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Strategy Implementation: Mckinsey's 7s Framework Configuration And Performance Of Large Supermarkets In Nairobi, Kenya

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ABSTRACT
The study objective was to determine the relationship between strategy implementation of McKinsey's 7S Framework and performance of large supermarkets in Nairobi. Out of twenty one questionnaires administered, eighteen were received representing a response rate of 86. % and was considered adequate for further analysis. The finding of the study was a correlation coefficient of .868 when the relationship between McKinsey's 7S and firm performance was tested. This depicts a strong relationship between performance by the firm and the independent variables. The coefficient of determination (R^2) was .753. Therefore, McKinsey's 7S dimensions account for 75.3% of the variations in firm performance. The study sought to assess the influence of Mckinsey's 7S framework, strategy adoption, barriers to strategy implementation, drivers to strategy implementation and firm performance. The results revealed a correlation coefficient (r) of 0.921 which show a strong relationship between performance by the firm and independent variables. The results showed a R^2 of 0.848 was established. The results suggest that strategy adoption, McKinsey 7S framework, drivers to strategy implementation and barriers to strategy implementation account for 84.8% of the variation in firm performance. Factor analysis found that cross-functionality of the strategy adoption, McKinsey 7S framework, drivers to strategy implementation and barriers to strategy implementation as the critical success factors for firm performance. The study concluded that the adoption of Mckinsey's 7S framework would lead to improved firm performance. Future research work should assess the moderating and intervening effects and incorporate subjective and objective measures of performance.

KeyWords: Strategy Implementation, Mckinsey's 7s Framework, Performance, Large Supermarkets, Nairobi

INTRODUCTION

Numerous studies have been done on strategy formulation but less attention has been given to the implementation process. Several academic authors in strategic management have adopted McKinsey's 7S Model as a critical way of visualizing key considerations by managers when disseminating a strategy throughout their organizations (DeKluyver, 2000; Pearce & Robinson, 1997; Wheelen & Hunger, 1995). Strategy implementation can be much more difficult task than strategy formulation (Hrebiniak, 2006). Superior firm performance can be achieved only if the formulated strategies are successfully implemented (Noble, 1999).

According to Sadler (1993) the emphasis of resource based view is that competitive advantage that leads to superior value creation is created when a firm effectively and efficiently utilizes its resources and capabilities. An organization can achieve long-tem competitive advantage it has resources which are of high valuable and cannot be easily substituted (Barney, 1999). Distinctive competences of the firm are contributed by its resources and dynamic capabilities.

When these competences are well applied a firm can realize its intended cost and/ or differentiation advantage (Scholes & Johnsone, 1999). Newman and Cullen (2002) agree with McNair (1958) that the wheel of retailing theory is the most applicable in an attempt to explain the evolution of retail enterprises.

Supermarkets continuously face competition prompting them to come up with strategies to improve their market share. According to Langat (2011), supermarkets in Kenya have adopted different strategies to competition. Some of these strategies are increasing the number of products on offer, setting up satellite branches in residential areas, opening outlets on high demand areas (prime areas), pricing of goods and services lower than competitors, varied communication mix and offering loyalty programs to build customer loyalty. Other strategic responses that supermarkets in Kenya largely apply include competitive hiring of management staff, aggressive marketing and advertising to fend off competition and upgrading of Information Technology (IT) systems in the supermarkets for efficiency and improved customer service.

The influx of single stop shopping and projected increase in income has led to increase in retail industry Kenya. Most of these supermarkets crush down shortly after attaining maturity because of increasing competition in the retail industry (Agarwal & Audretsch, 2001). According to Nielsen Report (2015) the Kenyan retailing industry has had remarkable growth with most retailers opening outlets in East Africa and beyond. Retailers have continued to position themselves to provide different kinds of customer requirements by opening branches in the newly opened malls and shopping centers.

MATERIALS

Over the last three decades, the work of practitioners and academic researchers has been dominated by concerns related to the strategic impact of downsizing, restructuring, re-engineering, out-sourcing, and empowerment on operational performance of both service and manufacturing firms (Neilson & Pasternack, 2005). Several scholars in strategic management adopted McKinsey's 7S Model as a useful way of visualizing the key components managers must consider when disseminating a strategy throughout their organizations (DeKluyver, 2000; Pearce & Robinson, 1997; Wheelen & Hunger, 1995). The concept of strategy provided an explanation on why some firms with very different approaches to their industry could succeed while others that followed similar approaches were not equally successful (Hamermesh, 1983).

