order goods and materials in case of emergency” A RESPONDENT FROM AYEDUASE

The third set of predominant argument for conventional media use are about the unreliable nature of internet vis-à-vis conventional media; especially in terms of security and privacy, speed of getting information, clarity of the information and portability. Quotes to suggest this follow;

“Because the television and radio services helps better in our business, and due to privacy problems on the internet” A RESPONDENT FROM ADUM

“Mobile phone is faster in business transactions” A RESPONDENT FROM ADUM

“I trust the media more” A RESPONDENT FROM ADUM

“Internet here is slow, online TV is slow...” A RESPONDENT FROM ADUM

Despite the perceived benefits internet users derived from the use of internet tools, there are strong arguments opposing the possibility totally migrating from the use of mobile phones and the television or radio to the use of the internet in business. The strongest arguments are the advantage mobile phones have in handling emergency situations and the preferences of clients. The comparative cost was however an advantage to internet uses

CONCLUSION

Despite the existence of extensive literature on the usage of the internet in supporting business, there is still the need for a deeper understanding of context specific determinants of the decision to adopt and use the internet in business. This study uses data from 333 small and medium scale enterprises (SMEs) to assess the factors driving internet usage in business among SMEs in Ghana.

Results from this study suggest that there are strong associations between factors such as age, education and usage experience, and the decision of SME operators in Ghana to adopt and use internet in business operations. Results further suggest that service related SMEs are more likely to use the internet for business than retailing or manufacturing related SMEs. Finally, although respondents asserted to the benefits derived from the use of the Internet in business, replacing conventional media with internet services is unlikely.

There are limitations that may compromise how. The sample for this study is relatively and interviewers had to approach respondents that were willing to participate in the research activity and ready to give out information needed. There is therefore little assurance that results in this study characterize is all SMEs in Ghana. Also, the refusal of some participants to answer some of the interview questions account for missing values during the analysis.

Results from this study are based on the perceptions of the respondents rather than financial indices which may have provided more rigorous statistics. Further research may link internet usage to measured outputs and benefits and with extensive statistical indices. Further research may provide detail dynamic of internet usage for each of the three business typologies discussed in this paper. Following evidence from the study that the internet is not expected to replace the use of other conventional communication media, further studies may examine the effect of integrating the internet with devices that support conventional media on the decision to use internet in business.

APPENDIX

Appendix A: Benefits of Information Communication Technology to Business

Operational Benefits	Tactical Benefits	Strategic Benefits
Improved data management	Improved response to changes	Improved growth and success
Improved communication	Improved service quality	Reduced marketing costs
Improved decision-making	Improved teamwork	New technology leadership
Reduced paperwork	Promotes pro-active culture	Improved market share
Reduced labor costs	Improved planning times	Market leadership
Improved ability to exchange data	Improved integration with other business functions	Improved customer/supplier satisfaction
Reduced rework	Reduced time to compile tenders	Improved customer relations
Improved response time to queries	Reduced time to prepare cost plans	Improved competitive advantage
Improved control of cash-flow	Improved effectiveness and efficiency	Improved organizational and process flexibility

This table shows the benefits of information communication technology to businesses. The first column shows a list of operational benefits. The second column in the table shows a list of tactical benefits. The third column in the table shows a list of strategic benefits

Appendix B: Classification of SMEs Studied Under Three Broad Categories

Manufacturing	Retailing	Services
Herbal products	Mobile phones and its accessories	Operating a café
Purified mineral water	Pharmaceutical products	Taking and printing of pictures
Pomade and cosmetic products	Used (second hand) and new clothes	Printing of advertising posters
Manufacturing of farm inputs	Cosmetics and pomades	Computer aided architecture
	Computers and its accessories	Typesetting, binding, lamination, faxing,
	Farm inputs and products	Printing and designing 'T' shirts
	Building materials (paint, cement, plumbing materials)	Repairing computers
	Dealers in ceramic tiles	Unlocking and repairing mobile phones
	Dealers in car batteries	Advertising and graphic designing
	Books and stationery materials	Printing text books
	Cooking utensils, saucepans, knives, etc	Exchanging foreign currencies
	Sports kits, boots, tennis equipment	Provide building services
	Jewellery	Distribution of gas cylinders
	Baby products	Services for parties and other occasions
		Hair dressing and nail fixing
		Plumbing activities or works
		Computer training

This table shows three broad categories of all the types of SMEs studied. The first column shows a list of business types that are manufacturing related. The second column shows a list of business types that are retailing related. The third column shows a list of service-related business types.

Appendix C: Cross Tabulations of the Determinants of Internet Adoption in Business

Panel A: Age Groupings	Adum (N=306)						Ayeduase(N=27)					
	n	Yes (%)	n	No (%)	n	N/A (%)	n	Yes (%)	n	No (%)	n	N/A (%)
18 – 25 yrs	6	85.7	1	14.3	0	0.0	3	100.0	0	0.0	0	0.0
26 – 35 yrs	33	48.5	13	19.1	22	32.4	7	50.0	1	7.1	6	42.9
36 – 40 yrs	25	22.7	33	30.0	52	47.3	3	75.0	0	0.0	1	25.0
41 – 45 yrs	16	23.5	12	17.7	40	58.8	1	50.0	0	0.0	1	0.0
46 – 55 yrs	3	7.0	3	7.0	37	86.0	1	100.0	0	0.0	0	0.0
56 – 60 yrs	0	0.0	0	0.0	5	100.0	0	-	0	-	0	-
Above 60 yrs	0	0.0	0	0.0	3	100.0	0	0.0	0	-	0	-
Missing	0	0.0	0	0.0	2	100.0	0	0.0	0	0.0	3	100.0

Panel B: Highest Education Level	Adum (N=306)						Ayeduase (N=27)					
	n	Yes (%)	n	No (%)	n	N/A (%)	n	No (%)	n	Yes (%)	n	N/A (%)
None	0	0.0	2	14.3	12	85.7	0	-	0	-	0	-
Primary	0	0.0	0	0.0	74	100.0	0	-	0	-	0	-
Secondary	17	15.9	28	26.2	62	57.9	4	40.0	1	10.0	5	50.0
Tertiary	66	64.1	31	30.1	6	5.8	11	78.6	0	0.0	3	21.4
Missing	0	0.0	1	12.5	7	87.5	0	0.0	0	0.0	3	100.0

Panel C: Business type	Adum (N=306)						Ayeduase (N=27)					
	Yes		No		N/A		No		Yes		N/A	
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
Manufacturing	5	(21.7)	0	0.0	18	78.3	0	-	0	-	0	-
Retailing	58	(24.3)	58	24.3	123	51.5	2	28.6	0	0.0	5	71.4
Service	20	(47.6)	4	9.5	18	42.9	13	76.5	1	5.9	3	17.6
Missing	0	(0.0)	0	0.0	2	100.0	0	0.0	0	0.0	3	100.0

Panel D: Length of Use	Adum (N=306)						Ayeduase (N=27)					
	Yes		No		N/A		No		Yes		N/A	
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)
Less than 6 months	0	-	0	-	0	-	0	-	0	-	0	-
6 months – 1 yr	1	16.7	5	83.3	0	0.0	0	-	0	-	0	-
1 – 2 yrs	5	25.0	15	75.0	0	0.0	1	100.0	0	0.0	0	0.0
2 – 4 yrs	10	31.3	22	68.7	0	0.0	4	100.0	0	0.0	0	0.0
Above 4 yrs	67	77.0	20	23.0	0	0.0	9	81.8	1	9.1	1	9.1
Missing	0	0.0	0	0.0	161	100.0	1	9.1	0	0.0	10	90.9

Table shows cross tabulations between the characteristics of SMEs studied and their decision to use the internet in business. Panel A indicates the association between age grouping and the decision to use internet in business. Panel B indicates the association between education level and the decision to use internet in business. Panel C indicates the association between the type of business and the decision to use internet in business. Panel D indicates length of experience in using internet and the decision to use the internet in business. The last row with the variable labeled 'Missing' in each panel is the missing values for the observation. The figures in the columns labeled 'n' for each panel show the observations for each response. The figures in the columns labeled '%' for each panel show the proportions of each observation in percentage. The total number of respondents (X) for each study area is reported as (N=X) at the header rows for each panel.

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CORPORATE PHILANTHROPIC DISASTER RESPONSE AND POST PERFORMANCE: EVIDENCE FROM CHINA

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ABSTRACT

This paper examines whether the decision and amount of firm charitable giving in response to catastrophic events are related to firm post-performance, and whether firm ownership type moderates this relationship. Using data on Chinese firms' philanthropic response to the 2008 Sichuan earthquake, we find that firm future sales growth and ROA change are positively associated with both the probability and the amount of corporate giving. The results also indicate that this positive philanthropic giving-post performance relationship is more pronounced in non-state-owned firms as philanthropic donation is more strategically driven for those firms. This study thus provides evidence suggesting that corporate philanthropic giving furthers firms' economic objectives, even in an emerging market setting.

JEL: G11, G12

KEYWORDS: Catastrophic Events, Corporate Philanthropy, Corporate Social Responsibility, Post Performance, State-owned Firms

INTRODUCTION

The Great Recession resulted in corporate giving decreases of between 4.5% and 8% in inflation-adjusted dollars for US firms, according to the Giving USA Foundation. However, there was a simultaneous surge in the demand for help as the economy spiraled lower and catastrophic events occurred frequently. These events include the South Asian tsunami in December 2004, Hurricane Katrina in the southern U.S. in August 2005, the Kashmiri earthquake in October 2005, China's Sichuan earthquake in May 2008, and the Haiti earthquake in January 2010. How should firms respond to philanthropic disasters in this tough time? Should they decrease their donations? The answer to these questions relies on whether corporate philanthropy enhances financial performance or whether it is a distribution of corporate profits. Accordingly, the purpose of this study is to examine whether corporate philanthropy furthers major objectives of business enterprises—revenue growth and net income increase.

The present research focuses on one special class of corporate social responsibility (CSR) — corporate philanthropic giving (CPG). Although corporate philanthropic response is not enforced as are economic and legal responsibilities, it is increasingly practiced by companies and is generally viewed as a sign of good corporate citizenship. Previous research (e.g., Chapple and Moon, 2005; Katz et al., 2001; Kolk, 2005; Muller and Whiteman, 2009; Shen, 2004; Welford, 2005) suggests that companies worldwide react and respond differently to natural disasters, and their philanthropic donations can be motivated by a variety of factors, including cultural, institutional (e.g., stakeholder configurations), organizational, economic, and geographic. The motivation for corporate giving is not inherently altruistic. Corporate giving is a reaction to seismic shifts in the environmental landscape, and it represents a reactive strategy crafted to counter pressures such as stakeholder demands, threats of government intrusion into industry's freedom, and escalating public expectations (Campbell et al, 1999; Gardberg and Fombrun, 2006; Patten, 2008). In today's global business, CPG is becoming more strategic, as has been indicated by Brammer and Millington (2006), Saiia (2002), and Sánchez (2000). The recent Great Recession has caused firms to become more focused on strategic giving and tighten the link between corporate giving and the products and services companies sell (Farrell, 2010). Corporate philanthropy may help a firm establish reputation, brand recognition, and loyalty; promote itself as a “socially responsible” firm; or attract and maintain a work force (Sánchez, 2000). Dean (2003) finds that corporate

donations can help the company forge a relationship with the customer and build loyalty. As such, we predict that corporate philanthropy improves a major objective of business enterprises—revenue growth and further enhances the bottom line—net income.

The relationships between philanthropy and post-performance are not the same for firms with different ownership types. Zhang et al. (2010) find that the extent of corporate philanthropic contributions for state-owned firms is less than that for private firms. They also find that state-owned firms are less likely to respond compared to non-state-owned firms. According to the strategic view, firms engage in CPG to increase firm reputation, attract customers, build political relations, and further increase profit. Managers of non-state-owned firms have more incentives to prompt firm profit and accordingly are more likely to engage in CPG. As thus, we predict that the relation between CPG and post-performance are stronger for non-state-owned firms as CPG in those firms are more strategically driven.

The context of our study is the Sichuan earthquake in China, which took place in May 2008. Anecdotal evidence indicates that Chinese companies quickly and effectively responded to the call for donations and disaster response efforts, and that corporate donations were significant. We identified 703 Chinese listed firms that engaged in CPG through outright cash donations and/or in-kind donations with the value released by the donor firm in May and June 2008. We find that the likelihood and extent of corporate contributions are positively related to firms' future revenue growth and ROA increase. We also document the mediating effect of ownership type on the relationship: the positive relationship between CPG and post-performance is more pronounced in non-state-owned firms. Our findings are robust when we examine only firms that made donations.

This study contributes to the literature in several ways. First, using a unique research setting provided by the Sichuan earthquake, we investigate the link between CPG and post-performance. To the best of our knowledge, this is the first empirical study explicitly addressing such an association in an emerging market setting. While the issue of CPG has attracted growing research interest in recent years, most empirical results are based on U.S. data, and this paper is one of the few empirical studies in emerging markets using a large research sample. This article adds to a growing number of non-U.S. studies by investigating the link between CPG and post-performance in China, the largest developing economy in the world. Second, we provide evidence of positive association between CPG and post-performance. These findings are consistent with previous research in that CSR activities are driven by strategic motivation and are justified by future performance improvement. Our results add to our understanding of the motivations behind CPG and consequences of CPG and carry important implications for practice. We contribute to the literature on sustainability, performance, and CSR by investigating the association between corporate philanthropy (donations) and post-performance. Third, we also find a mediating effect of ownership type on this relationship, which has never been documented before.

The remainder of this article is organized as follows: the “Background and hypotheses development” section provides institutional background, the literature review, and research questions. The “Sample and descriptive analysis” section describes data collection and research methods. The “Empirical results” section presents the results. The “Discussion and conclusion” section concludes, suggesting implications of the study.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Background

The 2008 Sichuan earthquake, which registered 8.0 on the Richter scale, occurred on the afternoon of May 12, 2008. As of October 8, 2008, official figures stated that 69,227 people were confirmed dead, 374,643 injured, and 17,923 were still listed as missing. 46.25 million people lived in the affected area and the direct economic loss is estimated as high as 845.1 RMB (123 billion U.S. dollars). (Xinhua Net, 2008) It was both the strongest and the deadliest earthquake to hit China since the 1976 Tangshan earthquake, which claimed the lives of at least 240,000 (Spignesi, 2005). A report by reinsurer Munich

Re (2008) revealed that the number of great natural catastrophes has a rising trend since 1950s, and overall losses and insured losses from such events have been rising steadily from 1950 to 2008. The increasing natural disasters call for more financial and social disaster relief efforts by the government, non-governmental organizations (NGOs), individuals, and corporations in the future. As Muller and Whiteman (2009) suggest, such corporate activities include financial donations and non-financial donations such as employee volunteer jobs. With the economic development of emerging markets, listed firms in those markets have been more and more involved in corporate philanthropic activities in recent years. In the aftermath of the Sichuan earthquake, almost half of the firms listed on the Chinese stock market made relief efforts. According to the Deputy Secretary-General of the China Charity Foundation (CCF), both the number of companies participating and the size of the gifts were extraordinary (Wang, 2008).

Motivations for CPG

The literature suggests four popular motivations for CPG: managerial utility, altruistic, political, and strategic (Brammer and Millington, 2005; Brown et al., 2006; Campbell et al., 2002; Saiia et al., 2003). According to managerial utility motivation, corporate philanthropy is used by CEO's to enhance their self-interests at the expense of company (Atkinson and Galaskiewicz, 1988; Galaskiewicz, 1997; Haley, 1991). Altruistic motivation refers to that corporate philanthropy is viewed as a firm's obligation to maximize public welfare without any expected return (Campbell et al., 1999; Cowton, 1987). Political motivation posits that firm engages in charity activities in order to maximize political return on investment, such as community reputation (Neiheisel, 1994; Sánchez, 2000). But one notable trend of CPG is that corporate philanthropy activity is becoming more strategic (Brown et al., 2006; Saiia, 2002; Sánchez, 2000). Saiia et al. (2003) define strategic philanthropy as the practice of "giving of corporate resources to address non-business community issues that also benefits the firm's strategic position and, ultimately, its bottom line" (Saiia et al., 2003, p.170).

From the perspective of strategic CPG, firms "do good in order to do well," and corporate philanthropy appears to be consistent with the concept of the profit-maximizing model of a business. A lot of empirical papers have showed that CSR is positively associated with firm's future financial performance and stock value (Moskowitz, 1972; Waddock and Graves, 1997). According to Griffin and Mahon's (1997) review, the majority of research papers from 1970s to 1990s concerning the relationship between CSR and financial performance are positive. Patten (2008) finds that CPG is valued by the stock market. Sánchez (2000) suggests that firms engage in philanthropy to maximize benefits. In recent years, increased global competition has required that firms establish their competitive advantage from various sources. Corporate philanthropy may help a firm establish brand recognition and loyalty, promote itself as a "socially responsible" firm, or attract and maintain a work force (Sánchez, 2000). As Brammer and Millington (2006) suggest, strategy plays a significant role in determining how firms manage their philanthropy. Our study thus focuses on the strategic motives for giving and its relationship with firm future performance, while taking into account firm ownership type.

CPG, Post-Performance, and Ownership Type: Hypothesis Development

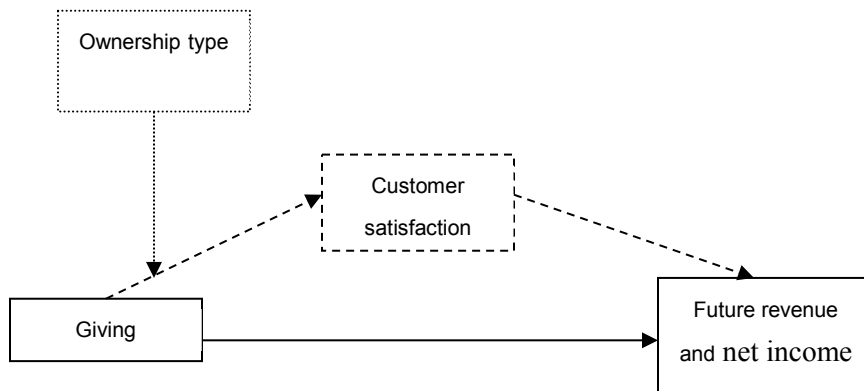
While it is not easy to ascertain managers' true motivations for engaging in corporate philanthropy, we can study the effects of this activity. In particular, we examine two major consequences of corporate giving—the enhancement of revenue growth and ROA. Anecdotal evidence, as well as the prior empirical and theoretical research that we discussed below, provide the ground-work for investigating the link between philanthropy and post-performance. Well-designed contributions can increase the firm's reputation and brand recognition among customers in a similar manner to advertising (Lev et al. 2010). After Wang Lao Ji, a Chinese beverage company, donated 100,000,000 Yuan, which equals to its 2007 annual income, to the Sichuan earthquake, people are inspired by its good deeds and its sales encountered

huge increase afterwards (Shan et al., 2008). McWilliams and Siegel (2001) suggest that companies can also adopt CSR as a differentiation strategy because CSR helps a firm to build its reputation as being reliable and honest. Indeed, studies show that consumers assume the products of a reliable and honest firm will be of high quality (Brammer and Millington, 2005; Fisman et al., 2006). A survey of 463 U.S.

companies found that companies taking a more businesslike approach to charity reported a better image, increased employee loyalty, and improved customer ties (Schwartz and Smart, 1995). Another survey by Walker Information Inc., a research and consulting company that tracks customer satisfaction and business ethics, found that 47 percent of consumers would be more likely to buy from a “good” company that was socially responsible (Sato, 1998). The contributions-future performance relation we conjecture is depicted in Figure 1 based on Lev et al. (2010). There are at least several ways that contribution can affect future sales and income. First, philanthropy can improve the reputation of a company and enhance its customer loyalty, thereby reducing the price elasticity of demand. Second, philanthropy programs can also raise consumer demand directly. One example is the case of Wang Lao Ji that we discussed before. Furthermore, firms can use their community involvement and relationships with nonprofit organizations, sustained by contributions, to generate new sales leads. Finally, firms can improve economic conditions internationally with the long term goal of enhancing the size and quality of their markets (Lev et al., 2010). Thus, we posit that CPG is positively related to firm future revenue growth and ROA change. Accordingly, we hypothesize that

H1: There is a positive relation between CPG and firm future revenue growth and ROA change.

Figure 1: The Link Between Corporate Philanthropy and Post-Performance



Based on Lev et al. (2010)

Previous research also indicates that firm ownership type is an important determinant of firm strategies and influences CPG. Economists usually view government ownership as being detrimental to corporate performance (Megginson and Netter, 2001; Shleifer and Vishny, 1998). Thus, Estrin and Perotin (1991) argue that firms with the government as an owner will not concentrate on profit maximization because the state has both political and economic objectives, and that corporate performance in such firms will be inferior because of weaker governance arrangements. This suggests that government ownership is detrimental to company performance. Megginson and Netter (2001) conclude that “[the weight of empirical research] is now decisively in favor of the proposition that privately owned firms are more efficient and more profitable than otherwise comparable state-owned firms.”

As such, Zhang et al. (2010) find that state-ownership hinders CPG. First, according to the strategic view, firms engage in CPG to increase firm reputation, attract customers, build political relations, and further increase profit. Managers of non-state-owned firms have more incentives to prompt firm profit and

accordingly are more likely to engage in CPG. Another possible reason that non-state-owned firms are more likely to be involved in CPG is that, as prior literature has documented, non-state-owned firms have better corporate governance structures than state-owned firms (Estrin and Perotin, 1991) and better corporate governance will enhance a firm's corporate social performance (Coffey and Wang, 1998; Wang and Coffey, 1992). Thus, non-state-owned firms should have more incentives to use CPG to differentiate itself from its competitors and they should also enjoy better effects of using CPG to enhance future performance. Accordingly, we propose the following hypothesis:

H2: The positive relation between CPG and post-performance is stronger for non-state-owned firms.

Sample

We combine data from different sources in the current study. The most unique feature of our data is that we hand collected data on donation amounts and donation characteristics for all companies listed on the Chinese A-share stock market. Consistent with previous literature (e.g., Muller and Whiteman, 2009), our research on donations is based on firm self-reporting. We collect data from the official information disclosure website appointed by the China Securities Regulatory Commission (CSRC), companies' websites and press releases. We also systematically search information via Lexis Nexis China and Google China News. We conducted our search in the period of May-June 2008, as the requirement for a dated press release increases the likelihood that the contributing firm is seeking strategic value for its giving (Patten, 2008). In total, we identified 703 companies, about 47% of the total number of A-share companies, with an earthquake relief-oriented press release issued within the time frame of interest. We measured corporate contributions as outright cash donations plus in-kind donations.

The announced contributions for the donation firms ranged from 8,000 Yuan to 60,210,000 Yuan with a mean (median) of 3,086,688 (1,001,000) Yuan. We get financial data from the CSMAR database, and use the comparison of firm financial variables (i.e., sales growth and change of return on assets) for quarter 2-quarter 4 in 2007 to quarter 2-quarter 4's in 2008 as our post-performance measures. We use widely accepted accounting-based performance measures, including sales growth and the change of return on assets (ROA), to measure the impact of donation on firm's performance. Among the sample firms with available financial data, we obtain the ultimate controlling shareholder data from the CCER database, and we then classify the firms into state-owned firms whose ultimate shareholder is the state and non-state-owned firms whose ultimate shareholder is an entity other than the state.

To facilitate empirical study, we include only firms that have no missing financial data. For firms' sales growth, we exclude observations whose distances to the sample mean are larger than three times of the sample standard deviation. We winsorize the other continuous variables at the top 1% and bottom 99% to alleviate outlier problems. Our final sample includes 1,326 companies, with 614 donators and 712 non-donators. Table 1 reports the summary statistics of sample firms.

For the donation variables, we find that 46.3% of the sample companies contribute to earthquake relief and the amount of donation varies greatly across firms. The percent of state-owned firms in our sample is 64.8, which is higher than those in Japan (0.80), Singapore (23.50), UK (0.08), Germany (6.30), and France (5.11). (Claessens et al., 2000; Faccio and Lang, 2002) Compared with quarter 2-quarter 4 in 2007, quarter 2-quarter 4's sales in 2008 increase 8% on average. The mean ROA of sample firm is 1.8%, and the profitability of sample firms deteriorates because DROA is -1.3% on average.

Table 1: Descriptive Statistics

	N	Mean	STD	Min	Q1	Median	Q3	Max
1. Donation dummy	1326	0.463	0.499	0.000	0.000	0.000	1.000	1.000
2. Donation	1326	6.524	7.092	0.000	0.000	0.000	13.816	17.913
3. State	1326	0.648	0.478	0.000	0.000	1.000	1.000	1.000
4. Size	1326	21.519	1.129	18.346	20.739	21.424	22.163	25.135
5. Leverage	1326	0.507	0.181	0.075	0.378	0.518	0.638	0.996
6. SG	1326	0.080	0.364	-0.968	-0.104	0.067	0.245	2.114
7. ROA	1326	0.018	0.081	-0.504	0.005	0.023	0.050	0.355
8. DROA	1326	-0.013	0.086	-0.509	-0.032	-0.005	0.011	0.686

This table shows the descriptive statistics used in our analysis. Variable Definitions: Donation dummy: a dummy variable that takes the value of 1 if the firm contributes to earthquake relief and 0 otherwise. Donation: log form of total amount of cash and in-kind donation of firms. State: a dummy variable that takes the value of 1 if state is the ultimate controller for firm i and 0 otherwise. Size: log form of total assets at the beginning of the year t. Leverage: total debt divided by total assets at the beginning of the year t. SG: the difference between quarter 2-quarter 4's sales in year t and quarter 2-quarter 4's sales in year t-1 divided by quarter 2-quarter 4's sales in year t-1. ROA: net income divided by total assets. DROA: the difference between net income in year t and net income in year t-1 divided by total assets at the beginning of the year t.

RESULTS

In order to formally investigate our research questions, we conduct the ordinary least squares (OLS) regressions to examine the relation between CPG decisions and firm post-performance, and the mediating effect of ownership type. To control other factors which may also affect firms' future performance, we also include firms' size, leverage, and past financial performance in the regression models (e.g. Lev et al., 2010; Su and He, 2010).

$$SG_{it} = \alpha_0 + \alpha_1 DonationDummy_{it} + \alpha_2 State_{it} + \alpha_3 DonationDummy_{it} \cdot State_{it} + \alpha_4 Size_{it-1} + \alpha_4 Lev_{it-1} + \alpha_5 ROA_{it-1} + \alpha_6 SG_{it-1} + Industries + \varepsilon_{it} \quad (1)$$

$$DROA_{it} = \alpha_0 + \alpha_1 DonationDummy_{it} + \alpha_2 State_{it} + \alpha_3 DonationDummy_{it} \cdot State_{it} + \alpha_4 Size_{it-1} + \alpha_4 Lev_{it-1} + \alpha_5 ROA_{it-1} + Industries + \varepsilon_{it} \quad (2)$$

Table 2 presents the results of equation (1). After controlling for the various drivers of CPG, we find that the coefficients of donation dummy are significantly positive, indicating that donation firms enjoy higher sales growth rate. Our result is consistent with Lev et al. (2010)'s assertion that corporate philanthropy has a positive effect on sales growth, even in the emerging market setting. This finding provides evidence for our first hypothesis. To examine whether ownership type mediates the relationship between corporate giving and post-performance, we estimate the coefficient of the interaction “*DonationDummy · State*”. We find that “*DonationDummy · State*” is negatively associated with sales growth. This result is consistent with our conjecture that the positive relation between donation decision and sales growth is stronger for non-state-owned firms.

Table 2: Multiple Regression Results for Tests of the Relation Between Sales Growth and Firm Donation Decision

	Reg1		Reg2	
Model explanatory power				
Number of observations	1238		1238	
Adjusted R^2	0.029		0.031	
F-statistic	3.00		2.90	
Significance of F-statistic	0.000		0.000	
Parameter estimates				
Variables	Parameter estimate	t-statistic	Parameter estimate	t-statistic
Intercept	-0.549**	2.28	-0.571**	2.36
DonationDummy _t	0.039*	1.82	0.100**	2.41
State _t	0.009	0.38	0.054	1.49
DonationDummy _t · State _t			-0.092**	1.96
Size _{t-1}	0.026**	2.24	0.025**	2.22
Lev _{t-1}	0.041	0.52	0.04	0.51
ROA _{t-1}	0.301	1.47	0.292	1.44
SG _{t-1}	0.004	0.29	0.003	0.25
Industries	Controlled		Controlled	

This table shows the relation between sales growth and firm donation decision as estimated using Equation 1. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are adjusted for heteroskedasticity. SG_{0t} : the difference between quarter 1's sales in year t and quarter 1's sales in year $t-1$ divided by quarter 1's sales in year $t-1$. Please refer to Table 1 for variable definitions.

In Table 3, we use using ROA change as the dependent variable. The coefficient on donation dummy is positive and significant. This result indicates that donation has a positive effect on firm's post performance. The interaction "DonationDummy · State" is significantly negative, supporting the view that the positive contributions-post performance relationship is stronger for non-state-owned firms.

Table 3: Multiple Regression Results for Tests of the Relation between ROA and Firm Donation Decision

	Reg1		Reg2	
Model explanatory power				
Number of observations	1326		1326	
Adjusted R^2	0.293		0.295	
F-statistic	13.08		13.09	
Significance of F-statistic	0.000		0.000	
Parameter estimates				
Variables	Parameter estimate	t-statistic	Parameter estimate	t-statistic
Intercept	-0.065	1.45	-0.07	1.57
DonationDummy _t	0.023***	6.10	0.035***	4.65
State _t	-0.005	0.97	0.004	0.61
DonationDummy _t · State _t			-0.018**	2.08
Size _{t-1}	0.005**	2.13	0.005**	2.13
Lev _{t-1}	-0.078***	5.05	-0.078***	5.08
ROA _{t-1}	-0.665***	9.57	-0.668***	9.62
Industries	Controlled		Controlled	

This table shows the relation between ROA and firm donation decision. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are adjusted for heteroskedasticity. Please refer to Table 1 for variable definitions.

Size has a positive association with ROA change, which indicates that big firms' profit increase more than that of small firms. Leverage is inversely related with ROA change, in line with the finding in the literature that high leverage is detrimental to firm performance (e.g. Opler and Titman, 1994). The coefficient of lag ROA is negative, which is consistent with the mean reversion phenomenon (Nissim and Penman, 2001).

In equation (1) and (2), we investigate the impact of firms' donation likelihood on their post-performances, and the mediating effect of ownership type. In this part, we replace donation dummy with donation to see whether donation amount will influence afterwards revenue growth and ROA changes. We define donation as log form of total amount of cash and in-kind donation of firms. If firm does not donate, then donation equals to zero.

$$SG_{it} = \alpha_0 + \alpha_1 Donation_{it} + \alpha_2 State_{it} + \alpha_3 Donation_{it} \cdot State_{it} + \alpha_4 Size_{it-1} + \alpha_5 Lev_{it-1} + \alpha_6 ROA_{it-1} + \alpha_7 SG_{it-1} + Industries + \varepsilon_{it} \tag{3}$$

$$DROA_{it} = \alpha_0 + \alpha_1 Donation_{it} + \alpha_2 State_{it} + \alpha_3 Donation_{it} \cdot State_{it} + \alpha_4 Size_{it-1} + \alpha_4 Lev_{it-1} + \alpha_5 ROA_{it-1} + Industries + \varepsilon_{it} \tag{4}$$

Table 4 reports the multiple regression analysis of equation (3). The coefficient of donation is positive and significant in both regression 1 and regression 2, in accordance with our first hypothesis, which is that firms who donate enjoy higher future revenue growth. The interaction “ *Donation · State* ” is significantly negative, supporting our second hypothesis, indicating that the positive relation between CPG and post-performance is stronger for non-state-owned firms.

Table 4: Multiple Regression Results for Tests of the Relation Between Sales Growth and Firm Donation Amount

	Reg1		Reg2	
Model explanatory power				
Number of observations	1238		1238	
Adjusted <i>R</i> ²	0.030		0.033	
<i>F</i> -statistic	3.11		3.00	
Significance of <i>F</i> -statistic	0.000		0.000	
Parameter estimates				
Variables	Parameter estimate	<i>t</i> -statistic	Parameter estimate	<i>t</i> -statistic
<i>Intercept</i>	-0.512**	2.10	-0.539**	2.21
<i>Donation_t</i>	0.003**	2.16	0.008***	2.67
<i>State_t</i>	0.011	0.46	0.058	1.58
<i>Donation_t · State_t</i>			-0.007**	2.06
<i>Size_{t-1}</i>	0.024**	2.04	0.023**	2.04
<i>Lev_{t-1}</i>	0.042	0.54	0.042	0.53
<i>ROA_{t-1}</i>	0.292	1.43	0.283	1.39
<i>SG_{t-1}</i>	0.004	0.28	0.003	0.23
<i>Industries</i>	Controlled		Controlled	

This table shows the relation between sales growth and firm donation amount as estimated using Equation 3. **p*<0.1, ***p*<0.05, ****p*<0.01. Standard errors are adjusted for heteroskedasticity. *SG₀₁*: the difference between quarter 1's sales in year *t* and quarter 1's sales in year *t-1* divided by quarter 1's sales in year *t-1*. Please refer to Table 1 for variable definitions.

As reported in Table 5, donation also has a significantly positive impact on ROA change, with a *t*-statistic of 6.45 and 5.06 in regression 1 and regression 2, respectively. Again, the coefficient of the interaction “ *Donation · State* ” is negative and significant. These results are in line with the fundamental relationship depicted in Figure 1 and further confirm our hypotheses.

Table 5: Multiple Regression Results for Tests of The Relation Between ROA and Firm Donation Amount

	Reg1		Reg2	
Model explanatory power				
Number of observations	1326		1326	
Adjusted R^2	0.295		0.298	
F -statistic	13.43		13.55	
Significance of F -statistic	0.000		0.000	
Parameter estimates				
Variables	Parameter estimate	t -statistic	Parameter estimate	t -statistic
<i>Intercept</i>	-0.049	1.09	-0.056	1.25
<i>Donation_t</i>	0.002***	6.45	0.003***	5.06
<i>State_t</i>	-0.004	0.85	0.006	0.88
<i>Donation_t · State_t</i>			-0.001**	2.35
<i>Size_{t-1}</i>	0.004*	1.77	0.004*	1.80
<i>Lev_{t-1}</i>	-0.078***	5.04	-0.078***	5.08
<i>ROA_{t-1}</i>	-0.669***	9.65	-0.672***	9.70
<i>Industries</i>	Controlled		Controlled	

This table shows the relation between ROA and firm donation amount as estimated using Equation 4. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are adjusted for heteroskedasticity. Please refer to Table 1 for variable definitions.

CONCLUSION

The present study investigates the relationship between CPG and afterwards revenue growth and ROA changes. Using data on Chinese firms' philanthropic response to the 2008 Sichuan earthquake, we find that the probability and amount of charitable giving are positively associated with firms' future performance. The findings are consistent with the strategic view of CPG, in that managers use philanthropic giving as part of the firm's strategy to enhance economic targets. Firms are not purely altruistic when making philanthropic donations. Instead firms utilize CPG as a marketing strategy to differentiate themselves from their competitors with the intent to establish firm reputation and create economic value for shareholders. As a result, firms' philanthropic donation improves their future performance. More interestingly, we find that the positive relationship between CPG and post-performance is stronger for non-state-owned firms. This suggests that non-state-owned firms have more incentives and work harder at differentiating themselves from their competitors and further reach their economic goal.

Our findings offer useful implications for future research. Although the strategy literature (e.g., Fry et al., 1982) suggests that charitable contributions are strategic to develop the firm's reputation and to increase shareholder wealth, this perspective has not been tested previously in an emerging country. As there are important differences in cultural, institutional, legal, economic, and ethical backgrounds between developed and developing countries (Ge and Thomas, 2007; Lam and Shi, 2008; Whitcomb et al., 1998), our finding that firms in an emerging market use CPG as a strategic tool to enhance future performance is an important contribution to the CPG literature. Moreover, our finding that firm ownership type significantly affects the relationship between CPG and post-performance suggests that CPG cannot be viewed in isolation from other corporate behavior or the economic environment. It is appropriate in future research to consider CPG as part of both the economic and the cultural environments. Our documented relationships between CPG, ownership type, and post-performance have important implications for business managers in China. As our evidence shows that corporate philanthropic disaster donations enhance future firm performance, managers can justify donation programs to shareholders and use donations strategically to foster firms' future development. For state-owned firms, our results show them the importance of strategically incorporating CPG in firm strategies to build better image and to increase firm value.

Our study also has implications for governors. In view of rising natural catastrophes in recent years, corporate philanthropic disaster response is playing a more important role in helping societies recover from the disasters. Although governments and other non-profit organizations are major relief sources, corporate giving plays a major complementary role. Therefore the government and its regulatory bodies should design a more effective donation system to encourage corporate charity and create a win-win situation for all related parties.

Although this study provides important insights into CPG, the limitations of the paper suggest several directions for future research. First, our research examines only the listed firms in China. While China is an important emerging market that provides a worthwhile research environment, our results may not generalize to other countries because institutional structure and national culture can affect firms' CSR behavior (Furrer et al., 2004). To better understand the roles of institutional structure and national culture in firms' CPG behavior, future research could compare the strategic use of CPG in different countries. Second, due to data limitation, we focus on listed firms, while nonlisted firms may also donate. Examining the CPG behavior of nonlisted firms is promising, as listed firms are only a small portion of all firms. Besides, listed firms' donation decisions may be affected by investor sentiment in the stock market. Finally, although we show robust evidence that firms strategically use CPG to enhance firm future profits, we did not investigate the effectiveness of different types of corporate philanthropy programs (e.g., donation in goods, volunteering) on firm performance nor other mechanisms by which corporate philanthropic donation enhances a firm's competitive advantages (e.g., improving labor relations, or influencing regulators). It would be a fruitful area to investigate the effectiveness of different philanthropy programs and how firms plan their CPG strategies.

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BIOGRAPHY

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TOURIST PERCEPTIONS REGARDING SERVICE AT RECREATIONAL PARKS: EVIDENCE FROM QUINTANA ROO, MÉXICO

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ABSTRACT

This research focuses on tourist parks, which have attracted enormous attention for their business potential, as well as their attractiveness to tourists who visit the state of Quintana Roo, offering as they do a variety of products and services that meet the needs of all market segments. The present research aims to understand and assess the perceptions of tourists visiting Quintana Roo in light of the “model of the flower of service,” and its applicability to recreational parks like Xcaret, Xel-há and Xplor. The study is a descriptive cross, using factor analysis with which to detect complementary, value added services, as well as factors which significantly impact the perception of visitors, so as to advance development of new marketing strategies.

JEL: M3, M31, M39

KEYWORDS: Marketing Services, Flower of Service, Perception, Recreational Park

INTRODUCTION

Mexico has a rich diversity of historic, cultural and natural attractions, ranking tenth in international tourist arrivals and twenty-fourth in earnings from international tourism (WTO, 2012). Quintana Roo is a state in Mexico whose income is derived mainly from tourism. In 2011, the state captured the equivalent of 4,341.07 million U.S dollars, which is 37.2% of all foreign currency entering the country from tourism. That same year, there was an influx of 7,850,161 tourists, representing an increase of 4.4% compared to 2010, with 7,518,458 tourists. The economic benefit from tourism in 2011 was 5,811.07 million U.S. dollars, an increase of 5.2% compared to 2010, which had seen 5,522.85 million U.S. dollars in revenues from tourism (Secretaría de Turismo del Estado de Quintana Roo, 2012).

The increasing incidence of visitors to Quintana Roo suggests that tourism service providers have reliable information which enables them to measure tourists' perception of services offered; continuously improve processes and the competency of staff providing services; assess the level of value added, in tangibles and intangibles, as perceived by the visitor; assess the degree of customer loyalty generated along with the motivation to encourage others to live the experience and finally, to create various marketing strategies to improve indicators of competitiveness of the organizations.

Among the wide range of tourist services in Quintana Roo, one encounter high level hotel infrastructure; a diversity of regional, national and international restaurants; an abundance of travel agencies; transportation of all types, including a world-class airport; and, various recreation centers. The latter are better known as recreational parks, which are characterized as touristic, social and entertainment venues. They represent an ideal choice for tourists who want to experience a full service destination for their visit, and are particularly geared to those who want to enjoy their favorite activities during their vacation. The entertainment offered by these parks can be limited to a single concept, or offer a gamut of attractions;

and, in either cases, with all services included in a single cost of entry to the site, or a la carte from a selection of products and services offered on a single territory.

Among the services offered by recreational parks in Quintana Roo one encounters services that do not constitute the principle service, but are to some extent complementary to it and may promote the perception of value of the principle service resulting in a decision to buy, or contribute ultimately to a higher degree of customer satisfaction with the main service. What is not clear is the degree to which these complementary services are in fact achieving either result, and it is to some degree this that is the subject of this study. This question appears to have been little addressed or considered in relation to recreational parks.

One of more important enterprises operating recreational park in Quintana Roo is Experiences Xcaret which is a 100% Mexican owned group, dedicated to entertainment resorts. This company has over 25 years experience operating in the state of Quintana Roo and the adjacent State of Yucatan México.

The company, Xcaret Experiences, is focused on visitor satisfaction with the support of its employees, products, facilities, hospitality, and quality care service. These recreational parks offer different services, aimed at different market segments. Xcaret Experiences Group has won awards because their business model has made them more competitive. Xcaret Experiences Group has three business units which have become a benchmark in the state of Quintana Roo: Xcaret, Xel-há and Xplor. These three parks receive a quarter (25.41%) of all tourists visiting the State of Quintana Roo (Xcaret Experiencias, 2012).

Xcaret is a majestic park by the sea, with unique activities, where you have fun discovering some of the natural and cultural assets that exist in the Mexican Republic (Xcaret Experiencias, 2012). Xel-há is an ideal place for nature lovers, with a set of inlets, lagoons, cenotes and caves that feed the sea and mix with the fresh waters of the longest underground river in the world, where you can enjoy the best snorkel experience and other land and water activities (Xcaret Experiencias, 2012). Xplor is a unique underground world, with activities that invite you to explore and rediscover your emotions and sense of nature (Xcaret Experiencias, 2012).

The objective of this research is to ascertain and assess the perception of complementary services for tourists visiting Xcaret, Xel-há and Xplor, identifying both strengths and weaknesses so that sensible marketing strategies that will enable these parks to become even more competitive can be generated. The content of this article incorporates literature covering the relevant aspects of the marketing of services, data analysis and methodology, in a descriptive approach to multivariate techniques, principally the application of factor analysis, offering the authors' results and conclusions, as well as their comments on the studies limitations and future research directions.

LITERATURE REVIEW

In this section, the authors review three major constructs as follows: tourism and marketing services, perception of value, and the flower of services. Each of these constructs was assessed in this research design.

Tourism and Marketing Services

Jimenez (2005) mentions that to talk about tourism is to talk about a complex issue requiring a multi-disciplinary approach. Tourism can have reference to marketing, business, management, psychology, sociology, history, etc. (Gunn, 1994). Integrating these in a study of tourism from the point of view of recreation was challenging to the idea then prevalent that each discipline stands alone (Zipperovich, 2004).

In this study marketing is viewed as the activity, set of institutions, and processes for creating, communicating, delivering and exchanging offerings that have value for customers, clients, partners, and society at large (AMA, 2012).

Services are economic activities that create value and provide benefits to customers, in specific times and places, as a result of producing a desired change in (or for) the recipient of the service (Lovelock, Reynoso, D'Andrea and Huete, 2004). The characteristics of services are that they are intangible, heterogeneous, and simultaneously produced and consumed (Zeithmal, Bitner and Gremler, 2009).

Services marketing may be referred to as a system of action that seeks the best way to satisfy needs and wants through exchange of a generally intangible satisfier for one of tangible value, in a mutually beneficial manner (Saldaña and Cervantes, 2000). Academic interest in service marketing arose primarily in the early eighties (Berry and Parasuraman, 1993).

This field of research includes the characteristics and quality of service, the interface between customers and service providers, internal marketing, assessment processes for customer service, and the client's role in the production and delivery of service. Among other things the concepts of marketing strategies for services have developed in response to the growth of the service industry sector.

Perception of Value

An important aspect in the marketing of services is perception, the process by which people select, organize and interpret stimuli into a meaningful and coherent whole. Perception is how you see the world (Lam, Hair and McDaniel, 2011). Companies should recognize the importance of the keys, or signals, that create customer value, identifying the important attributes and then designing signals which communicate these attributes.