The strengths of McKinsey's 7S model are its ability to describe the seven variables, to recognize the significance of the interrelationships that exists among all the seven variables, and its generic form makes it applicable to either manufacturing or service firms. The limitations of taxonomy are its lack of variables that deal with external environment and performance related issues. The principal reason for this lack of "completeness" of McKinsey's 7S Model is its origin, which was from practice as opposed to theory. In other words, McKinsey's 7S model represents an attempt to explain McKinsey's beliefs about manufacturing and service firm's operations ex post facto (Burke & Litwin, 1992).

Strategy implementation will usually involve empowering the team to perform their duties proficiently for success to be achieved (Thompson & Strickland, 2003). Successful implementation partly entails preventing problems from occurring during the implementation process (Alexander, 1985). If such problems occur during implementation, then quick action should be taken to solve them.

Waterman et al., (1980) identifies the element structure as how the activities are divided, and how mechanisms are coordinated and integrated. Higgins (2005) defines structure as comprised of jobs, the power for doing the jobs, how the jobs are grouped, and the manager level of authority, and coordination mechanisms. The element strategy is the measures that a firm plans to undertake in response to environmental changes, customers, and competitors (Waterman et al, 1980). This study will focus on strategy implementation and how its success relates to performance of major supermarkets in Nairobi.

The element system includes formal procedures for identifying, measuring, controlling and monitoring mechanisms (Waterman et al., 1980). The element style includes management style and how other professionals and key groups behave in the organization (Waterman et al., 1980). The focus of the study concerns the acts of leadership or higher management towards strategy implementation.

According to Waterman et al., (1980) the element staff refers to the human resources; its educational characteristics, experience and demographics. The element skills are the company's competencies and distinct capabilities (Waterman et al, 1980). Higgins (2005) replaces skills with re-Sources: people, technology, and money. This study will focus on the financial resource allocation towards strategy implementation. The element shared value is the organizational core beliefs and values (Waterman et al, 1980). The study will seek to establish if the existing culture of the organization supports the implementation of strategies.

According to Fortuin (2007) 70 percent of the Chief Executive Officers failed mainly because of poor strategy execution. Kaplan (2005) identified four barriers to strategy implementation as vision, resource, people and management barriers. One of the reasons they found out for bad strategy implementation was inaccurate measurement tools.

Hrebiniak (2005) identified six major barriers to effective strategy implementation as: managers are trained to formulate strategy but not to implement, top management aim at strategy formulation and leave the implementation to operational level employees, strategy planning and implementation are treated as separate processes, speeding up the implementation process, challenge of communicating strategy to the different levels of the organization, and making strategy implementation an action or a single step not as a process. Merchant and van Der Stede (2007) stress the need for control and measurement of strategy implementation for its success due to lack of direction, motivation problems, and personal limitations on the part of employees.

Jones (2008) suggests that organization will successfully implement strategies when all members of the organization are brought on board to support the process of strategy execution. Merchant and Van Der Stede (2007) adds that there is success if the employees understand the strategy and are ready and able to implement the strategy. For successful implementation of the strategies to be achieved, the structure must be simple and flexible, availability of cross-functional team, and supportive culture both the organizational and host country culture (Rexhepi, 2012). To successfully implement strategy, top management should ensure that managers at the operational level also share similar perception of the strategy and its implementation process (Raps, 2004).

 Kaplan (2005) came up with four perspectives that can help a firm to achieve success in strategy execution as financial, internal processes, customer, and learning and growth. Pearce and Robinson (2005) add that the organization's structure and leadership style are important aspects in strategy implementation. Geiger et al. (2006) also agrees that structure is a key

success element driver of strategy implementation. Stone et al. (1999) added the structure of authority, and leadership behavior as determinants of strategy implementation. Lewis et al. (2001) emphasized on how strategy implementation can be delayed by the internal and external stakeholders.

Although Hayden et al (2002) found out that Wal-Mart stores (US) has successfully implemented most of the strategies like low pricing, induced competition between its stores, Matamalas and Ramos (2009) found that different supermarkets use in different levels the majority of the strategies while some employ low prices strategy and ignore the implementation of other strategies. Rexhepi (2012) found that for successful implementation of the strategies to be achieved, the structure must be simple and flexible, availability of cross-functional team, and supportive culture both the organizational and host country culture. The studies did not address how the strategies adopted by the various supermarkets relate to the performance of these organizations.