The development of a map of service requires the identification of key activities involved in the production and provision of services (Shostack, 1992), through which are carried out a series of actions based on specific inputs by which the clients live their experience.

Flower of Service Model

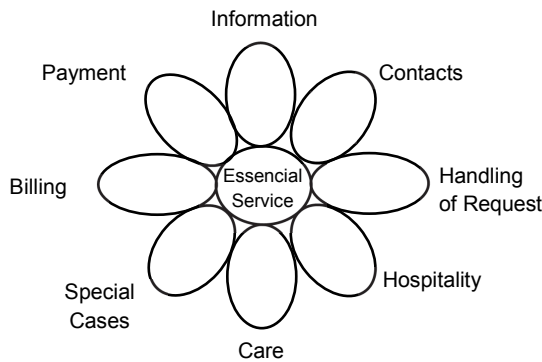
The flower or services model constitutes an excellent way to understand the totality of the service experience. In this case they are divided into two components, those services that facilitate the provision of services, or form essential parts of it; and those that increase the value of services to customers (Lovelock et al., 2004).

The eight groups that form the petals of the flower of services model (Figure 1) represent ways in which to increase the value of services as perceived by the consumer and make customer interactions with the organization easier. Of the eight petals that make up the flower of service, care should be taken with four of them; they are contact, hospitality, care, and special cases, since these elements generate value to customers. The other items, information, handling requests, billing and payment, constitute the service:

The information petal represents the customers need for relevant information such as directions to specific points, hours of operation, prices, directions for use, warnings, conditions of sale, reservation confirmations, etc. The contact petal represents direct communication with the customer such as inquiring about customer requirements, as a way to develop appropriate responses. The consultations envisioned consist mainly of immediate counseling by trained staff with answers to the question, "What would you recommend?"

The handling requests petal concerns customers ready to purchase services, and includes such things as accepting the request, placing orders and making reservations. This process should be polite, fast and accurate. The key is to minimize the time and effort required of both the company and the customer.

Figure 1: Flower of Services Model



In the model “The Flower of Services”, the center of essential service is surrounded by eight groups in the form of petals, each representing a complementary service, which augment and support the offer of the main service. Examples of these include informational services, and billing and paying for services. Others add to the perceived value of the main service such as hospitality, counseling, and attention to special needs.

The hospitality petal should reflect such things as the pleasure expressed in welcoming customers requesting the service, which could impact the level of customer satisfaction. Some other examples of hospitality are transportation, food and beverage, security, etc.

The care petal takes into account that, during a visit, customers often need help with their personal items such as child care, pet care, vehicle parking, luggage management, etc.

The special cases petal is for services that do not fall within the normal service provision, such as supplying infant needs, meeting special dietary requirements, assisting those with disabilities, handling complaints and suggestions, dealing with refunds, and repair of defective goods.

The billing petal represents a common element of service. Billing must be agile, stimulating faster payment; some examples are statements, invoices for individual transactions and announcements of the amount payable.

The payment petal is the exchange of money for service. Some companies accept payment by credit and debit card, using phone or internet. Other alternatives employed include chips, vouchers, coupons and tickets paid in advance.

DATA AND METHODOLOGY

In developing the research design, it was determined that the type of methodology is conclusive and descriptive, since the data is pure and generates structures. It is also transversal owing to the fact that data was collected only once. The investigation was conducted by questionnaire, consisting of a series of written questions to which subjects responded (Malhotra, 2008).

The size of the sample was applied to an infinite population since there is an annual influx of visitors among the three parks of 1, 994.929 visitors.

$$n = \frac{z^2 \cdot p \cdot q}{e^2} \quad (1)$$

In which:

n = number of sample elements.

p/q = probabilities with which the phenomenon occurs, values taken from 50/50

z = critical value for the confidence level chosen; always operates at a value z^2 is therefore equal to 2

e = margin of error

The sample obtained was 123, resulting in a margin of error of 9%.

For the purpose of this study nominal scales of measurement were used; that is to say, only objects with a strict one to one correspondence were identified and classified (Malhotra, 2008). Another type of measurement used was ordinal interval, which is distinguished by the property of development of a distance scale (artificially), with which you can perform advanced statistical analysis (Hair, Bush and Ortinau, 2004). The rating scale used in the instrument for data collection was 1 to 7, corresponding to a limited number of ordered categories (Mc Daniel and Gates, 2011).

Data collection was carried out with the support of social service students during the month of October 2012: the study sample was limited to those who visited any of the three parks: Xcaret, Xel-há and Xplor. The data collection instrument meets the criteria of validity and reliability. The model of flower service has eight factors that reveal general variables of the three parks which can fluctuate, and whose variation is susceptible to measurement or observation (Hernández, Fernández and Baptista, 2010).

Figure 2 shows the eight groups which conform to the petals of the model, “Flower of Services” from which a group of variables of a reflexive determinate type was adopted by experts for use with recreational parks such as those operated by the Experiences Xcaret Group.

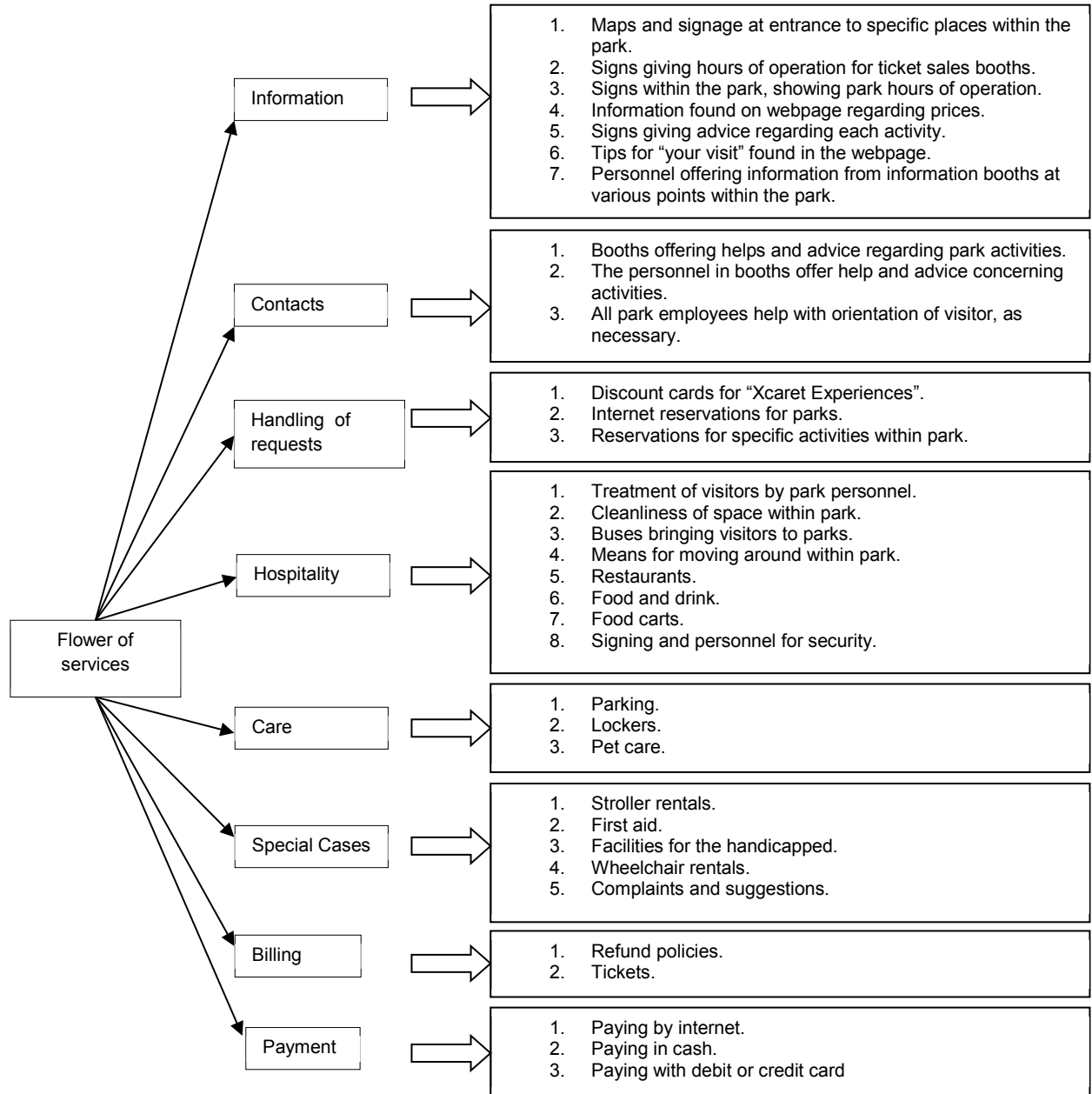
The instrument used has content validity as it complies with the degree to which the measurement represents the concept or the measured variable (Bohrnstedt, 1976). The content domain of the variables is defined based on the literature. Also the theoretical empirical model underlying the construct, the eight petals of the flower model of service, includes three stages (Carmines and Zeller, 1991), these are:

1. The theoretical relation of the concepts is established;
2. Concepts are correlated by means of factor analysis; and,
3. Empirical evidence is interpreted according to the level at which the validity of the construct is clarified.

The confidence level of the data collection instrument is the degree to which it produces consistent and coherent results (Hernández, Fernández and Baptista, 2010). The Cronbach alpha coefficient, a measure of internal consistency was applied, and yielded a result of 0.829.

The data analysis was done using factor analysis, a technique used to simplify the many complex relationships that can exist between a set of observed variables (Pérez, 2006). To perform the analysis the statistical program SPSS (Statistical Package for the social Sciences) was used.

Figure 2: Variables in the model of flower of service, tailored to recreational parks



Source: Adapted from flower model for recreational parks service. It took the eight groups that make up the flower petal; and each petal variables are determined reflective type based recreational parks, discussed by an expert group company adapting to Xcaret Experience.

RESULTS

Characteristics of sample: 100% of respondents had visited at least one park in 2012; 49.6% were male, and 50.4% female; and the mean age was 25.35 years.

For the rest of the investigation, a factorial analysis is applied. This technique focuses on the interdependence of the variables and considers the total variability in the data in order to determine the minimum number of factors that explain the variance. (Malhotra, 2008).

To test the relevance of factorial analysis, mediation by Kaiser-Meyer-Olkin (KMO) was performed, comparing the magnitude of the observed correlation coefficients with the magnitude of partial correlation coefficients, yielding 0.766, which indicates the relevance of this analysis.

We applied the method of principal component analysis for factor analysis. The determination of the number of factors is based on the percentage of variance. This method determines the number of factors extracted so that the accumulated percentage of variance attributable to each factor reaches a satisfactory level. In this case, it is recommended that the extracted factors explain at least 60% of the variation. The total variance in the factors discussed in Figure 2 explains 62.57% of the factors, which are then grouped into eight new factors combined, as shown in Table 1.

Table 1: Total Variance Explained

Components	Initial Eigenvalues			Total Variance Explained			Saturation		
	Total	%	%	Total	Sum of The Square of the Extraction	%	Total	Sum of the Square of the Rotation	%
	Variance		Accumulated	Variance	Accumulated		Variance	Accumulated	
1	8.931	25.518	25.518	8.931	25.518	25.518	4.363	12.467	12.467
2	3.003	8.581	34.099	3.003	8.581	34.099	3.447	9.849	22.316
3	2.211	6.316	40.415	2.211	6.316	40.415	2.974	8.497	30.813
4	2.016	5.761	46.177	2.016	5.761	46.177	2.923	8.351	39.164
5	1.666	4.760	50.937	1.666	4.760	50.937	2.689	7.683	46.847
6	1.506	4.303	55.240	1.506	4.303	55.240	1.991	5.688	52.535
7	1.348	3.852	59.091	1.348	3.852	59.091	1.935	5.529	58.065
8	1.220	3.486	62.577	1.220	3.486	62.577	1.579	4.512	62.577

This table shows the principal component analysis obtained through the statistical program SPSS, in which the percentage of variance shows that 62.57% of the accumulated variance explains the eight components, the minimum number of extracted factors; that is to say, the new number of eight petals that conform to the complementary services adopted by the recreational parks.

Initially there were 35 variables forming a part of the 8 petals of the model of flower of service. The data obtained in the rotated component matrix produce a result of 26 variables grouped into 8 new factors as shown in Table 2.

This factorial matrix is important because it contains the coefficients expressing the standard variables, in terms of the factors. These coefficients represent the correlation between the factors and the variables. A coefficient with a large absolute value indicates a close relationship between that factor and the variable.

With components rotated, interpretation of the matrix was facilitated, the variables that have larger value in the same factor were identified; and by this means, the variables in the eight new factors that conform to the petals of service adopted by the recreational parks were reclassified.

According to the above analysis, the variables are reclassified as follows: Once the eight figures in Figure 3 are analyzed, an analysis of internal consistency was performed to evaluate the confidence level of a cumulative scale in which diverse responses are summed to create a total score (Malhotra, 2008).

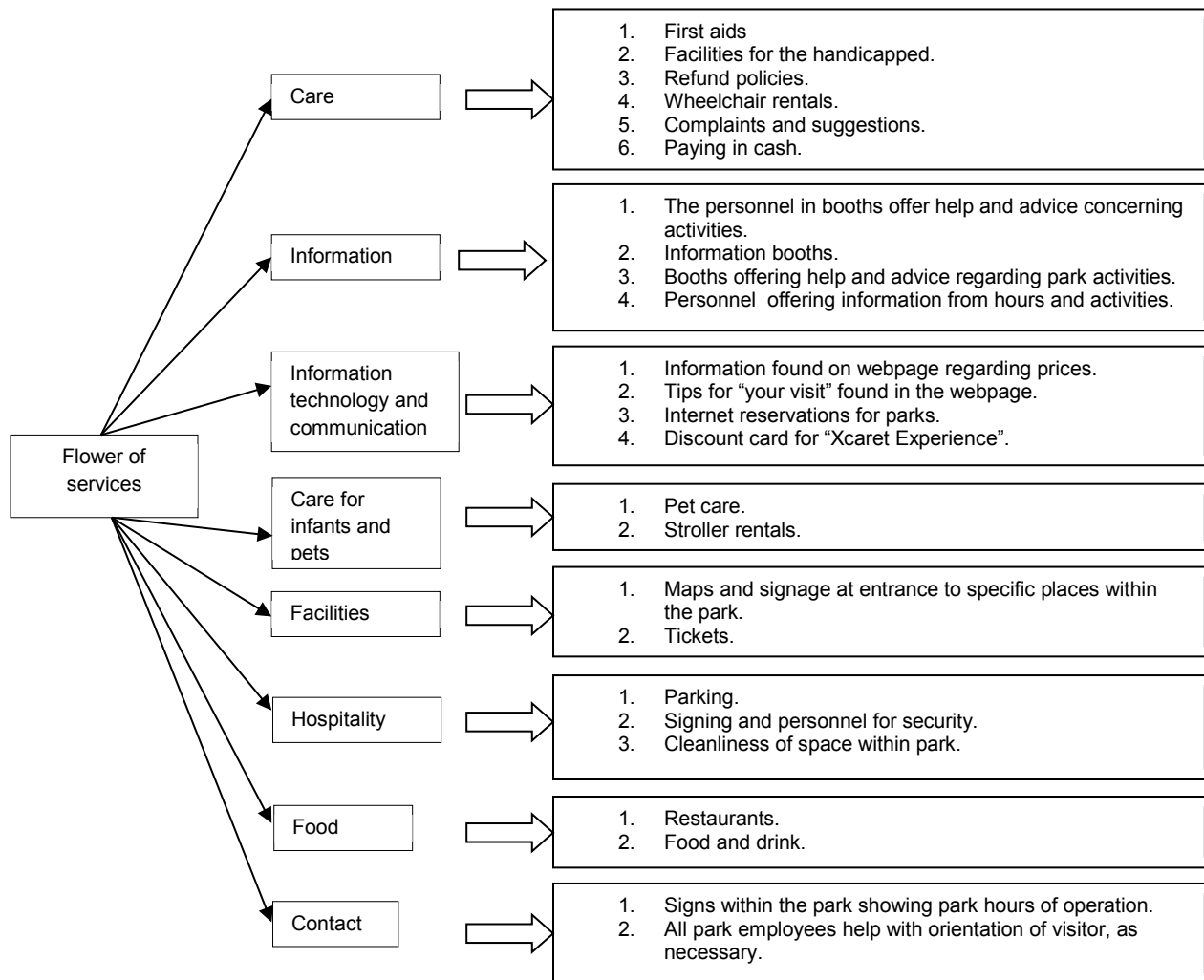
Cronbach's Alpha coefficient was calculated to verify the confidence level; that is, the average of all the possible separate coefficients that result in different forms to separate the response elements of the scale, when the value is greater than 0.5, and the internal confidence is satisfactory, with the following result:

Table 2: Rotated Component Matrix, Factor Analysis Results

Rotated Component Matrix								
	Components							
	F1	F2	F3	F4	F5	F6	F7	F8
First Aids.	0.802	-0.012	0.055	0.225	0.018	0.056	0.119	0.214
Facilities for the handicapped.	0.777	0.023	0.171	0.211	-0.095	-0.033	0.038	0.107
Refund policies.	0.715	0.236	0.261	0.115	0.017	0.072	0.11	-0.174
Wheelchair rentals.	0.715	0.08	0.205	0.265	0.046	-0.163	0.152	0.057
Complaints and suggestions.	0.611	0.387	0.142	0.124	-0.053	0.036	0.007	0.144
Paying in cash.	0.553	-0.127	-0.008	-0.048	0.324	0.236	0.018	-0.069
Buses bringing visitors to parks.	0.376	0.214	0.071	0.337	0.138	0.294	-0.159	-0.349
The personnel in booths offer help and advice concerning activities.	0.072	0.742	0.023	0.332	-0.001	-0.030	0.159	-0.060
Information booths	0.188	0.724	0.248	0.045	0.004	0.130	0.139	0.192
Booths offering help and advice regarding park activities	0.191	0.712	0.200	0.143	-0.130	0.185	0.035	0.080
Personnel offering information from hours and activities	-0.094	0.614	0.007	-0.092	0.257	0.277	0.232	-0.027
Signs giving hours of operation for ticket sales booths	-0.089	0.479	0.039	-0.084	0.434	0.101	-0.137	0.419
Information found on webpage regarding prices	0.149	0.097	0.833	-0.056	0.032	-0.005	0.060	-0.076
Tips for your visit found in the webpage	0.102	0.164	0.742	0.148	0.057	0.141	0.277	0.046
Internet reservations for park	0.221	0.110	0.591	0.475	0.156	0.081	-0.099	0.094
Discount Cards for "Xcaret Experiences"	0.189	0.194	0.501	0.464	0.084	0.142	-0.097	0.103
Reservations for specific activities within park	0.271	0.177	0.497	0.480	0.335	0.025	0.003	0.066
Paying by internet	0.392	0.091	0.470	0.264	0.200	0.270	0.189	0.296
Care Pets	0.284	0.005	0.134	0.763	-0.014	-0.010	0.006	-0.066
Stroller rentals	0.387	0.126	0.123	0.588	0.175	-0.061	0.142	0.120
Food carts	0.120	0.275	0.047	0.494	0.047	0.276	0.135	0.044
Treatment of visitors by park personnel	0.357	0.147	0.014	-0.357	0.280	0.028	-0.045	0.097
Maps an signage at entrances to specific places within the park	0.129	0.245	-0.034	0.017	0.689	-0.015	0.159	-0.082
Tickets	0.126	-0.042	0.151	0.333	0.598	0.104	0.085	0.138
Lockers	-0.149	-0.229	0.114	0.064	0.581	0.159	0.096	-0.039
Means for moving around within park	0.050	0.430	0.219	-0.009	0.476	-0.098	0.354	-0.206
Signs giving advice regarding each activity	0.107	0.461	0.349	-0.085	0.461	-0.093	-0.011	0.171
Paying with debit or credit card	0.301	0.038	0.299	0.231	0.321	0.277	-0.193	0.198
Parking	-0.277	-0.042	0.146	0.104	0.203	0.717	-0.091	0.142
Signing and personnel for security	0.241	0.296	0.020	0.211	0.048	0.687	0.000	-0.006
Cleanliness of space within park	0.144	0.255	0.114	-0.310	-0.109	0.586	0.149	-0.207
Restaurants	0.042	0.128	0.124	-0.004	0.225	-0.040	0.856	0.067
Food and drinks	0.230	0.203	0.052	0.122	0.038	0.057	0.765	0.066
Signs within the park showing park hour of operation	0.300	0.077	0.061	-0.107	0.270	-0.057	0.033	0.627
All park employees help with orientation of visitor as necessary	0.058	0.126	0.047	0.212	-0.295	0.053	0.109	0.604

This table shows the results of factor analysis, with a rotation method: Varimax with Kaiser Normalization. SPSS. The coefficients represent the correlation between the factor (F1, F2...F8). The Varimax Procedure is a method of rotation that reduces to the minimum the number of large value in a factor to improve the ease of interpretation of the data.

Figure 3: Reclassification of Variables



Source: Authors. Reclassification of the variables in accordance with the results of the matrix, of the rotated components. The variables shown are those for which a large value was obtained, which indicate that the eight factors conforming to the petals of service are closely related.

Special case: in this block we found that for the visitor important aspects of complementary services related to first aid, which is associated with the recreational activities offered in parks. Also, as part of the culture of fairness, variables highlight facilities for the disabled and wheelchair rental. This block closely relates to variables such as reimbursement policies, and payment for services, which are both associated with the efficiency of operational procedures.

Table 3: Analysis of Cronbach's Alpha

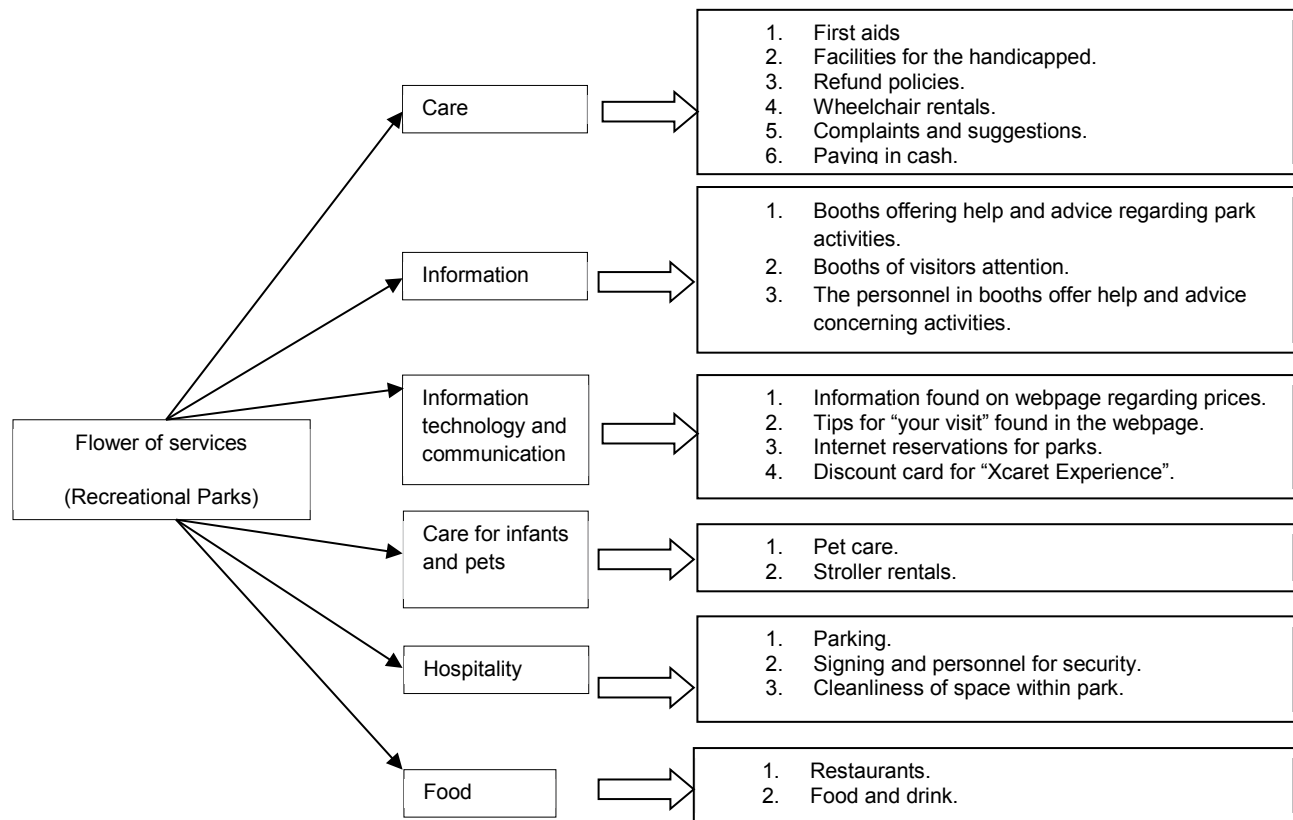
Factor	Alpha de Cronbach
Special cases	0.852
Information	0.780
Tic's	0.781
Attention to infants and pets	0.741
Facilities	0.495
Hospitality	0.565
Food	0.806
Contact	0.295

Table showing the reliability analysis of each of the factors. These coefficients fall within a range from a value of 0 to 1: Those with a confidence level of less than 0.5 are excluded from consideration in this study.

According to this analysis, the factors with highest reliability are: First, information: this factor is related to aspects of communication that the visitors receive during their stay in the park. Second, information Technology and Communication: use of the internet via the website, for pricing, use tips and reservations of different services, are important to tourist, as shown in this block. Third, care for Infants and Pets: this block shows the visitor's interest in the care of children, or pets. Fourth, as per Hospitality: an important factor as it relates to perceptions of cleanliness and safety. Finally, Food: the importance to visitors to have variety of restaurant services for consumption of food and beverages appears in this block.

Applying the results of Cronbach's Alpha to the eight new factors of the flower of services model for recreational parks, and eliminating those with a coefficient of less than 0.5, leaves the flower of services model with just six petals which represent valued adding services, as shown in Figure 4.

Figure 4: Final Classification of variables for Recreational Park



Source: Authors. The services represented by the six petals which remain of the original eight, after factor analysis, are Care, Information, Information technology, and communication, Care for infants and pets, Hospitality and Food

CONCLUSIONS

Focusing again on the objective of the present investigation, we wish to study and evaluate tourists' perceptions of the complementary services at Xcaret, Xel-ha, and Xplor recreational parks; to identify strong points and weaknesses, and generate marketing strategies that can boost the competitiveness of each of them within that sector. Analyses of the results confirm that the supplemental services forming the petals of the flower of services model vary depending on the type of the enterprise. In the case of the recreational parks studied, Xcaret, Xel-ha y Xplor, the analysis of the variables in the study of the supplemental services, after applying Cronach's alpha, leads us to regroup the variables into six groups,

rather than the original eight, the most important of which in terms of affecting tourists' perceptions of value are the following: Care (0.852), Food (0.806), Information technology and communication (0.781), and Information (0.780).

It is possible to infer that the positive impact on tourists' perceptions of value represented by the factors mentioned above is that the tourist can count on those elements to safeguard the enjoyment of his entertainment experience. It's also important that they be able to count on an adequate infrastructure for older visitors and the disabled, so that they can move about and enjoy the activities offered, along with the value they place on being able to register their complaints and suggestions regarding the services received. The parks studied are located in the Riviera Maya of Quintana Roo, widely separated from access to food and drink outside the recreational park, and it is indispensable that they provide quality services of this type, on which great weight will be placed by tourists in terms of their perception of value.

In reality, the majority of organizations count on information and communications that allow them to permeate different segments of the market with access to information about the services offered by the parks in an effort to have the visit seen as a total experience for the visitor. Likewise, it is fundamental that all employees of these parks have the capacity to offer those services which are shown to have a favorable impact on tourist perceptions; and, for this reason, develop a marketing strategy that incorporates capacity building in areas of service to clients. In sum, essential factors for the tourists ought to be in harmony with the main service offered by the parks, so that the interaction of the factors naturally generates the perception of added value.

The components with little impact on tourists' perceptions were infant care and pet care (0.741), and hospitality (0.565). Among the reasons for this small impact of offerings of infant care and pet care are that tourists often provide for these things themselves, traveling with items necessary to it, although some do not: nevertheless, the parks offer the option of renting baby carriages and provide areas for pet care, if required by the visitors. As for the component of hospitality, the tourist perceives this as part of the main service so it doesn't aggregate to increase the perceived value of the main service. Also, there are services provided that the visitor may not use at all, such as a parking lot, when he has arrived by bus, for example, and these also do not produce a higher, aggregate perceived value.

In the case of those services other than care, food, information technology and communication, and information it is recommended to develop marketing strategies that help maintain and continually improve the visitors' experience to further promote the utilization of the services offered. Even though the offer of child and pet care, and attention to the needs of those with disabilities, appear to little enhance the perception of value for visitors generally, it is important to continue to offer these services as the frequency of visits by those who might need those services rises, while continuing to analyze the variables related directly to human capital, especially those incident to capacity building and competency building, to maintain and enhance quality of service and increase competitiveness. In general it is basic to establish constant evaluation that measures the differing perceptions, to identify the most significant gaps where improvement may be needed, as well as to give an impetus to innovation in supplemental services with the object of improving the experience.

The methodology adopted allows us to perform a deep analysis and reorganize the variables that form a part of the theory of the flower of services model so as to provide a more certain explication of the reality under study. On the other hand, the theme has received little attention in academic circles, this investigation possibly being the first to focus on recreational parks. The theoretical bases of the study support and validate the study, apart from the results which are, to a degree, unexpected. The investigation develops the fact that supplemental services such as care, food, information technology and

communication, and information are important, and generate value for the visitor in that the visitor perceives these as integral to the principle product.

LIMITATIONS AND RESEARCH DIRECTIONS

Among the limitations of the study is that the vast majority of the surveyed visitors were from the area, and are therefore thought to have somewhat different perceptions to tourists from elsewhere. This exploratory study was directed generally to the three most profitable parks of the Xcaret Experiences group; however, it is believed that further research should be conducted in a form individual to each of the parks.

One area of future development and research relates to the paucity of theory pertaining to recreational tourism adequate to complete the flower of services model. Further investigations are needed to differentiate and elaborate those factors integral to the eight components of the flower of services model insofar as they contribute to the perception of value.

This study generates a desire for continued research on the perception of visitors to the parks. The next research could focus on visitors who come for the first time to the parks, and continue contributing to the generation of recreational studies to help establish the model of the flower of service as applied to recreational services.

APPENDIX

The data in the present study was obtained using a questionnaire regarding tourists' perceptions of service at recreational parks in Quintana Roo. What follows is a depiction of the questionnaire.

1. Visit this year to: Xcaret () Xel – ha () Xplor ()
2. Sex: female () male ()
3. Age: _____
4. Interviewee: Local person () Tourist ()

Qualify the following according to the importance you believe, with 7 being very important and 1 not important.

Aspects To Evaluate	Not Important			Very Important			
	1	2	3	4	5	6	7
5. Maps and signage at entrance to specific places within the park.							
6. Signs giving hours of operation for ticket sales booths.							
7. Signs within the park, showing park hours of operation.							
8. Information found on webpage regarding prices.							
9. Signs giving advice regarding each activity.							
10. Tips for “your visit” found in the webpage.							
11. Personnel offering information from information booths at various points within the park.							
12. Booths information.							
13. Booths offering helps and advice regarding park activities.							
14. The personnel in booths offer help and advice concerning activities.							
15. All park employees help with orientation of visitor, as necessary.							
16. Discount cards for “Xcaret Experiences”.							
17. Internet reservations for parks.							
18. Reservations for specific activities within park.							
19. Treatment of visitors by park personnel.							
20. Cleanliness of space within park.							
21. Buses bringing visitors to parks.							
22. Means for moving around within park.							
23. Restaurants.							
24. Food and drink.							
25. Food carts.							
26. Signing and personnel for security.							

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27. Parking.
 28. Lockers.
 29. Pet care.
 30. Stroller rentals.
 31. First aid.
 32. Facilities for the handicapped.
 33. Wheelchair rentals.
 34. Complaints and suggestions.
 35. Refund policies.
 36. Tickets.
 37. Paying by internet.
 38. Paying in cash.
 39. Paying with debit or credit card
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IMPLEMENTATION OF LEAN BUSINESS STRATEGIES: EVIDENCE FROM MEXICO

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ABSTRACT

This research, identifies lean management practices and elements. Despite widespread interest and little empirical evidence to support its position in improving organization performance, there is little understanding of lean business strategy key organizational factors. This research identifies five elements of lean business practices. An instrument was developed to empirically analyze dimensions underlying the constructs of this study. To verify the results, cluster analysis was used to group organizations having different patterns of lean manufacturing practice implementation. The results confirm that lean organizations significantly differ from non-lean organizations with regard to manufacturing strategies having emphasis on cost and volume flexibility.

JEL: L6, L2, L1

KEYWORDS: Manufacturing, Organization, Firm Strategy

INTRODUCTION

In the globalized world of the XXI century, competitiveness has become necessary for companies of all sizes. In the quest to survive and thrive in today's dynamic and turbulent environment, organizations need to reconfigure their primary responsibilities (Hernandez, Rodriguez and Espinoza, 2010). To create and maintain a competitive manufacturing advantage, firms need skills to adapt production processes to the needs of their customers and a structure that supports a culture of continuous improvement. This is accomplished through the identification and reduction of waste in the organization.

Although it is generally accepted that SMEs are important to the national economy, few governments have taken measures to enhance their contribution or increase their competitiveness. Most countries do not have reliable statistics on SMEs (Saavedra and Hernandez, 2007). World class manufacturing companies focus on finding ways to improve their production processes and produce products or services with high levels of quality, productivity, reliability and lower cost.

Mexico has a large number of SME manufacturers trying to gain a competitive advantage. Some companies integrate their production and administrative processes. Despite widespread interest and some empirical evidence to support its role in improving organizational performance, there exists little research related to organizational characteristics of lean manufacturing companies.

One alternative to replace traditional manufacturing practices in SMEs is lean manufacturing and enterprise integration. This represents an opportunity to remain competitive in the market, in which the general rule seems to be fulfilling the goal of "reducing costs." Lean manufacturing has been used by many organizations to compete globally, which is considered revolutionary in the process of continuous improvement in manufacturing concepts (Womack and Jones 1996).

Lean manufacturing techniques can help SMEs meet the new paradigms in manufacturing (Maurer, 2005). Additionally, there is a growing consensus about the attributes of lean manufacturing. This tool

has resulted in significant improvements in the performance of a large number of organizations. Despite the interest and agreement of its importance, current research has made very little progress in examining characteristics associated with lean manufacturing systems. Based on the state of the art, the current research contributes in two ways to fill this gap.

First, this study identifies lean practices elements of the current literature. Second, it explores patterns of implementation of lean manufacturing and enterprise integration. Despite widespread interest and some empirical evidence to support the improvement in performance, there is little theory regarding the concept of lean manufacturing in SME's. Identifying differences between companies that intensively implement these practices and their counterparts who do not implement them, this study provides insight to the development of a theory to explain lean manufacturing systems and present guidelines for managers of companies considering implementing lean manufacturing.

Since elements of lean manufacturing can be implemented individually or in combination, several patterns of implementation are feasible. The objective is to determine if companies that use lean manufacturing can adapt faster to changes in their external environment than non-users. We begin with a review and analysis of the subject matter literature and the configuration of lean manufacturing. Afterwards, the paper continues with a discussion of the methodology used in the research and presents the data and results of the study. Finally, concluding remarks and limitations are presented.

LITERATURE REVIEW

Traditional Manufacturing

Traditional manufacturing developed a framework for excellence in cities. The craft guilds exercised tight control of this urban industry, through complicated regulation preventing the development of free enterprise. Even when the traditional industry could support the requirements derived from the slow expansion of demand for manufactured goods, unions represented an anti-capitalist concept, representing a barrier to the emergence of technically more advanced forms of productive organization. The industrialized, increasingly globalized world of today, is experiencing a slow but gradual shift from traditional methods of production (Taylorism and Fordism) to new forms of work organization. Among these stands the Japanese model, also known as lean manufacturing, created by Womack (1996).

Emergence of Lean Manufacturing

The increase in global competitive challenges of the last two decades has led a number of companies to adopt new manufacturing practices (Meredith and McTavish, 2004). Particularly lean manufacturing (Womack and Jones 1996). Lean manufacturing is a multi-dimensional practice that includes a wide variety of management techniques, including just-in-time, quality control systems, employee involvement, supplier management, customer involvement, etc. in an integrated system.

Lean manufacturing comes from the Toyota system. This system represents a new way to do business worldwide (Ohno, 1988). Pioneers in tools development of the Toyota production system were: Toyoda, Ohno and Shingo (Kaufman, 2001). This system was introduced in 1945, when the president of Toyota Corporation decided to look beyond levels of United States manufacturing. One factor was the economic situation in Japan after the Second World War. This forced Japanese companies to seek a new strategy to optimize production processes. Therefore they developed the Toyota system which fits the lean manufacturing concept.

The main idea of lean manufacturing is that these practices can work synergistically to create a high quality system, which allows the creation of finished products according with the customer's

requirements with little or no waste. The existing evidence supports the association of lean manufacturing and improvement in performance. While most studies focus on the simple content of a specific area and their implications for performance (such as Hackman and Wageman, 1995; Samsom and Terziovski, 2003, MacDuffie, 2005), very few studies have focused on analyzing the two elements of this study and much less in SMEs.

Manufacturing programs, such as lean manufacturing, which evolve slowly over a long time period, are difficult to imitate and transfer. Lean manufacturing is valuable, rare and difficult to imitate (Barney, 1991). Lean manufacturing is valuable because it is associated with the highest performance of companies that have implemented it. It is rare because not all manufacturing companies, especially SMEs in Mexico, have this demanding program. The implementation of lean manufacturing requires distinctive practices and processes, as well as high-level administrative processes (Teece, Pisano and Shuen, 1997).

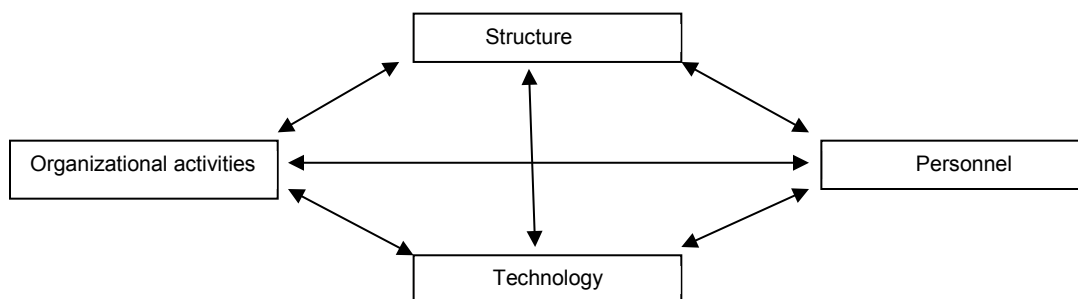
High administrative levels include coordination and communication processes with suppliers and customers. This suggests that lean manufacturing has high levels of interdependence and its replication may be difficult. Replication requires systemic change through the organization and between organizational links. Thus, identifying the appropriate process to implement appropriate strategies becomes a fundamental point.

The strategy can be defined as "the coordinated series of actions aimed to achieve a particular goal" (MacCrimmon, 1993). Strategies exist at every level of the organization and are hierarchical in nature (Hayes and Wheelwright, 1984). They are formulated at the corporate level as corporate strategies and at business unit level as business strategies. A definition of manufacturing strategy is seen as the effective use of the strengths of manufacturing as a competitive tool to achieve business and corporate goals (Swamidass and Newell, 1987).

The primary function of the manufacturing strategy is to put together the set of manufacturing capabilities that enable it to continue its chosen business strategy. Thus, the focus in manufacturing strategy research has been to describe options between key capabilities or competitive priorities (Ward and Duray, 2000). According to these authors, the literature on manufacturing strategies notes four competitive priorities: cost reduction, quality, delivery and flexibility.

According to Schroeder (2001), an organization can change by altering structure, technology or changing people. Structure change involves rearranging internal processes. Changing technology means to alter equipment, engineering processes, research techniques or production methods. In manufacturing companies the processes are interdependent as shown in Figure 1. The processes interact reciprocally under the influence of joint forces. Therefore, the question arises on how to integrate these processes.

Figure 1: Interdependent Organizational Elements



Source: Authors, based in Shah, 2002. This figure shows the processes of manufacturing firms, which explains how a change in its element would affect others.

Enterprise Integration

The use of computers and systems has enabled companies to face new challenges and opportunities through high speed information processing. Unfortunately, information flow has not been enough to interconnect the various internal processes of an organization. Therefore, integration models of companies aim to achieve an efficient and effective alignment of the elements of an enterprise through a simple modeling language (Chun, 2003).

The improvement of processes is an opposing relationship between cost-benefit that lightly tends to cost. Incomplete development and alignment in existing processes can lead to increased costs. Specialized systems and business lines diversification can generate an expensive processes. Changes in business requirements of unfinished projects can reduce benefits. Enterprise integration is a solution to these challenges. Enterprise integration drives assets and processes into a single adaptive infrastructure and is a more rational approach. When current and new tools are integrated smoothly within their preferred business methods, these can maintain and increase the value of investments in technology and training.

It is essential to select the important elements to be analyzed, ignoring irrelevant items. The main objective of integration is to provide necessary information on time. Companies must be able to integrate communication factors, cooperation and coordination between processes. The integration process is clearly important because many investigations focus on strategy.

To study the patterns of implementation of manufacturing practices in SMEs, it was essential to identify the key concepts often included and are commonly used to represent lean manufacturing systems in academic and anecdotal research. One is continuous implementation, where the limits represent each of the SMEs categories. At one end can be found those SMEs that implement lean manufacturing practices known as "lean archetypes" and at the other end SMEs that do not implement these practices in an extensive form, for the purpose of this study, called "non-lean archetypes". Once identified, it was important to develop valid and reliable scales to represent each of the key aspects. The literature review identified five key areas of lean manufacturing as noted in Table 1.

Thus, the overall objective of this study is to determine if companies that use lean manufacturing face faster the change phase of their external environment than companies that do not use it.

Table 1: The Two Configurations of Lean Manufacturing

Lean Manufacturing Practices	Intensity Level of Implementation	
	Lean Archetype	Without Lean Archetype
Just in time (JIT)	High	Low
Quality control tools (SPC)	High	Low
Employee involvement (INVEMP)	High	Low
Involvement of suppliers (INVPRO)	High	Low
Customer involvement (INVCLI)	High	Low

Source: Authors. This table shows the profiles of the two groups and suggests that key elements of lean manufacturing can be carefully matched in order for a company to achieve high performance.

Hence, our hypothesis is:

H1: Companies that use lean manufacturing do not face faster change phase in their external environment than those who do not use it.

The second objective was to determine the level of emphasis that SMEs that use the archetypes of lean manufacturing put on their business strategies of response, time and cost relative to those SMEs who do not use it. This study identifies the characteristics of the environment, strategy and performance of SMEs with and without archetypes of lean manufacturing as presented in Table 2.

Table 2: Characteristics of the Archetypes of SMEs with or without

Organizational variables	Slim Archetype	Without Slim Archetype
Business Strategy	High emphasis on response time and cost	Low emphasis on response time and cost

This table shows the emphasis about the archetypes of the SME's according with the business strategy.

Hence, we present our next hypotheses:

H2: SMEs with slender archetypes do not establish a higher level of emphasis on the business strategies of response, time and cost of a statistically significant way those SMEs who do not have this archetype.

DATA AND METHODOLOGY

This work represents research based on analysis of information sources. From a theoretical standpoint, a basic primary documentary research on the issues and theories of lean manufacturing, traditional production methods, enterprise integration, basic statistics, research methodology, are most important. The quantitative research attempts to determine the strength of association between variables as well as generalization and objectivity of the results through a sample to make an inference to a population.

This is a cross-sectional study, to describe the population at a unique moment in time. The instrument used in this study measured the following constructs: change phase in the external environment, business strategy and manufacturing strategy. The developmental stages of the instrument were carried out in four phases: 1) the generation of factors, 2) pre-test phase, 3) pilot study and 4) validation of the instrument, collecting and analyzing information. The Pre-test phase was conducted with academics, workers and companies' experts. The pilot test was sent to manufacturing and operations managers of manufacturing companies with between 50 and 250 employees.

The objective of the instrument was to obtain reliability measures and validity for each construct. This study obtained a Cronbach alpha level of 0.78. The proper generation of the elements being measured was the key factor determining the validity and reliability of this empirical study. Elements of the external environment change phase were generated using two channels, the operational measures of dynamism (Miller, 1996) and clock speed (Mendelson and Pillai, 1999). The authors conceptualized clock speed as the rate of change in products: both existing products and the introduction of new products in the market.

The processing clock speed measures obsolescence of existing equipment and the rate of innovation of existing processes. Organizational restructuring and the formation of partnerships were considered indicators of organizational clock speed. Past empirical research has shown that specific measurements have a low response rate. For this reason, ten measurements were developed and scored on a Likert scale from strongly agree/disagree.

For the business strategy and manufacturing strategy constructs, there are well-developed instruments. For example, the business strategy is a well-developed topic in the literature on organizational strategy and management theory. This study adapted elements proposed by Porter (1980), and Kotha and Vadlamani (1995) to construct the scale. Similarly, the elements of manufacturing strategy were adapted

from Leong, Snyder and Ward (1989). Since these constructs have been found reliable and valid in other studies, there was no further validation.

This study used manufacturing SMEs registered with the state of Chihuahua, in the Mexican Business Information System (SIEM) in January of 2012. Companies were examined during the first six months of same year. Enterprises of different sizes and different processes were selected. Respondents had titles in the positions of general managers, plant managers, manufacturing managers and operations managers. They used email as a primary method to collect data on the first phase. The reason for using e-mail was the low cost for data collection and the time required.

The Dillman Total Design was used as a technique for electronic mailings. Dillman (2000) suggests the customization of each e-mail instead of sending emails to all reviewers at once. Using this method allows the responses of 4 to 5 weeks as opposed to the traditional method requiring 8 to 10 weeks. Cluster analysis was performed to classify them into groups. Cluster analysis categorizes individuals or objects into clusters making the clusters of each group to be similar and different from other clusters. It had 2,553 e-mail addresses, from the Business directories and the Association of Maquiladoras directory.

During the first week responses were received from 185 respondents. Some 423 emails were returned by the system, because they could not be delivered. Another 48 “out of office” automatic responses were received. Some 479 asked to be removed from the list of respondents by company policy. There were 15 incomplete responses by respondents. The final sample includes 271 completed and returned surveys as shown in Table 3.

Table 3: Administration of Questionnaires Sent

	Calculation	
Initial sample size	2,553	
Not Sent Notifications	423	
Participation Declined	479	
Incomplete Responses	15	
Actual sample size	2,114	2,553-(423+15)
Complete Responses	271	
Response rate	12.8%	271/2114

Source: Authors. This table shows results by response category of the questionnaires sent.

RESULTS AND DISCUSSION

In this section, we present detailed results obtained from the implementation pattern of lean manufacturing practices to justify manufacturing archetypes profile. A cluster analysis was used to classify them into groups. The aim is to find statistical assumptions maximizing the homogeneity of objects within the clusters, in the same way that also maximizes the heterogeneity between clusters. A variation in the cluster, represents the set of variables used to rank companies within the cluster. Hence, we hypothesize:

H1: Companies that use lean manufacture do not face change phase faster statistically significant in its external environment than companies do not use it.

To test the above hypothesis, cluster analysis study was used as a confirmatory tool to verify the archetypes presented. The archetypes represent extremes of the categorization in manufacturing

companies. A cluster option was also developed from literature review and its relationship between cluster variables and pre-specified archetypes. An analysis of clusters of two stages was carried out.

The first stage in this study was to select an appropriate number of clusters. The Ward method was used to minimize differences within the clusters. In the second stage, Lehman's guidance was followed such that an appropriate number should contain between 30 and 60 cases. So we expect to get two to four clusters with 129 cases. To this end we used SPSS 20.0 program for clustering coefficients of each stage.

Table 4: Analysis of Clustering Coefficient with the Ward Method

Number of Clusters	Clustering Coefficient	Incremental Change in the Coefficient	Percentage Change of the Coefficient
10	230.03	11.9	5.2%
9	241.93	13.71	5.7%
8	255.64	17.18	6.7%
7	272.82	17.63	6.5%
6	290.45	23.04	7.9%
5	313.49	29.97	9.6%
4	343.46	31.24	9.1%
3	374.7	53.77	14.4%
2	428.47	139.49	32.6%
1	567.96	-----	-----

Source: Authors. This table presents the coefficients of agglomeration, the incremental change and the incremental percentage change in agglomeration coefficients obtained.

Additionally, an ANOVA statistical test was performed to examine the statistical differences among the five clusters of variables between groups. An ANOVA test was developed to find significant differences in means. The results of the ANOVA test, indicate that the two clusters differ significantly based on each of the five variables considered. The level of significance of four of these variables was $p < 0.000$. This supports claims of Swamidass and Newell (1987), who established that manufacturing forces positively influence proper implementation of lean manufacturing tools in business. Table 5, shows the results of the ANOVA examining statistical differences between the clusters.

Table 5: Results of the ANOVA Testing the Significance between the Clusters

Variables	Cluster Mean Square	Df	Error Mean Square	Df	F Value	Significance
JIT	25.44	1	0.39	127	65.37	0.000***
SPC	13.82	1	0.41	127	33.83	0.000***
INVEMP	29.34	1	0.33	127	89.41	0.000***
INVPRO	34.10	1	0.41	127	83.37	0.000***
INVCLI	4.92	1	0.47	127	10.41	0.002**

Source: Authors. This table shows results of Anova test. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$. Significant difference between clusters of JIT, SPC, INVEMP, INVPRO, INVCLI.

Additionally, a discriminate analysis was performed to achieve a cross-validation of cluster analysis. In contrast to the ANOVA analysis, discriminate analysis is a multivariate statistical tool. A multivariate test allows us to simultaneously analyze multiple variables and at the same time. The discriminate function was derived by combining the five cluster variables in a linear function. Discrimination is achieved by adjusting the weight of each variable to maximize the relative variance between groups and within group variation. Table 6 presents the results for cross validation.

Table 6: Results of Cross Validation of the Discriminate Function

Function	Characteristic Root (Eigenvalue)	Canonical Correlation	Significance Of Correlation	Squared Canonical Correlation
1	2.04	0.82	0.000***	0.67

Source: Authors.. This table shows the discriminative function, the value of the characteristic root (Eigenvalue), the canonical correlation and its statistical significance. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$.

The ratio of 0.82 associated with canonical discriminative function was significant at a $p < .000$ value. The canonical relationship measures the relative strength of the relationship between the variables of lean manufacturing and group membership.

The second hypothesis is:

HO2: SMEs with slender archetypes do not establish a higher level of emphasis on the business strategies of response, time and cost of a statistically significant way that SMEs do not have the archetype.

Since lean manufacturing practices have been implemented in certain industries, especially in the automotive industry, studies have suggested these companies’ business strategies include a stable environment and a predictable rate of change as prerequisites for the implementation of lean manufacturing as shown in Table 7.

Table 7: Groups of Manufacturing and Business Strategy

Variables		Lean Manufacturing N = 69	Without Lean Manufacturing N = 60	T Test (Significance)
Business Strategy				
Cost	Average of Cluster Standard Error	0.20 0.08	0.02 0.09	-1.46 (0.15)
Time	Average of Cluster Standard Error	0.18 0.07	0.08 0.09	-0.92 (0.36)
Response	Average of Cluster Standard Error	0.22 0.08	-0.08 0.09	-2.48 (0.02**)

Source: Authors. This table shows the average manufacturing groups and the standard error of each of the three dimensions of business strategy. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$.

While the two archetypes differ in all three dimensions of business strategy, there is only one statistically significant difference which was the response $p < 0.02$. We found no statistically significant difference in business strategies in time and cost. This result seems to support the arguments of Schroeder (2001), who claims that a company can achieve changes for its culture or by changing their structure.

CONCLUDING COMMENTS

This research proposed and tested a configurational model of lean manufacturing. The research proposed that the pattern of implementation of five key elements of lean practices was cohesive and internally consistent. It presented conceptual archetypes depicting patterns of implementation of the elements of lean manufacturing at two extreme polar ends. One group was composed of companies that implemented practices from all elements extensively, lean archetype, and the other group was composed of companies that do not use lean practices extensively, non-lean archetypes.

Subsequent to derivation of profiles, two hypotheses were posited to evaluate differences between the two groups for organization level characteristics. Data collection and scale development were described in the methodology. Data were collected using a survey administered via e-mail. The data were divided into two parts for exploratory and confirmatory purposes. Exploratory factor analysis with CF-Varimax rotation was used to purify the measurement model for the constructs, which were subsequently examined with the validation sample using confirmatory factor analysis.

Lean manufacturing scales were used to classify the organizations into mutually exclusive groups using a two-stage cluster analysis. The cluster analysis resulted in a two-cluster solution. The two clusters were well separated on the five clustering variables, and the univariate ANOVA results indicated a clear distinction in the pattern of values for the clustering variables. The two-cluster solution was validated using discriminate analysis and the jack-knifing procedure.

The findings of this study is that ongoing changes in the global market, the evolvement of manufacturing technology and emerging management practices, offer manufacturing companies unparalleled strategic opportunities, as well as provides various administrative challenges. One of the biggest challenges is how to optimize manufacturing capabilities of enterprises. Manufacturing capabilities are difficult to develop and once these skills are developed, they are difficult to change.

The two-stage cluster analysis categorized manufacturing organization in two groups. The first group had high positive values on all five variables, indicating a high level of implementation of lean practices. The second group was characterized by high negative values on all five variables, implying relatively low implementation levels. The cluster analysis suggested that there were clear distinctions in the pattern of implementation of lean practices across organizations in Chihuahua, Mexico. Further, the archetypes suggest that manufacturing organizations in Mexico differ in the way they implement manufacturing practices and they have realized the systemic nature of lean manufacturing.

This research provides a theoretical perspective of the lean manufacturing concept and provides greater clarity to its elements. Additionally, this study provides a theoretical justification on the link of lean manufacturing with operational performance. One objective of this study was to determine if companies using lean manufacturing face faster phase changes of their external environment than nonuser companies.

A second objective was to determine the level of emphasis that SMEs that use the archetypes of lean manufacturing put on their business strategies of response, time and cost compared to SMEs that do not use it. To prove the first objective, lean manufacturing practices were grouped into five key variables that frame lean manufacturing systems and considered the deployment pattern of the five variables proposed. The research suggests the pattern of implementation of the five variables is internally consistent and can be derived empirically.

To test the second research objective, manufacturing profiles were compared among the companies selected with the characteristics selected in this study. The results link the manufacturing groups with the indicated manufacturing strategies, comparing companies with lean manufacturing with companies that do not have it.

The knowledge gained suggests that manufacturing companies differ in intensity of implementation of various manufacturing practices. However, the pattern of implementation of different practices was not sufficiently clear. The results obtained from this study provide a snapshot of the companies with lean manufacturing and shows how they differ from companies that do not have it. This study considers the empirical data collected from different theoretical perspectives and makes inferences that suggest administrative intervention. In particular, we emphasize the following contributions: The research

represents the first systematic empirical effort to investigate and characterize the implementation of lean manufacturing. Five key variables were used to represent the land of lean manufacturing. This provides a set of valid and reliable measures that can be replicated in future research on lean manufacturing systems. The multidimensional nature of lean manufacturing has been frequently addressed in academic literature, unfortunately, the absence of theory that could explain the systemic nature of lean manufacturing has impeded its progress. The results obtained in this research help fill this space.

This study also shows one effort to link implementation and non-implementation of lean manufacturing practices with different manufacturing and business strategies. Contrary to conventional knowledge, the results of this study suggest business strategies that involve companies using lean manufacturing to give the highest priority to customer response and market needs.

This study provides an opportunity for improvement and ideas for future research. In this sense, limitations and future research are presented together. This investigation is a first step in developing SMEs within a profile of lean manufacturing practices, by comparing and contrasting the relationship between companies with and without lean archetypes. We provide a framework to better adapt their practices. The current research does not suggest a causal link or a causal model. Because the data collected here was cross-sectional, it cannot directly address the question of whether implementing lean business practices leads to high performance.

Further, because there is a significant overlap in lean manufacturing and high performing companies, the direction of causality can be argued. This limitation suggests two directions for future research. First, collecting data from the respondents of this study to test for longitudinal performance effects for implementing lean manufacturing. This process will provide an answer to the question of causality posed above. Second, it would be of utmost interest to examine how high performing organizations differ from the rest of the companies in their pattern of lean implementation and in their strategic and behavioral characteristics. Future research can design a model that includes multiple relationships simultaneously with the relations of several constructs of the present investigation. Future research should also be conducted to replicate the results of this study.

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CLUSTER ANALYSIS OF LUXURY BRANDS ON THE INTERNET

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ABSTRACT

This paper examines the way luxury brands use the Internet in their communication strategy. The research is based on a literature review of luxury brands and Internet concepts as well as the way luxury brands use the Internet as a media. The paper develops an analysis grid based both on academic and managerial perspectives. A content analysis of web sites is realized to propose a typology of luxury brands in four categories: Traditional E-shops; Artistic E-shops; Luxury Interactive; Traditionalists.

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KEYWORDS: Internet, Luxury Brands, Typology, Web Sites

INTRODUCTION

Despite luxury sector success in 2010 (Xerfi, 2011), conciliating luxury and Internet is a growing necessity to ensure supplemental income sources. Today, more than 30% of the 77 Colbert Committee brands offer e-commerce. According to Xerfi (2011), the increasing presence of luxury brands on the Internet, through the creation of their own website or on multibrand websites, provides evidence that reconciling the Internet and luxury is possible, desirable and even unavoidable. This reality has resulted in wide advances in the literature regarding this field of study. The first articles related to the Internet as a communication tool for luxury brands were published in the late 90's (Nyeck and Houde, 1996; Nyeck and Roux, 1997). At that time, there was a shared reluctance to use this method from both the luxury brand manager and consumer's point of view.

Nyeck and Houde (1996) nevertheless underlined the importance and growth of Internet media, and pinpointed the necessity of integrating the Web into communications strategies. Little research was conducted on this subject in the following years (Dall'Olmo Riley and Lacroix, 2003; Seringhaus, 2005). Study conclusions highlight that managers saw the Internet as an inevitable development for their brand, offering both opportunities and threats. Regarding websites content analysis (Nyeck and Houde, 1996; Dall'Olmo Riley and Lacroix, 2003), studies revealed that website suffered from a lack of interactive functions and originality, with the focus set on brand image only. More recently, the question of luxury brand e-commerce was raised (Seringhaus, 2005; Kapferer and Bastien, 2008; Okonkwo, 2009). Authors agreed on the inappropriateness of this channel regarding luxury products. Moreover, the behavior of the brands on the Internet is far from homogeneous. Some use e-commerce (Louis Vuitton, Tiffany), others use interactive tools (Chanel, Cartier) and others are still "passive" actors with websites simply displaying images such as Fendi or Versace. This research examines how luxury brands use Internet tools in their communication strategy, despite earlier reservations of its efficacy. The study objective is subdivided into two sub-objectives on base of which we will build our research process.

O1 : Identifying online luxury brand communication strategies;

O2: Creating a typology allowing classification of luxury brands regarding their online communication behavior.

The paper is organized in the following way: first, a literature review focusing on luxury brands is realized. Communications concepts in luxury and more particularly the use of Internet tools are examined. Secondly, we explain the methodology and data collection. An analysis grid is implemented to audit the luxury brands Websites. Then, a principal components analysis is completed, followed by cluster analysis performed on data collected from the audit. This allows a classification of luxury brands according to their behavior on the Internet. Finally, the results of the research are discussed and study limitations are identified.

LITERATURE REVIEW

The luxury brand is consubstantial with the luxury product but not with the luxury concept which is abstract (Kapferer and Bastien, 2008:151). The luxury brand was defined according to several perspectives. The economic vision of the luxury brand was developed by Mc Kinsey (1990) who defined luxury brand as that being at the top of the price pyramid, by category of products. Prices are appreciably higher to products presenting comparable tangible features. Rather close to this very pragmatic vision, Nueno and Quelch (1998) as well as Dubois and Laurent (1993) consider luxury brands in a descriptive way with concepts such as the functional utility, price and the socio-demographic characteristics.

Kapferer (1998) criticized Mc Kinsey's definition (1990), and blamed it for not dissipating confusion over the minimum threshold below which we exit the luxury category (Phau and Prendergast, 2000). This can also be said regarding definitions proposed by Nueno and Quelch (1998). In the dichotomous perspective of luxury, the authors define luxury brands by contrast to non-luxury brands (Lipovetsky and Roux, 2003), because any specificity defines itself by difference. In their first works, Vigneron and Johnson (1999) defined the specific difference between a prestigious brand and non-prestigious brand.

In 1899, Veblen, in his famous "Theory of Leisure Class", argued we cannot classify products/brands in luxury or non-luxury categories. These must be examined in their socioeconomic context. He indicates luxury means the most desirable socially. This dichotomous perspective set the luxury brand against the non-luxury brand. Nueno and Quelch (1998) went further by integrating the concept of continuum into luxury by arguing that not all luxury brands are equal. A brand can be a luxury brand in certain product categories and not in others (Kapferer, 1996; Vigneron and Johnson, 2004). Research on luxury can further integrate concepts of needs and symbolism. This is called the "symbolist perspective of the luxury". Indeed, there is tacit agreement in the literature to define luxury products as products for which the simple fact of using them give the owners special status above the functional utility of the product itself. The product satisfies both functional and psychological needs and it suggests these psychological benefits provide the key distinction between luxury products and non-luxury products or counterfeits (Vickers and Renand, 2003). According to Roux (1991, 1996), a luxury brand is characterized by a symbolic, imaginary or social added value, which differentiates it from other brands. The luxury brand meets symbolic needs because it has a strong image, remains consistent in all its components, conveys asserted values and shares an ethics and an aesthetic with the consumer.

The second part of our concern is the Internet. The Internet is not only a means of communication, but it also an unprecedented phenomenon in history. The Internet is an important part of brand communication strategies for ordinary consumer goods as well as luxury products (Dall' Olmo Riley and Lacroix, 2003). With increases in the number of brands specific websites, an increased interest in the literature has been recorded (Chen, 2001; de Chernatony, 2001). The Internet has specific characteristics. We note specifically the interactivity (Hoffman and Novak, 1996; Ind and Riondino, 2001; Chaffey and al., 2003), the intelligence (Chaffey and al., 2003), the individualization (Chaffey and al., 2003), the speed and the accessibility, the absence of contact (de Chernatony, 2001), and the loss of control (Viot, 2009). These characteristics make the Internet an adapted channel of distribution and communication to the mass audience (Okonkwo, 2009) and consequently we understand the reluctance of luxury brands to use it.

If we confront these characteristics with those of the marketing of luxury brands, it is obvious that they are not compatible. The features of both concepts are highlighted regarding the communication and the distribution perspectives in Table 1.

Table 1 : Luxury Features Versus Internet Characteristics

Luxury Marketing Features	Internet Features
<p>Communication: Elitist support, limited use of mass media, events, sponsoring etc. (Allières, 1991,1997 ; Chevalier and Mazzolovo, 2008)</p> <p>Distribution: (Allières, 1991, 1997 ; Okonkwo, 2009) Point of sale experience, Service, Consumption experience, individualized sales, Only in prestigious venues or Capital cities Price rarely displayed</p>	<p>as communication tool: Very wide target → few or no targeting Globally accessible (Chaffey et al., 2003 ; Okonkwo, 2009)</p> <p>As distribution channel: international, accessible, few or no contacts, limited service, limited buying experience → focus is set on consumption experience (Chaffey et al., 2003 ; Okonkwo, 2009)</p>

Table 1 shows the antagonism between the internet and luxury concepts. The Internet is dedicated to the mass market and luxury brands are reserved for the elite. We can understand the reluctance of luxury brands to integrate Internet in their communication strategy and furthermore as a distribution channel. The risk of devaluating the brand image can be perceived as high.

To pinpoint the challenges of introducing the Internet to brand management, A.T. Kearney developed the theory of the 7C’s which aims at creating a high impact digital consumption experience (Atwal and William, 2009). The following categories are to be considered: Content, Customization, Customer care, Communication, Community, Connectivity and Convenience. Constantinides (2004) describes the Web experience according to three major factors: Functionality, Psychology and Content. We highlight in Table 2 the key elements of the digital experience in the field of the luxury: the brand identity and its aesthetics, the usability and the interactivity.

Table 2: Key Elements of the Digital Experience of the Luxury Brand

Brand Identity & Aesthetics	Usability	Interactivity
Online consistency (Ind and Riondino, 2001) Design/Aesthetics (Isaac and Volle, 2008) Level of service (Constantinides, 2004) : Product (Personalization) (Clauser, 2001) Price (Chen, 2001) Place (E-commerce) (Okonkwo, 2009) Trust (Constantinides, 2004) Communication (Larbanet and Ligier, 2010)	Functionality (Chen, 2001) Rapidity (de Chernatony, 2001) Search engine/ accessibility (Chen, 2001 ; Isaac and Volle, 2008)	Communities (Casaló et al., 2008) Interaction with the brand (Constantinides, 2004)

This table highlights the key elements of the digital experience in the field of the luxury brand .3 major factors have been identified to implement an Internet Strategy when it comes to luxury brands: Brand Identity and Aesthetics, Usability and Interactivity. This table highlights the importance to re-create the luxury experience online in order to protect luxury brand image.

In conclusion, it appears there is a clear division between the academic considerations to moderate the use of the Internet as a communication tool for luxury brands and their effective presence on-line. An audit of luxury brand websites has now to be completed to bring about a better understanding of the positions adopted by luxury brands on the Internet.

DATA AND METHODOLOGY

In this research, our main interest is understanding how luxury brands utilize the Internet as a communication tool. To do so, content analysis of selected websites were undertaken, applying classic data analysis techniques. First, qualitative data such as the marketing-mix used within sites, technologies implemented to create Web interactive and quality interfaces, were collected. For this purpose, we built an analysis grid allowing us to score web sites. Second, all the sites listed in our sample were audited to proceed to the data analysis. Our empirical research is based on a web sites audit. An analysis grid, based

on an iterative process consisting of round trips between the literature, the ground and the experts, was created. First, a rough draft was established, taking into account the completed literature review. Pretesting was then conducted on variables initially retained on a selection of luxury brand websites providing the grid with additional observations. Next, we analyzed the grid implemented by Pr. S.Galloway (NYU) to establish the websites scoring. This stage provided the opportunity to complete and correct our original grid. Finally experts'opinion were asked regarding the completed grid. These experts were from such luxury brands as Chanel, Van Cleef and Arpels, Francis Ferent, Delvaux and from Internet communication agencies like Emakina, SCS and Genius. Following their recommendations, analysis grid was improved and finalized.

During the websites audit, the assessment method consisted of a binary coding processes, which estimates either the presence (1) or the absence (0) of the variables tested. This technique presents a major interest for the objectivity of the research undertaken. Indeed, whatever the researcher is analyzing, identifying whether the variable is present or absent is an objective fact. It confers on the analysis the characteristic of inter-coder reliability or of reproducibility (Gavard-Perret et al , 2008: 274). The coding results are comparable between two coders within the framework of a qualitative approach.To maintain a systematic approach and avoid certain sectorial biases effects, the research focused on brands belonging to " personal luxury goods ". This sector includes ready-to-wear clothing, leather accessories and watchmakers and/or jewelers. A set of luxury brands was first listed in the personal luxury goods sector. To this end, French luxury brands listed by the Colbert committee and those listed in the top 15 " luxury brands " of Interbrand (Interbrand, 2008) were used.Then, brands belonging to famous luxury groups were included: LVMH, PPR-GUCCI and PERNOD RICARD.

Finally, these lists were completed with the brands often referred to in the literature, retaining only those from the personal luxury goods sector. Authors whose work focused on and provided a clear vision of the brands belonging to this luxury industry were chosen (Phau and Prendergast, 2000; Dubois and Laurent, 1993; Dubois and Paternault, 1995; Kapferer and Bastien, 2008; Lipovetsky and Roux, 2003; Okonkwo, 2007, 2010; Chadha and Husband, 2006). Furthermore, authors from different origins were chosen, thus ensuring the international recognition of the selected brands.The final sample included 78 luxury brands websites, as listed in Table 3. The data collection from the website audit of the selected sample with the analysis grid lasted four weeks and took place between 01-10-11 and 01-11-2011.Once all the data was collected, the analysis was conducted using the SPAD software. According to the variables used, the appropriate exploratory approach varies. Jolliffe (2002) indicates that a Principal Components Analysis (PCA), built to handle continuous data, can be used on qualitative data. It is necessary to note the PCA of binary variables provides the same results as the Multiple Correspondences Analysis (MCA) (Meyer and al., 2010). The principal components analysis aims at identifying, from a set of k variables, an underlying structure in the collected data. If such a structure exists, identifying it allows us to simplify the gross information contained in a database, by substituting in k initial variables, a smaller number of m factors. These factors are trained by linear combinations of the initial variables (Gavard-Perret and al., 2008).

Once the principal components analysis was conducted, the cluster analysis was completed using the factors resulting from the principal components analysis (by default SPAD retains the first ten factors). In terms of proximity measure, the distance usually used is the Euclidian distance (Thiétart et al., 1999; Gavard-Perret et al., 2008; Jolibert and Jourdan, 2011), it is also the one used by SPAD. Based on the hypothesis, that an individual can only belong to a single group, methods of partition were applied, simplifying the analysis of the obtained results (even if it could provoke a certain data structure distortion). Polythetic methods were chosen, forming groups based on the proximity of the subjects. All variables retained for the typology were taken into account to establish the distance between the subjects (Gavard-Perret et al., 2008; Jolibert and Jourdan, 2011).Within the polythetic methods, SPAD, by default, applied the hierarchical ascending classification, because the number of groups to be obtained was not

fixed in advance. The algorithm used by SPAD is Ward, which is one of the most precise methods when an indicator of Euclidian distance is used (Jolibert and Jourdan, 2011).

Table 3: Brands Listed in the Sample

Brands'origin				
Country	Ready-to-Wear/Leather Goods		Jewelry/watchmaker	
	Group	Independant	Group	Independant
France	Louis Vuitton	Hermes	Boucheron	Lorenz Bäumer Joailler
	Céline	Chanel	Breguet	Mellerio
	Chloe	Lanvin	Cartier	Bell & Ross
	Lancel	John Lobb	Chaumet	Mauboussin
	Givenchy	Lacoste	Fred	
	YSL	Leonard	Van Cleef & Arpels	
	Dior	Longchamp		
	Azzedine Alaia	Balmain		
		Pierre Hardy		
		Pierre Cardin		
		Christian Lacroix		
		Karl Lagerfeld		
		Chhristian		
		Jean Paul Gaultier		
	Sonia Rykiel			
	Nina Ricci			
	Gucci	Ermenegildo Zegna	Officine Panerai	Bulgari
	Bottega Veneta	Armani		
	prada	Versace		
	Salvatore Ferragamo	Dolce & Gabanna		
	Emilio Pucci	Ferré		
	Fendi	Valentino		
	Stefanobi	Missoni		
	Berluti	Roberto Cavalli		
	Sergio Rossi			
	Stella McCartney	Burberry	Baume et Mercier	Patek Philippe
	Dunhill	John Galliano	IWC	Rolex
	Alexander Mc	Paul Smith	Roger Dubuis	Omega
	Thomas Pink	Jimmy Choo	Jaeger Lecoultre	Chopard
			Tag Heuer	Audemars Piguet
			Zenith	
			Hublot	
			Piaget	
			Girard Perregaux	
			Vacheron	
			De Beers	
	Marc Jacobs	Ralph Lauren		Tiffany&co
	Donna Karan	Calvin Klein		
		Coach		

In this table, all the brands that were audited through the analysis grid are listed. Those brands are from 3 sectors: Ready-to-Wear & Leather goods, Jewelry and Watchmaker. They are from 5 different countries considered the birthplace of luxury: France, Italy, UK, USA and Switzerland. Some brands belong to Luxury group and others are independent.

EMPIRICAL RESULTS

After having established that variables were factorisable by examining the values tests matrix, and examined the communities table to make sure that these were equal to at least 0.5, a principal components analysis was undertaken. The KMO equals 0.665, and is considered satisfactory according to Jolibert and Jourdan (2011). The Barlett test of sphericity is also significant (approximate Chi-square = 1,025.253; Ddl = 300). Thus, no rotation was performed. Regarding the number of factors retained, the criterion of explained variance was used. This method led to retaining two factors, corresponding to 36.04 % of the restituted variance. However, an additional factor was retained to increase the variance. This amounted to 42.76 % of the restituted variance, a more satisfactory result. This was confirmed by use of the Catell criterion, which also requires the preservation of three factors.

Table 4 shows components matrix analysis. The correlations between variables and factors indicates the extent to which every initial variable finds itself in each factor, allowing interpreting axes in the following manner: Factor 1 (26.11 % of restituted variance) is related to the E-shopping aspect of the website, namely if the website has an E-Shop and related features such as the possibility to return the product, various delivery services, after-sales service etc. Factor 2 (9.93 % of restituted variance) represents the Interactive aspect of the website, namely if the site proposes interactive interfaces such as privileged access to a club, RSS feeds, forum etc. Factor 3 (6.72 % of restituted variance) represents the usability of the website in particular the ease and speed with which the Internet user is able to find the information which he is interested in.

Table 4 : Components Matrix Or Variable-Factor Correlation

Components	Factor 1 26.11%	Components	Factor 2 9.93%	Components	Factor 3 6.72%
E-shopping	0.942	club/privileged access	0.669	Easy access to information	-0.611
Product return	0.924	Product sheet	0.548	Forum	0.550
Product prices	0.882	RSS feeds	0.540	Brand Interaction	0.496
Contact means	0.858	Forum	0.515	Wishlist	0.421
Integrated E-shopping	0.853	Mobile Application	0.464	Music	0.348
SAV	0.774	Brand Interaction	0.393	Newsletter	0.323
Various delivery services	0.566	Social website links	0.341		
Wishlist	0.521				
Newsletter	0.475				
Search engine	0.470				
Online Exclusivity	0.456				
Product sheets	0.442				
Products Personalisation	0.356				

This table identifies the 3 factors retained through the principal component analysis, and explaining together 42.76% of the restituted variance. Factor 1 is mainly explained by items related to E-shopping; Factor 2 is related to interactive items; Factor 3 is explained by items illustrating the usability of the website.

According to Jolibert and Jourdan (2011) interpretation of the aforementioned factors which leans towards a theoretical approach familiar to the researcher, is the best method in reaching a final decision. SPAD identifies partitions by using an automatic search for the best partitions and improves them by applying mobile center iterations called consolidation. According to Table 5, the process results in a partition of four classes.

Table 5: Four-Class partition

Class	Size	Weight
1	33	33.00
2	6	6.00
3	16	16.00
4	23	23.00

Table 5 illustrates the partitions obtained through cluster analysis. Four classes have been identified. The first class is composed of 33 brands., The second has only 6 but is still of interest. The third has 16 and the fourth has 23.

As identified in Table 5, classes 1 and 4 provide significant sizes 33 and 23 notably, whereas classes 3 and 2 provide inferior numbers, with the latter reaching only 6. The weights of the classes are identical to the sample sizes because all the sites have a weight equivalent equal to 1. The intra-classes inertia quotient calculated after consolidation of the partition is 0.45 %, which is considered satisfactory for an exploratory research (Thiéart et al., 1999).

CLASS 1 : Traditional Eshops: The 33 websites constituting Class 1 offer an E-shopping service. A majority accepts product returns and provides customers with the possibility to contact the company. Generally, the E-shop is integrated into the website, eliminating the need to open a new window. All the Class 1 websites offer customer service, however, only half propose various delivery options. Most offer the opportunity to place products in a "wishlist" independent of the purchase basket. This option allows

customers to show their preferences for certain products and also refer them to their contacts as gifts idea for example. Further, several websites offer online exclusive products together with detailed product descriptions including different views and characteristics of the product. In terms of interactivity, all the sites propose a newsletter. However, no other variable of interactivity significantly defines this class.

Regarding usability, the Class 1 websites are straightforward, with access to information readily available. Furthermore, a site map is provided in a majority of the sites, facilitating the Internet user's search. The Class 1 websites comprise of luxury brands offering a user-friendly, on-line purchasing experience, albeit with an average level of interactivity. In this category, the brand aesthetics are visible and the codes of the luxury are respected. Nevertheless, emphasis is put on the E-shopping aspect while maintaining traditional communication codes. The results of the cluster analysis regarding Class 1 are highlighted in Table 6. This table shows the characteristic variables inherent to the first category.

Table 6: Class 1 Characteristic Variables

Test V.	Proba	Mean		Characteristic Variables Name
		Class (Weight – 33.00)	General (Size – 33)	
7.32	0.000***	1.00	0.51	14. E-SHOPPING
7.06	0.000***	0.97	0.50	22. PRODUCT RETURN
6.87	0.000***	0.97	0.51	17. CONTACT MEANS
6.47	0.000***	0.85	0.42	15. INTEGRATED E-SHOPPING
6.41	0.000***	0.94	0.51	12. PRODUCTS PRICE
5.31	0.000***	1.00	0.67	23. CUSTOMER SERVICES
4.86	0.000***	0.48	0.22	21. VARIOUS DELIVERY SERVICES
4.35	0.000***	0.64	0.36	39. WISHLIST
3.70	0.000***	0.27	0.12	16. ONLINE EXCLUSIVITY
3.04	0.001**	1.00	0.86	10. PRODUCT SHEET
2.86	0.002**	0.94	0.78	32. NEWSLETTER
2.54	0.006*	1.00	0.90	30. EASY ACCESS TO INFORMATION
2.38	0.009*	0.61	0.45	31. SITE MAP

This table shows the variables that highly characterized the class 1 Traditional E-shops. All the variables related to the presence of an E-shopping on the website are significantly represented in this category. *, **, *** indicates the level of significance at the 10, 5, 1 percent level respectively

As illustrated here below, the Traditionalist E-shops are essentially represented by ready-to-wear clothing and Leather Goods brands, with 87,88 % of the Class 1 websites active in this sector. However, the Swiss and watch-making brands (which are often one in the same) have a significantly lower representation in the Class 1 framework. Table 7 presents the illustrative variables of the Class 1 websites.

Table 7: Class 1 Illustrative Variables

Test V.	Proba	Percentage		Global	Modality	Variables name
		Cl/Mod	Mod/Cl			
3.81	0.000***	59.18	87.88	42.31	CLASS 1/4	Sector
-3.19	0.001**	6.25	3.03	20.51	SWISS	Brands Origin
-3.81	0.000***	13.79	12.12	37.18	JW	Sector

This table shows the illustrative variables of the Class 1. The ready-to-wear sector is highly represented in this category. By contrast, the Swiss brands of Jewelry or Watchmaker are significantly less represented in Class 1. **, *** indicates the level of significance at the 5, 1 percent level respectively

CLASS 2: Artistic E-shops: The Class 2 category also includes websites that offer E-shopping services, however, unlike its predecessor, information is not readily available and the sites are difficult to use. Class 2 is characterized by its extremely weak “Easy Access to Information” variable. Despite its limited size, Class 2 provides an interest regarding its usability. Although the Class 2 websites prove to adhere to the importance of aesthetics very much valued in the luxury sector, they neglect to appreciate the

significance of clarity for its users. Cautious of damaging their brand image by establishing an E-shop, the emphasis is put on creating an aesthetic website rather than a functional one. With an average level of interactivity, this category does not distinguish itself from the previous one. Regarding the illustrative variables, no variable is significant.

CLASS 3: Luxury Interactive : The Main Characteristic Of This Class Is That No E-Shopping Service Is Provided. Rather, Communication Is Key; Promoting Interaction With The User By Exploiting The Possibilities Offered Through The Web 2.0. Class 3 Is Characterized By Interactivity Variables. Indeed, The Sites Have Rss Feeds, Forums And Clubs With Open Or Limited Access To Privileged Customers. These Variables Are Characteristic Of The Interactive Aspect And Translate A Will Of The Brand To Use The Internet As A Platform Where Communication Is Bilateral. The Brand Gives Information To Its Internet Users But Also Collects It.

Class 3 websites are comparable with those of Class 1, in that both have an average level of usability. Most websites in this category also have a search engine. These brands do not choose to sell on-line but are not "passive" actors either. The Internet is used for interactivity and this aspect is more developed than on the websites belonging to the Traditionalist E-shop class. Indeed, while the latter has an average level of interactivity, a high level categorizes Class 3. The illustrative variables show that Class 3 is widely represented by jewelry brands with 93.33 % of the luxury interactive websites representing Jewelers/watchmakers. Furthermore, this class is widely constituted by Swiss brands, which is logical considering all the Swiss brands in the sample are watch-making brands. By contrast, only 6.67 % are active in the ready-to-wear clothing sector.

CLASS 4 : Traditionalists: Most sites belonging to Class 4 do not provide an E-shopping service. The characteristic variables including price display, customer service, possibility to return the product or a means to contact the company are limited or, in some cases, absent. Furthermore, a very small number provide the option to create a wish list. Class 4 websites have a low level of interactivity, as reflected by the variables "mobile application" and "product customisation". They have no means of interaction with the consumer and are limited to traditional communication functions; Since the 2.0 features have not been applied, the Internet is only used as "basic media" without further utility. Regarding usability, no significant difference can be identified between Classes 1 and 3. Class 4 websites have no search engines and the site maps are used infrequently. It may, therefore, be inferred that the level of usability of Class 4 websites are inferior to Classes 1 and 3 but superior to Class 2. No illustrative variable have proven to be significant characteristic of Class 4. Class 4 websites are considered traditional, given their position of using the Internet solely as a channel of enhancing brand image. With the absence of E-shopping services and customer interactivity, it is clear the emphasis is put on aesthetics, a core value of the luxury industry. The characteristic variables of Class 2 to 4 are highlighted in Table 8.

Table 8: Class 2, 3 & 4 Characteristic Variables

artistic e-shops characteristic variables				
Test v.	Proba	Mean	Characteristic Variables	
		Class	General	Name
	class 2/4	(weight size – 6)	– 6.00	
2.53	0.006*	1.00	0.50	22. Product Return
2.47	0.007*	1.00	0.51	14. E-Shopping
2.47	0.000***	1.00	0.51	12. Product Price
-7.49	0.000***	0.00	0.90	30. Easy Access To information
luxury interactive characteristic variables				
Test v.	Proba	Mean	Characteristic Variables	
		class	general	name
	class 3/4	(weight size – 15)	– 15.00	
3.65	0.000***	0.33	0.09	35. rss feeds
3.27	0.001**	0.53	0.22	33. club/privilege access
2.68	0.004**	0.80	0.49	29. search engine
2.38	0.009*	0.20	0.06	38. forum
2.35	0.010	1.00	0.77	26. news/event
-3.67	0.000***	0.00	0.42	15. integrated e-shopping
-4.28	0.000***	0.00	0.50	22. product return
-4.39	0.000***	0.00	0.51	14. eshopping
-4.39	0.000***	0.00	0.51	12. products price
-4.39	0.000***	0.00	0.51	17. contact means
traditionnalists characteristic variables				
Test v.	Proba	Mean	Characteristic Variables	
		class	general	name
	class 4/4	(weight size – 24)	– 24.00	
-2.37	0.009*	0.04	0.21	36. mobile application
-2.62	0.004**	0.00	0.17	11. products personalisation
-2.83	0.002**	0.21	0.45	31. site map
-3.00	0.001**	0.04	0.27	18. faq
-3.09	0.001**	0.00	0.22	21. various delivery services
-3.87	0.000***	0.04	0.36	39. wishlist
-4.00	0.000***	0.50	0.78	32. newsletter
-4.54	0.000***	0.13	0.51	12. product price
-4.54	0.000***	0.13	0.51	17. contact means
-4.63	0.000***	0.58	0.86	10. product sheet
-5.01	0.000***	0.00	0.42	15. integrated e-shopping
-5.36	0.000***	0.04	0.50	22. product return
-5.51	0.000***	0.04	0.51	14. e-shopping
-5.70	0.000***	0.00	0.49	29. search engine
-6.72	0.000***	0.13	0.67	23. customer services

This table shows the variables that highly characterized Class 2, 3 and 4. Artistic E-shops have an E-shop but the variable “easy access to information” is particularly weak regarding this category implying a lack of usability. Regarding Luxury Interactive, there is no E-shop in this category but all the variables related to interactivity of the website are significantly represented in this category. As far as Class 4 is concerned, no E-shopping is performed and variables of interactivity are particularly low for this category, which means that sites of this category are only communication support. *, **, *** indicates the level of significance at the 10, 5, 1 percent level respectively

RESULTS DISCUSSION

After completion of the principal component analysis, three factors were considered: E-shopping, interactivity and usability as exposed in Table 2. These factors are linked to the three key elements ascertained in the literature review: brand identity and aesthetics, usability and interactivity (Constantinides, 2004; Okonwo, 2010), highlighted in the Table 2. Interactivity and usability are directly related to 2 factors we have identified (axes 2 and 3), whereas the main factor, E-shopping, is related to one specific component of the axis brand identity and aesthetics.

The key elements identified in the literature review are considered essential components when analysing websites. However, it must be considered that since all websites use the Internet as a communication tool, the defining difference is not the transfer of the brand on-line but the website’s overall performance for retail purposes through the presence or absence of an E-shop. The research constituted in drawing up a

typology of luxury brand websites. These have implications in terms of theoretical and managerial perspectives. In the literature review, it was noted that many luxury brand typologies have been proposed from a theoretical perspective (Allères, 1991; Castarède, 1992; Kapferer, 1998; Twitchell, 2002; Sicard, 2003; Vernier and Ghewy, 2006). By way of reminder, it was previously accepted that a luxury continuum exists, as well as the coexistence of several levels of luxury within the continuum itself. The problem met with these types of theories is that they raise the following question “to what level of luxury does each brand belong? There is limited consensus in this regard. Moreover, according to Kapferer (1996), Vigneron and Johnson (2004), the level of brand varies depending on the category of its product. Returning to the example of Chanel, while it is at the top of the pyramid regarding its haute couture and exclusive jewelry products, its positioning is considerably lower when assessing its cosmetics and sunglasses. The typology in this research focuses on brands using their websites as part of their communications strategy. Four categories were identified based on three discriminate key elements: E-shopping, interactivity, and usability.

Unlike the previous results, this typology does not require tackling the challenging problem of defining the luxury level. In this case, the classification is defined by examining the three key elements of the website. Flores and Volle (2005) have also proposed a classification of brand websites to achieve the best possible understanding of the use a brand could make of it. For this purpose, five types of websites were identified (corporate, relational, promotional, tribal and transactional site). As this classification is dealt with from a generalist perspective, it was more difficult to apply it to this particular case of luxury brands. With that said, there are obvious similarities between the two. Indeed, the E-Shopping aspect is a characteristic feature in both cases. However, this study delves deeper in that it differentiates Traditionalist E-shop websites from Artistic E-Shops, which have a rather ineffectual usability factor.

Furthermore, the key element of usability is lacking in the generalist classification proposed by Flores and Volle (2005), which seems inappropriate since this concept is considered essential in the literature review (Constantinides, 2004; Okonkwo, 2010). Comparisons may also be made between the Traditionalists category and the “institutional websites” class pinpointed by the both authors (Florès and Volle, 2005), since both act as a simple communications platform presenting the brand and its products.

Finally it can be stated that the Luxury Interactive class may be found, to a certain extent, in both relational and tribal classes, due to its interactivity characteristic. The difference lies again in the luxury specificities, as the interactive aspect is under control, much more than in mass market brands. In this analysis, no brand community has led to an official website linked with the brand website. To date, on-line communications strategies considered from a theoretical point of view have been neglected in the literature. It was thus deemed important for this paper to shed light on this subject matter. The typology provided helps to recognize different types of E-Shopping websites available and also get a grasp of usability and interactivity levels. This study has the advantage of being complete and well adapted to the specificities of the investigated industry. However, implications of this typology should be considered not only at a theoretical but also at a managerial level.

It must be stressed that the typology does not aim to determine the characteristics of a “good” luxury website. It enables us to place a communicational strategy in relation to others with each category’s inherent strengths and weaknesses. This is of fundamental interest to the luxury brand, as it allows it to situate itself amongst the four classes with a view to appreciating which aspects should be focused and improved upon. This typology also allows the brand to situate itself amongst direct competitors, providing it with the opportunity to compare and evaluate its communicational strategies against those pursued by competitors. Even though luxury is deemed superlative and, not meant to be compared (Kapferer and Bastien, 2008), it is clear that just like any other brand, it is market-driven, and the actions of one can affect the other. Moreover, it is likely that luxury brands establish themselves on the web by imitating each other, despite warnings from literature. Once the Internet was engaged by one luxury

brand, it opened the floodgates of online presence from its counterparts. It should also be noted that none of the four identified classes incorporate both the E-shop and interactivity characteristics. There might exist an opportunity in this respect. Luxury brands that want to differentiate themselves can use the typology in order to identify a new market position that combines, for example, the presence of E-shops as well as a high level of both interactivity and usability. Thus, as a tool, the typology provides a challenge by reconsidering online strategies from an internal perspective.

CONCLUDING COMMENTS

The aim of this paper was to understand how luxury brands use the Internet tool in their communication strategy. Our research process is built on a twofold objective. First was to identify online luxury brands communication strategies. This objective was reached by the content analysis of Websites, highlighting strategies based on three axes: E-shopping, Interactivity and Usability. These strategies vary according to how the brand combines the different axes. Secondly we aimed to create a typology allowing to classify luxury brands regarding their online communication behaviour. This objective was reached by the definition of a typology in four classes based on three axes of actions of websites. The following naming was proposed for these four categories: Traditionalist E-shops; Artistic E-shops; Luxury Interactive; Traditionalists. As far as methodology is concerned, a content analysis was first made on luxury brands websites then a principal component analysis was conducted and then a cluster analysis has been performed. Table 9 described the identified typology according to the 3 factors highlighted in the principal components analysis. The results of the cluster analysis show that two of the four identified categories have E-shopping while the two others do not. The level of interactivity is significantly higher in class 3 and the level of usability is significantly lower in class 2.

Table 9: Key Elements Structuring the Principal Component Analysis

Category	Eshop (F1)	Interactivity (F2)	Usability (F3)
Traditionalist E-shops	Yes	Medium	Medium
Artistic E-shops	Yes	Medium-Weak	Weak
Luxury Interactive	No	High	Medium
Traditionalists	No	Weak	Medium-Weak

This table is summarizing the four classes identified on the three factorial key elements structuring the principal component analysis. This table highlights the specific features of each category. Two of them do have E-shopping but the level of usability is different. The Class 3 is defined by a high level of interactivity and the Traditionnalists class do not have an E-shop neither interactive features.

Of course, this research is not boundless. Limits are methodologically related to the exploratory nature of the data analysis. In fact, the research undertaken is in a field where literature is lacking and its purpose is to clarify the situation rather than attempting to explain it with cause-effect relationships. Identifying online communication strategies of luxury brands constitutes a first step in better understanding this subject matter. With respect to the sample, brands belonging to three sectors: ready-to-wear, leather and jewelry/watch making were selected. It is understood that once applied to several other sectors, the study could lead to the creation of additional categories. It should also be noted that websites must be considered units of research and are in constant flux. Therefore, the results provided are time restrained.

The descriptive character of our research could be seen as a weakness. Indeed, this research is based more on the “how” and the specific depiction of the relevant subject matter rather than an all-inclusive explication of a phenomenon. However, given the current literature state, this perspective should not be considered as a weakness but a necessary step in building theoretical foundations, which may later form the subject of research of an explanatory nature. A future path of research could reproduce this study several times a year in order to get a longitudinal perspective of the results. As these brands are fashion related, every new fashion season could be a time of interest to re-conduct the study. As much as fashion luxury brands are interesting, other luxury sectors could be investigated such as services and might lead to other classes for the typology. Finally we have neglected all aspects related to social and mobile

marketing in the analysis grid. These elements could be added to improve the classification. In conclusion, the identification of limits leads to the assumption that there remains a relatively significant potential for investigation in this field. In a fragile economic climate when luxury brands are the only ones in good financial health, it is likely that it will still raise many new questions.

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ORGANIZATION DESIGN AND PERFORMANCE: EVIDENCE FROM INDIA

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ABSTRACT

Research on organization design, its transformation, change management, organizational restructuring for the last two decades makes it a challenging and complex research area. The central problem is to design organizations for superior performance on the basis of mechanisms such as uncertainty, differentiation and integration. The design-performance relationship is also dependent on the business environment as well as the business sector. This study examines the Chemical; Petro-chemical Process Industry; Agricultural related Industry; Processed Food Industry and Bio-Chemical related Industry. It is important to understand the measures of organization design parameters on the performance of the organizations. The objective of this study is to identify homogeneous groups present in the sector to develop a mathematical functional form for establishing the relationship between organization design parameters and performance. It is also intended to examine differences across the groups with respect to the strength of design parameter influence and organizational performance.

JEL: D23

KEYWORDS: Organization Design, Performance, India, Chemical Sector

INTRODUCTION

Organizations, in general, are complex. They are economic entities as they must acquire various human, financial, material and managerial resources. They allocate the resources in an efficient and effective way. The organization, as a social system, has to interact with external entities constantly. Organizations have internal systems and processes which have specific norms and rules, ideals, values, beliefs and practices that govern their behavior. Within the organizations, people interact daily and have specific skills, values, feelings, motivation and feelings. All organizations must maintain their external and internal consistency for growth, sustenance and development.

Given organizational complexity, designing and managing effectively any sizeable organization anywhere is a daunting task (Khandwalla, 1992). It is more difficult in Third World Countries. The reasons for this are many, such as operating environment, shortages of resources, political and bureaucratic interference, and lack of social and physical infrastructural facilities etc. Within these constraints, the achievement of organizational excellence requires specific strategies. The strategic choices also depend on the nature of organizations, their size and also on their operating environment.

The discussion of organizations and its excellence, in this research paper, has specific context. Liberalization of the Indian economy for the last two decades makes it highly dynamic and complex. During the past two decades, India has been moving from an insular, command and planning oriented economy towards an increasingly liberalized, globalized, and market oriented economy (Ray, 2004). India becomes is one of the largest emerging markets with huge potential for sustained economic growth. This research studies the organization design and performance relationships for a specific sector in the Indian Economy. The paper is organized into 5 sections, Literature Review, Research Objectives, Data and Methodology, Results, and Concluding Comments.

LITERATURE REVIEW

A complex organization is an open social action system consisting of multi-forms of structures and processes. The cyclic repetitive process converts input resources to value added output resources by definite methods/measures. The value of the product/service depends on mainly two facts: a.) development of the structured process with specified predictable patterns is concerned with organization design which should minimize the variability of the output level. b.) Assessment of the environment in which they operate, determines the strategic choices to be made.' Those strategies must "fit" the specific environment. So the process should be configured properly to cope with environmental differences (Andrew H. van de Ven, 1976).

To address the first issue we have to define organization in its design perspective: "An organization is defined as a system of interrelated behavior of people who are performing a task that has been differentiated in to several distinct subsystems, each subsystem performing a portion of task, and the efforts of each being integrated to achieve effective performance of the system." (Lawrence and Lorsch, 1967).

The second issue indicates the compatibility of organization design with the environment: "In varying degrees all organizations are dependent upon their environment for survival. The environment is defined as the organizations and associates in the factor markets that supply an organization with its input resources and the organizations and associates in the product markets that obtain the output products or services from an organization. Uncertainty in the environment in every aspect of situation considers internal and external as well as social, economic and environmental factors etc." (Andrew H. van de Ven, 1976).

Organization design research must compare the efficacy of organizational structures and developmental processes, and organization designers must create methods for implementing effective structures and processes. Organization design has been a central topic in management research. The research indicates that organization design is a dynamic culture and the objective is to develop an effective organization that is both time and environment specific. Completeness of the design can only be possible by the pre-specification of the problem, the identification of pre-fixed alternatives and choosing of the best alternatives. For such a scientific approach, there needs to be a clear and stable boundary between the organization being designed and the context for which it is being designed.

In case the organizations remain static in respect of design parameters they do not become competitive with the changing environment. The challenge of the organization redesign is to shift the organization from their stable state of equilibrium and to make it more dynamic in the future point of view. It is more so in the era of liberalized economic system. Over the last four decade there has been a wide range of research considering change management, organizational restructuring, organizational transformation etc. This literature started with advent of the work of Burns and Stalker(1961), Chandler(1962), Lawrence and Lorsch (1967), Pugh et al.(1968), Galbraith(1973), Khandwalla (1973), Mintzberg (1979), Miller and Friesen(1984), Scott (1995) and more recently in the special issue of Organization Design in Organizational Science (Dunbar and Starbuck,2006).

Dunbar and Starbuck's (2006) question is closely related to a central research objective of organization theory concerning the design of organizations for effectiveness and performance. Two contrasting ideas have been developed to nurture the issues. Contingency model (Lawrence and Lorsch, 1967; Khandwalla, 1977) implicitly assume that high-level performers within an organization are able to point out constraints imposed by the environment and are able to design the organizations in an appropriate way to address those issues. The role of top management /strategist of an organization are, therefore, to respond to the

changing environment in a continuous manner by adapting the necessary changes in the organization (Andrew H. van de Ven, 1976).

The second theme uses a congruence model of organizational design (Randolph and Dess, 1984; Nadler & Tushman, 1997; Russo and Harrison, 2005) to study how internal process influence organizational performance. The research attention has focused on what components to include in designs and how to evaluate design performance. The assumption is that if a design includes the appropriate components, if the relationships between these components are logically consistent, and if they are congruent with organization goals, then the design will perform well. The main emphasis has been given to "alignment" of the design component that should be deemed "fit" for organizational performance and the greater the "congruence", the higher is the performance of the organization. Over time, organization design research has made progress by becoming more specific in identifying the components to be aligned, more detailed in identifying the criteria for evaluating fits, and broader in terms of the range of rigorous research methodologies used to explore ideas about fit. As a consequence, discussions of organization design have grown more complex (Dunbar and Starbuck, 2006).

Hence, the dynamism of the organization redesign makes the field much more attractive towards organization theorists. There are wide scopes to revisit the organization redesign and theorize the concept from different perspectives. To summarize, Nystrom and Starbuck (1981) captured the idea perfectly when they said: "a well-designed organization is not a stable solution to achieve, but a developmental process to keep active."

The work of Lawrence and Lorsch (1967) suggests that differentiation and integration are two major elements of organizational design. To cope more effectively with the diverse contingencies in their task environment, they must differentiate themselves more efficiently and at the same time strive to coordinate their activities by integrating their operations. Thus, we expect that the more the organization has been able to achieve a closure (the greater the reduction in uncertainty it has been able to effect and the clearer the identification it has been able to make of the crucial contingencies in its environment), the more capable it will be of differentiation, and the more differentiated it is, the more it will strive to use integrative mechanisms (Khandwalla, 1973).

It is necessary to understand the state of differentiation in relation to the properties of environment but we have also understand the relationship between two design mechanism, differentiation and integration in complex organization and ultimately how these are related to organizational performance.

Performance is the ultimate criterion in the assessment of organizations. Performance measurement is a complex construct as a number of factors can be used to assess it. A dynamic model has been developed by R.T.Lenz (1981) to portray the relationship between environment, organization design and performance. Based on the task environment, that specified the required output utilizing the indicated input, firms develop internal consistency such as division of tasks, interdependence of departments etc in such a way that it provides the optimum level of performance in that sector. Measurement is also time specific. It would be better to strategize in such a way that the process of co-alignment can occur.

This research study explains the concept of effective firm design/redesign in the Indian context focusing on Chemical; Petro-chemical Process Industry; Agricultural related Industry; Processed Food Industry and Bio-Chemical related Industry. The following issues will be addressed in this research paper: 1. It is important to understand the measures of organization design parameters such as measures of uncertainty, differentiation and integration in relation to those of competitive organizations and the impact of the relative redesign mechanisms on the performance of the organizations. This impact of organization design parameters on performance cannot be reflected in one mathematical functional form because of the heterogeneity nature of the context in which the organizations operate. Therefore, the first objective is to

identify the homogeneous groups. 2. The second objective is to estimate the functional relationship between the design parameters and the organizational performance in case of the individual segments of the sector and to ascertain the nature of the relationship. It is also intended to examine differences across segments in respect to the strength the design parameters influence and organizational performance and also the nature of the relationship among variables considered in the model.

DATA AND METHODOLOGY

The unit of observation for this study includes the Chemical; Petro-chemical Process Industry; Agricultural related Industry; Processed Food Industry and Bio-Chemical related Industry. The selection of firms were made by exhaustive study of the print version of Economic Intelligence Service named Industry Market Size & Shares published by Centre for Monitoring Indian Economy Private Ltd (CMIE). We attempted to cover all the chemical & chemical related industries in the Eastern Region of India. A total of 68 organizations participated in this study. The data was collected in the year 2011. In 29 cases respondents were reluctant to give the score in regard to design mechanisms for the competitive organizations. Therefore, relative scores for uncertainty reduction, differentiation and integration are available for 39 cases.

Top management of those selected organizations was contacted through telephone or email and was requested to provide the appointment stating the research objectives. A structured questionnaire has developed based on the model of Prof P N Khandwalla (2001) and Prof A Som (2002). Personal interviews were conducted with a structured questionnaire including senior executives who had an adequate knowledge of company's history, business strategy, changes in the business environment and the changes with the organization to discuss over the questionnaire and get his/her perception. The final section of the questionnaire contains the tools to measure organizational performance. The databases of CMIE of the detailed performance report of firms are used as the performance data source for the respective organizations.

Organization design mechanisms are taken as independent variables. From the structured questionnaire, the perception of the respondents on the three redesign mechanism are taken (No. of respondent=175). All respondents were asked to provide the level of uncertainty for their organizations (it has been indicated as ur12s in the dataset) as well as their close competitor (it has been indicated as ur12c in the dataset) in the rating scale. The ratio of these two values is indicated as relative uncertainty (RUR). That measure is taken as one of the independent variables. Similarly, all respondents indicate the level of differentiation for their organizations (it has been indicated as dr10s) as well as their close competitor (it has been indicated as 10c in the dataset) in the rating scale. The ratios of the two values in both cases are identified as relative differentiation (RDR). All respondents are asked to provide the level of integration for their organizations (it has been indicated as ir10s in the dataset) as well as their close competitor (it has been indicated as ir10c in the dataset) in the rating scale and the ratio of these two values is indicated as relative integration (RIR). The relative measures of three design variables (RUR, RDR, RIR) are taken as independent variables to measure the organizational performance. The sales turnover and capital employed ratio of each organization is taken as performance measures and is indicated as TRNCAPE in the dataset. That value is taken as the dependent variable.

RESULTS

Analysis –Stage I

The objectives of the section are stated as follows: 1. Formation of the two clusters based on design parameters, RUR, RDR and RIR. Based on these two clusters, the discriminant function has to be estimated and the discriminant score has been obtained. 2. In this way, the functional relationship

between performance and three design parameters is modeled in terms of performance parameters and the discriminant scores reflecting the effect of three design parameters. And, hence the situations can be shown in two dimensional space, one dimension being performance measures (TRNCAPE) and the other discriminant scores. The analysis consists of following consecutive steps:

Step I: *Cluster analysis* is performed on the basis of relative uncertainty (RUR), relative differentiation (RDR) and relative integration (RIR) and the objective is to form two clusters as shown in Table 2 with relatively homogeneous groups. The two homogeneously distributed groups have been obtained by cluster analysis based on three independent parameters RUR, RDR, and RIR and then, on the basis of these two groups, *discriminant analysis* has been performed.

Step –II: Before that, *normality test* for three parameters relative uncertainty, relative differentiation and relative integration has been performed. Table 1 shows the results. The Kolmogorov-Smirnov Test compares an observed cumulative distribution function to a theoretical cumulative distribution. Normal theoretical distribution is selected in this case. Large significance values (>.05) of RUR, RDR and RIR indicate that the observed distribution corresponds to the theoretical distribution. The value of significance indicates that all the independent parameters are normally distributed.

Table 1 Non Parametric Tests

One-Sample Kolmogorov-Smirnov Test				
		RUR	RDR	RIR
N		56	54	49
Normal Parameters (a,b)	Mean	1.178	1.033	1.020
	Std. Deviation	0.5809	0.3146	0.2551
Most Extreme Differences	Absolute	0.174	0.134	0.125
	Positive	0.174	0.134	0.125
	Negative	-0.076	-0.067	-0.073
Kolmogorov-Smirnov Z		1.303	0.987	0.872
Asymp. Sig. (2-tailed)		0.067	0.284	0.433
a. Test Distribution is Normal.				
b. Calculated from data.				

Non-Parametric Test indicates that three design parameters namely RUR, RDR and RIR are normally distributed.

Step –III: *Discriminant analysis* has to be performed on the basis of two groups and discriminant scores obtained for each organization. The results are presented in Table 2. The discriminant scores has can be taken as a resultant effect of organization design parameters namely RUR, RDR and RIR.

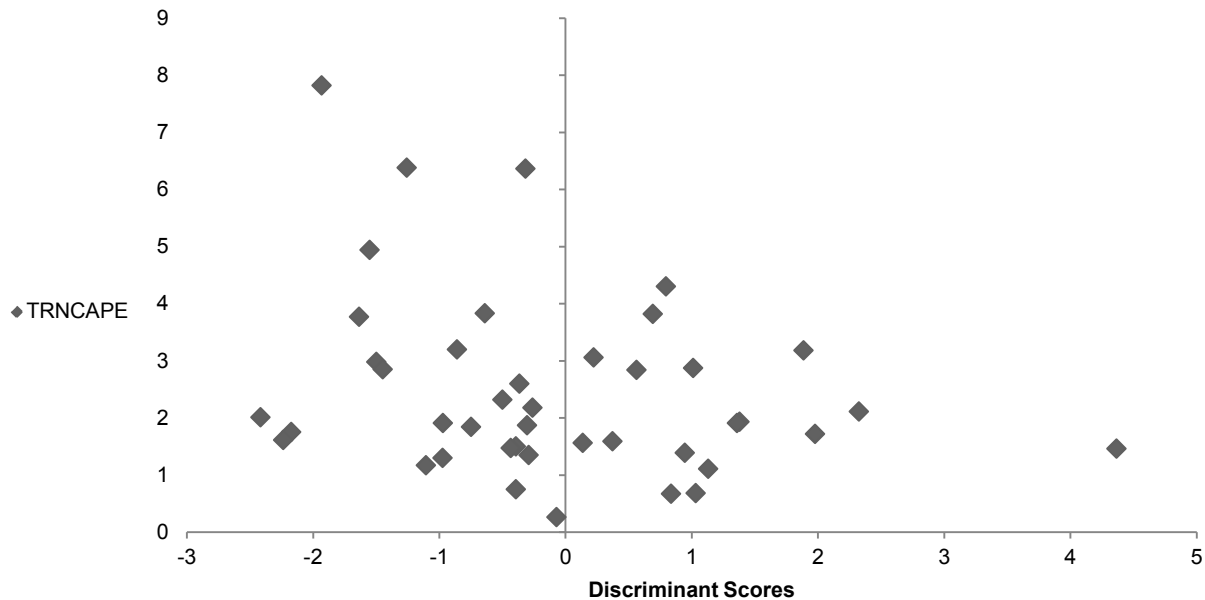
Step IV: The dependent variables TRNCAPE [Turnover/Capital Employed] are plotted against Discriminant Scores in the two dimensional space by the scatter diagram as shown in Figure 1. The scatter diagram cannot establish any relationship between the dependent variable and the discriminant scores.

The scatter diagram is subjectively categorized into three segments on the basis of TRNCAPE & the discriminant scores. After segmentation, we attempt to estimate the relationship between the performance measures of the organization with the organization design mechanism. These three categories of industries are formed subjectively so as to estimate a consistent regression equation as shown in Table 2.

Analysis- Stage II

The three categories of industries are formed subjectively based on the scatter diagram. The objectives of the section are as follows:

Figure 1 Mapping of the Organizations in Respect of TRNCAPE and Discriminant Scores



TRNCAPE is indicative of organizational performance and that is represented in Y-Axis. Discriminant scores can be taken as a resultant effect of organizational design parameters, namely RUR, RDR, and RIR, and this is represented along the X-Axis.

1. The descriptive statistics of the financial performance of three categories give an idea to form the bases of categorization. 2. Regression analysis has been performed directly considering financial performance turnover/Avg. Capital Employed (TRNCAPE) as the dependent variable and the three design parameters relative uncertainty (RUR), relative differentiation (RDR) and relative integration (RIR) as independent variables. In this case, problems of multicollinearity emerge. 3. To reduce this effect, factor analysis is performed and the regression analysis is performed based on three factors F1, F2 and F3.

This stage of analysis consists of following consecutive steps: *Step I:* The analysis of the three groups has been performed on the financial parameters. Turnover/ Avg. Capital Employed [TRNCAPE] is considered as performance parameters and the average value of this parameter are quite different from each other. The results are quite consistent with the subjective categorization of the organizations. The descriptive statistics of all the financial parameters make them validated to use as parameters of measurement of organizational performance of three groups as shown in Table 3.

Step II: For each group, the regression analysis is performed directly considering the performance variable TRNCAPE [Turnover/Capital Employed] as the dependent variable with respect to RUR, RDR, and RIR. All the results show high R values, but there would be multicollinearity problems in all the three cases.

Step III: To eliminate multicollinearity problems, factor analysis were performed. The main objective is to map RUR, RDR and RIR into three distinct factors namely F1, F2 and F3 which ensures 100% coverage of total variance. Hence, estimation of the functional relation between TRNCAPE and three factors is free of multicollinearity problems. So, three independent variables are absolutely uncorrelated.

Table 2 Three Groups of Specified Sector

nc	qcl 1	dis1 1	trncape	group	nc	qcl 1	dis1 1	trncape	group
1	1	-0.0707	0.26	1	35	.	.	0.82	.
2	2	5.102	.	.	36	1	-1.259	6.38	3
3	1	-2.474	.	.	37	1	0.1398	.	.
4	.	.	1.12	.	38	1	0.1357	1.56	2
5	.	.	2.66	.	39	1	-0.2920	1.35	.
6	.	.	.	.	40	2	2.324	2.11	3
7	.	.	4.72	.	41	1	-0.4998	2.32	2
8	1	-1.498	2.98	2	42	2	0.9451	1.39	2
9	.	.	2.67	.	43	1	-1.635	3.77	2
10	1	0.2227	3.06	3	44	2	0.7955	4.30	3
11	1	-0.3934	1.50	1	45	1	-0.3173	6.36	3
12	2	1.380	1.93	2	46	1	-2.173	1.75	.
13	.	.	1.53	.	47	1	-1.106	1.17	1
14	1	-0.3652	2.60	2	48	2	0.8378	0.67	2
15	2	1.9787	1.72	3	49	1	-1.930	7.82	3
16	1	-2.416	2.01	1	50	.	.	2.05	.
17	.	.	.	.	51	.	.	2.39	.
18	1	-0.6378	3.83	3	52	.	.	3.68	.
19	2	1.886	3.18	3	53	.	.	2.20	.
20	2	0.5635	2.84	3	54	1	-2.236	1.61	1
21	1	-1.447	2.85	2	55	2	1.131	1.11	1
22	1	-0.3044	1.87	2	56	.	.	3.17	.
23	.	.	2.88	.	57	2	1.032	0.68	1
24	1	-0.4339	1.47	2	58	2	1.359	1.91	2
25	.	.	2.37	.	59	1	-0.3934	0.75	1
26	2	0.6917	3.82	3	60	2	0.5130	.	.
27	.	.	1.73	.	61	1	-0.7482	1.84	2
28	.	.	2.95	.	62	.	.	1.23	.
29	1	-0.9716	1.91	1	63	1	-1.377	.	.
30	2	1.0109	2.87	3	64	2	4.3645	1.46	3
31	.	.	2.80	.	65	1	-0.9742	1.30	1
32	1	-1.551	4.94	3	66	1	-0.8598	3.20	2
33	1	-0.2604	2.18	2	67	2	1.8367	.	.
34	.	.	6.83	.	68	2	0.3731	1.59	.

This table shows the results of discriminant performed on the basis of two groups and discriminant scores obtained for each organization. TRNCAP is turnover/capital employed. Group is the grouping of firms identified through cluster analysis.

The mathematical model can be expressed as follows:

$$\text{TRNCAPE} = \hat{\beta}_0 + \hat{\beta}_1 F_1 + \hat{\beta}_2 F_2 + \hat{\beta}_3 F_3 \quad (1)$$

Where F_i 's are factor scores

Factor is simply a linear combination of the original variables. The factor scores for the i -th factor may be estimated as follows:

$$\begin{aligned} F_{1i} &= a_1 RUR_i + a_2 RDR_i + a_3 RIR_i \\ F_{2i} &= b_1 RUR_i + b_2 RDR_i + b_3 RIR_i \\ F_{3i} &= c_1 RUR_i + c_2 RDR_i + c_3 RIR_i \end{aligned}$$

The weights, or factor score coefficients, used to combine the standardized variables are obtained from the factor score coefficient matrix

$$TRNCAPE = \hat{\alpha}_0 + \hat{\alpha}_1RUR + \hat{\alpha}_2RDR + \hat{\alpha}_3RIR$$

$$\alpha_1 = (\beta_1a_1 + \beta_2b_1 + \beta_3c_1) \times RUR$$

$$\alpha_2 = (\beta_1a_2 + \beta_2b_2 + \beta_3c_2) \times RDR$$

$$\alpha_3 = (\beta_1a_3 + \beta_2b_3 + \beta_3c_3) \times RIR$$

Table 3: Descriptive Statistics

Panel A: Group I	N	Minimum	Maximum	Mean	Std. Deviation
Sales Turnover(Rs Million)	10	549.1	212,157	42,890	65,159
Profit after Tax(Rs Million)	10	-98	7,914.9	1,818.6	2,386.7
PBDITA	10	-27.60	22,760	4,761.5	6,788.8
PAT/Avg.Capital Employed	9	-7.61	27.05	10.169	10.942
Capital Employed(Rs Million)	10	2,127.4	163,158	35,106	51,761
Debt-Equity Ratio	10	0.03	4.38	1.355	1.2928
TRNCAPE	10	0.2581	2.006	1.230	0.5568
Valid N	10				
Panel B: Group II	N	Minimum	Maximum	Mean	Std. Deviation
Sales Turnover(Rs Million)	15	136	306,335	31,789	76,554
Profit after Tax(Rs Million)	15	-339.7	49,882	4,426.5	12,665
PBDITA	15	-124.7	79,902	7,062.1	20,244
PAT/Avg.Capital Employed	15	-9.02	44.42	17.011	15.187
Capital Employed(Rs Million)	15	45.7	159,991	16,166	40,054
Debt-Equity Ratio	15	0.01	1.23	0.3827	0.4043
TRNCAPE	15	0.6748	3.766	2.170	0.7998
Valid N	15				
Panel C: Group III	N	Minimum	Maximum	Mean	Std. Deviation
Sales Turnover(Rs Million)	14	641.4	2,913,841	452,215	894,826
Profit after Tax(Rs Million)	14	-36.9	102,193	11,504.8	27,186
PBDITA	14	20.8	189,065	23,488	50,845
PAT/Avg.Capital Employed	14	-8.52	88.42	14.038	22.619
Capital Employed(Rs Million)	14	149.1	951,010	125,657	268,589
Debt-Equity Ratio	14	0	5.12	1.1064	1.324
TRNCAPE	14	1.4554	7.8226	3.9068	1.8862
Valid N	14				

This table shows descriptive statistics for the sample.

Step IV: Now, the regression has been performed TRNCAPE on F1, F2 and F3 for each category and the mathematical model has developed separately for three cases based on the following generalized methodology.

Development of the Model

Regression analysis were performed to analyze the associative relationship between a dependent variable (TRNCAPE) and three Factor Scores that represent the redesign variables RUR, RDR and RIR. The summarized results are given in Table 4.

Mathematical Model of Group I

$$TRNCAPE = \beta_0 + \beta_3F_3 \tag{2}$$

From the output, the above equation can be written as:

$$TRNCAPE = 1.230 + 0.453F_3 \tag{3}$$

$$TRANCAPE = 1.230 + 0.453F_3$$

$$\begin{aligned}
 TRNCAPE &= 1.230 + 0.453(1.660xRDR + 2.20xRIR) \\
 TRNCAPE &= -1.22 + 0.75xRUR - 0.639XRDR + 2.20xRIR
 \end{aligned}
 \tag{4}$$

Table 4: Summarized Results of Coefficients of Factor Score

	Case I [Group I]	Case II [Group II]	Case III [Group III]
Constant	1.230	2.170	3.907
Regression Factor Score 1[F ₁]	-0.153 (0.092)	-0.513*** (0.118)	-1.286*** (0.303)
Regression Factor Score 2[F ₂]	0.175 (0.092)	0.471*** (0.118)	0.595* (0.303)
Regression Factor Score 3[F ₃]	0.453 *** (0.092)	-0.040 (0.118)	0.795** (0.303)
R Square Value	0.837	0.762	0.742

The table shows regression results based on equation (1). The figures in the brackets indicate the standard error. *, **, *** indicate significance at the 10, 5, and 1 percent levels respectively. In this study 5 and 1 percent level significance are only considered.

Mathematical Model of Group II

$$TRNCAPE = \beta_0 + \beta_1F_1 + \beta_2F_2
 \tag{5}$$

From the output, equation IV can be written as:

$$TRNCAPE = 2.170 - 0.513F_1 + 0.471F_2
 \tag{6}$$

$$\begin{aligned}
 TRNCAPE &= \\
 &2.170 - 0.513x[3.420xRUR - 0.029xRDR + 1.393xRIR - 5.289] + 0.471x[-0.42xRUR + \\
 &2.462xRDR - 1.369XRIR - 1.231 \\
 TRNCAPE &= 4.303 - 1.769xRUR + 1.174xRDR - 1.359xRIR
 \end{aligned}
 \tag{7}$$

Mathematical Model of Group III

$$TRNCAPE = \beta_0 + \beta_1F_1 + \beta_3F_3
 \tag{8}$$

From the output, the equation can be written as:

$$TRNCAPE = 3.907 - 1.286F_1 + 0.0.795F_3
 \tag{9}$$

$$\begin{aligned}
 TRNCAPE &= \\
 &3.907 - 1.286x[1.754xRUR - 0.310xRDR + 1.110xRIR - 4.154] + 0.795x[0.436xRUR - \\
 &1.846xRDR - 6.150XRIR - 4.882 \\
 TRNCAPE &= 5.368 - 1.908xRUR - 2.251xRDR + 3.463xRIR
 \end{aligned}
 \tag{10}$$

The results of the regression model for three groups are summarized in Table 5. The discussion clearly indicates that all the redesign variables such as relative measures of uncertainty, relative measures of differentiation and integration have an impact on organizational performance and R-square value of these three cases are high. The relationship between organizational performance and design mechanisms has been established. The specific sector has confronted with significant pressures of liberalization and the organizations have to redesign their organization structure to be fit in the changed market environment. The differentiation mechanism proves to be important parameter to explain the performance of the organization. The integration mechanism also becomes the key parameter to influence the performance of the organization.

Table 5: Representation of Results of Regression Analysis

	Group I	Group II	Group III
No of Organization	10	15	14
No of Respondents	25	37	54
R Value	0.814	0.871	0.802
R-Square Value	0.663	0.759	0.643
Constant	-1.22	4.303	5.368
Coefficient of Uncertainty(RUR)	0.75	-1.769	-1.908
Coefficient of Differentiation (RDR)	-0.639	1.174	-2.251
Coefficient of Integration (RIR)	2.20	-1.359	3.463

This table summarizes the results of regression analysis. High R-square values indicate the strong relationships between the design parameters and organizational performance for three groups. The positive value coefficient of design parameters indicates the direct relationship with organizational performance and the negative value indicate the reverse relationship with organizational performance.

The organizations are subjectively segmented into three groups and the redesign mechanisms such as RUR, RDR & RIR have an impact on organizational performance. The regression equations have coefficients to indicate the extent of correlation between the dependent variables with independent variables. The coefficient values of design parameters are indicative of the impact of design mechanisms on the performance of the organizations of the respective sector. The regression analysis results indicate the degrees of importance of design mechanisms on the performance of organizations of each of the three sectors are quite different.

It is interesting that organizations of the sectors face the business environment quite differently. Their restructuring mechanisms vary from one sector to another. So, those three groups have to formulate the three redesign strategies in different ways for superior performance. The detailed discussion has been made in the next section to explain the importance of the design mechanisms on the organizations of the three individual groups separately.

Discussions

Based on the analysis, the following general observations are made for the organizations of Group I. The performance of the organizations is positively correlated with uncertainty reduction mechanisms. Their uncertainty reduction mechanisms such as high level of expenditure on research and development, use of sophisticated tools for market analysis and forecasting, periodic performance review meeting, information sharing in between every departments etc are high. As a result, in the turbulent market situation they perform better than the nearest competitors. They understand the market situation better and also feel the possible changes in the market environment. So they can formulate the product as well as market strategy prior to their competitors. That is also validated by the fact as Pepsico India Holdings Private Ltd., United Breweries, United Spirits, Indian Farmers Fertilizer Co-operative Limited(IFFCO) etc belong to the series. It is evidenced from the perceptual study of the organization. Pepsico India, United breweries and IFFCO has marked the highest perceptual value to indicate strong agreement with the above observations. These organizations are well structured and have strong marketing networks to understand the dynamics of the market. Based on the market research survey, they have well established R & D units to formulate new products that helps them retain and increase market share or to get entry into new potential markets.

Performance of the organizations is negatively correlated with the level of differentiation. The organizations are so diverse in operations that may challenge the alignment of the group objective in the same direction. The Strategic Business Units (SBUs) are not managed in equal efficiency or new lines of business may not achieve success due to improper planning or the acquisition they have made for diversification may not be a great success. It is clear that the organizations belong to the group must try to reduce the level of differentiation or divisionalization to improve performance.

Performance of the organizations is positively linked with the level of integration. The integrative mechanism is required to integrate all individual entity councils of strategy, brand, HRM, IT and finance.

The value culture has been impregnated among all the employees of all operational levels. This is evidenced from the perceptual study of the organizations like Pepsico, IFFCO, United Breweries. All of which strongly agreed with the strong value culture practices. All the departmental heads should participate in the forum at which issues could be analyzed and a consensus developed. It is also evidenced from the perceptual study question of the organizations like IFFCO, Andrew Yule, and Pepsico. The results are quite consistent with perceptual measures of the respondents of the concerned organizations. With increasing level of integration, the organizations will improve performance.

The organizations of the Group II are highly exposed to the uncertain environments which are mostly non-controllable. Most fertilizers organizations belong to this group and their business are mostly dependent on the climatic conditions of the regions which are completely non-controllable factors. The respondents expressed their concerns over this issue during the time of interview. For this reason, they are completely uncertain in their business. Some of organizations belong to confectionary industries. These industries are characterized with hyper-competitive environment, entry of foreign firms with high quality and brand value, changing perceptions of the consumers, strong presence of unorganized firms, price competitiveness etc. All give maximum level of emphasis on the sharing of information between departments to minimize the threats imposed by the hyper-competitive environment. That is evidenced from the data set of the perceptual study of uncertainty reduction mechanism of ITC, Kraft foods, Godrej Hershey Limited etc. They have also established strong relationships with supply chain members to increase competitiveness as evidenced from their response in the perception question. All of these indicate the turbulent environment the organizations face in the market. And, that uncertainty ultimately affects organizational performance.

From our conceptual framework it is obvious that organizations of these sectors have tried their best to extend their market, establishment of new verticals, formation of division with complete autonomy of the head, retraining and redeployment of the employees to increase the competencies etc. This is evidenced from the perceptual question of this section and most of these organizations such as Bayer Crop Science, Kraft foods, ITC Limited place maximum value on the highest level of autonomy of the department. The high perceptual value of the respondents for the enhancement of the expertise of employees indicates the generation of the skilled workforce for the success of each operation unit. All these strategies are leading to extensive levels of differentiation in all aspects. Results indicate that the increasing level of differentiation will lead to positive impact on performance.

Results show that the strong integration mechanisms affect the performance of organizations negatively. That means the organizations are centrally controlled and minimum level of delegation of authority hasten the prompt decision making process and also have a negative impact on the motivation of the employee. Centralized decision making process may also ignore the specific regional demand of the market and this is supported by the perception study of the respondents. Organizations like ITC, Dabur take decisions at the top level. If integration mechanisms involve formation of cross-functional teams, constant internal and external communication, the formation of task force to resolve common business issues etc., then only these redesign mechanisms have given positive input towards organization performance.

In Group III uncertainty reduction mechanisms are negatively correlated with the performance of the organizations. Some of the firms are from the petro-chemical sector. Before liberalization, the sector is completely dominated by state-owned enterprises (SOEs)-Bharat Petroleum Corporation Limited (BPCL), Hindustan Petroleum Corporation Limited (HPCL) and Indian Oil Limited. The three SOEs enjoyed a monopoly under the administered pricing mechanism of the government. With full deregulation of the industry in 2002, the market structure are completely changed and the entry of local (private) and global players make the industry highly competitive. The need is to redesign itself and shifting the mindset to perform in regulated markets to a lean, agile, competitive and customer-oriented player in order to compete. The other state owned organizations belong to the group, though they are present in

different sectors have shown the same trend and may be due to the same reasons of the fixed mind set. As they are in the protective environment, they have not developed sophisticated tools to make decisions, have underdeveloped market information systems and lack retraining making them more uncertain in the dynamic market scenario. Employee suggestions from divisions, investment in market research, and use of sophisticated tools, customer centric focus and strong backward and forward integration can only help to reduce the uncertainty.

The redesign mechanism that is differentiation is negatively correlated with performance. The divisions/departments may be created ideally but the real challenge is to implement. The personnel who are engaged to look after the departments show incompetence to run it properly. The incompetence may be due to lack of professional knowledge and also insufficient retraining for skill development. This is supported from the perceptual study of the differentiation mechanisms in which level of autonomy are marked as comparatively high but moderate level of initiatives for enhancement of expertise are indicated. Planned and selective division formation can create a positive impact on the performance.

Integration related practice enhances the performance of the organization. The primary job is to integrate corporate and SBU decisions, cohesion within and in between SBUs and establishment a strong network in between the verticals of the business such as Marketing, HR, Finance and Operations. Those integration mechanisms should be IT-enabled by that way they can understand and also respond quickly to the customers' needs and expectations. Integration mechanisms have been adopted by this group of organizations offering more possibilities for improving organizational performance.

CONCLUDING COMMENTS

Results and consequent discussion indicates that the heterogeneity nature of the context in which organizations operate limits research to establish the relationship between organization-performance in a single functional form. The mentioned sector has been classified into three groups based on their distinctive nature of financial performance. The functional relationship between design parameters and organizational performance in case of individual segments of the mentioned sector has been established separately and the nature of the relationship has been also ascertained.

Perception of the respondents regarding design parameters (RUR, RDR and RIR) and performance parameter sales/ avg. capital employed (TRNCAPE) are used as the basis of the design-performance study. Regression analysis has been developed for the three mathematical functions for the three groups.

The above discussion clearly indicates that three groups behave uniquely with the business environment and their internal strategies are also quite different from each other. The model shown in Figure 2 is developed to visualize the nature of influence of design parameters on the organization performance in the three sectors.

FDR model specifies three groups as Flexible, Dynamic and Rigid, depending upon their nature of interaction with the business environment and their internal strategy. Flexible group organizations can adapt to uncertainties of the market using their highest level of differentiation. They can sustain their performance by increasing their level of integration. Dynamic group firms face an unfavourable market full of threats which they combat by differentiating themselves and by reducing their level of integration. Rigid firms facing threats cannot escape the shackles of red-tape and differentiate themselves. They are trying to emphasize integration in order to survive. The research study was restricted to a specific sector in India. An exploratory study considering all sectors of industry can also be made in the same context.

Figure 2: Flexible, Dynamic and Rigid Model

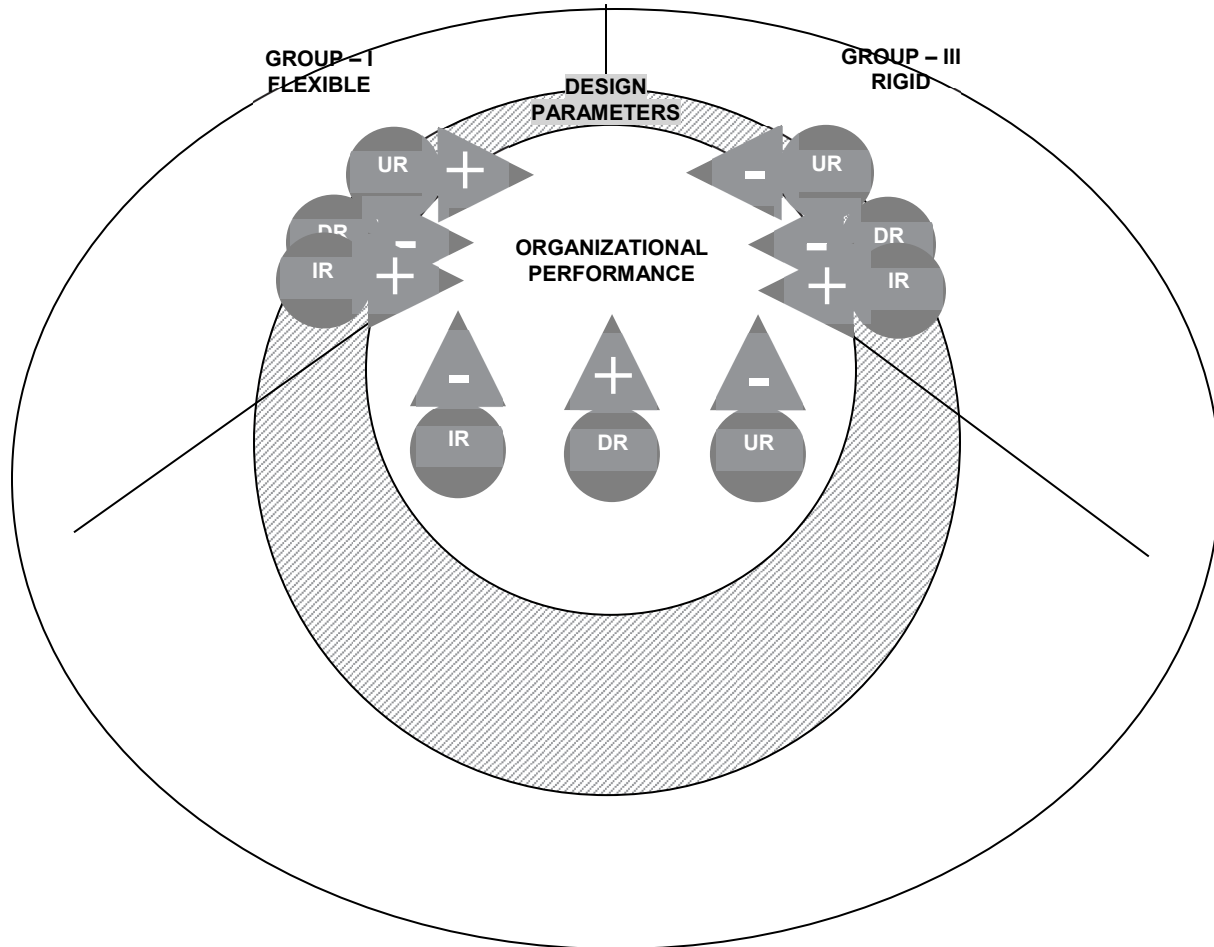


Figure 2: FDR Model showing the influence of design parameters on the organizational performance .UR, DR & IR indicates the design parameters Uncertainty Reduction, Differentiation and Integration respectively. '+' sign indicate the positive relationship in between design parameters and organizational performance and '-' sign indicate that the design parameter has adverse effect on the organizational performance.

The primary objective of this was to explore a fundamental question about organization redesign of the Chemical; Petro-chemical Process Industry; Agricultural related Industry; Processed Food Industry and Bio-Chemical related Industry in the context of India. Within this context, this study examined the relationship between redesign mechanisms of a specific sector after the decade of restructuring the most populous emerging markets. A model, rooted in conventional Western practices, found support and is largely consistent with results obtained in studies of design–firm performance conducted in different socio-cultural environments. This study is specific to certain sectors and established the relationship between design–firm performances in the India context which had just emerged from two decades of macroeconomic liberalization policies and modernization of its economy. The results are quite consistent. The objective of future study will develop the model for three groups which indicate the optimal level performance based on three redesign mechanisms.

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