Langat (2011) and Karanja (2012) found out that several strategies such as increasing the number of products on offer, setting up satellite branches in residential areas, opening outlets on high demand areas (prime areas), pricing of goods and services lower than competitors, varied communication mix and offering loyalty programs, business process automation, and branding are being implemented by supermarkets in response to increasing competition. However, their researches did not include measurement of the performance of large supermarkets based on the adoption of the strategies. Magu (2014) found that marketing strategies that Nakumatt supermarket implemented were influenced by factors such as availability of support enterprises, shopping centers and retail outlets, economic environment, intense competition, and market demographic characteristics. The researcher did not investigate the effectiveness of implementation of the strategies and their impact on organizational performance within the Kenyan retail sector.

METHODS
The study targeted 21 managers from seven supermarkets in Nairobi. Questionnaires were distributed to the top management and middle level management who are perceived to be involved in running and managing the supermarkets actively.

Out of the twenty one questionnaires, eighteen were properly filled as anticipated and returned therefore representing an eighty six percent response rate. The rate of response was considered adequate for analysis. According to Mugenda & Mugenda (2003), a response rate above seventy percent is considered responsive for the study.

RESULTS
Strategy adopted by a firm is crucial since it determines the moves and approaches that a firm utilizes to attract and retain buyers, withstand competitive pressure and improve its market position. The researcher wanted to establish the level at which supermarkets have adopted different strategies to survive in an environment with looming competition. The findings are presented in table 1.

Table 1: Extent of strategy adoption

	STRATEGIES ADOPTED	NO.	Mean Score	SD
1	Use of latest technology	17	3.83	0.99
2	Cost cutting strategies	18	3.94	0.45
3	Business process automation	18	3.43	0.98
4	Staff reduction	18	2.80	1.40
5	Offering loyalty programs	17	3.14	0.44
6	Customer care services	16	3.67	0.77
7	Increased advertising	17	3.27	0.97
8	Opening more branches in strategic locations	18	4.67	0.47
9	Branding of some of the products	18	3.62	0.79
10	Staff training and development	18	3.64	0.85
	Average Score	18	3.60	0.81

The results show that most supermarkets have been opening more branches in strategic locations. This was inferred from a high calculated mean of 4.67. Additionally supermarkets have also employed cost cutting strategies to a large extent; mean equals 3.94, with a small standard deviation 0.45 indicating homogeneity of responses made by the respondent.

However, it was found that most of the supermarkets do not do much of staff reduction. This was supported by a calculated average score of 2.8 and a high standard deviation of 1.40 which indicates greater variation on the responses made. The respondents agreed that the supermarkets have adopted several strategies to effectively compete and sustain. This was supported by an average score of 3.60.

The findings corroborate with Walters (2011) who argued that business location puts into consideration a number of tips as government restrictions, demographic characteristics of the population, accessibility of the business.

McKinsey 7s Framework
This framework is based on the ground that a firm consists of seven critical aspects. The study sought to establish whether supermarkets have integrated the concept in order to realize their objectives. The results are presented in the Table 2.

Table 2: McKinsey 7s Framework

McKinsey 7S Framework	NO.	Mean Score	SD
STRATEGY			
Involvement in the strategy formulation	18	3.57	0.87
Simple, clear, and easily understood strategies	18	4.11	0.68
Concise implementation stages and timeline	17	3.79	0.76
The strategy is compatible with the organization's vision and mission	18	4.12	0.79
Average Score	18	3.90	0.78
STRUCTURE			
Clear integration and coordination mechanisms	18	3.91	0.73
Job allocation and authority to do those jobs	18	3.90	0.47
Simple organization structure	18	2.42	1.05
Decentralized decision making process	18	3.84	0.58
Average Score	18	3.52	0.71
SYSTEM			
Availability of measurement and control mechanisms	18	3.45	0.74
ICT system to assist in strategy implementation	17	3.12	0.68
Monitoring the effectiveness of strategy implementation	18	3.99	0.95
Open system i.e. free flow of information between the departments/ branches within the organization	18	4.20	0.59
Average Score	18	3.69	0.74
STAFF			
Sufficient number of employees to facilitate the implementation process	18	4.34	0.54
Level of education and experience of organization staff	18	3.68	0.68
Availability of multi-disciplinary team involved in the strategy implementation	17	3.95	0.42
Good working relationship within members of the team	17	4.79	0.08
Average Score	18	4.19	0.41
STYLE			
Support of key groups and other professionals	18	2.79	1.07
Attitude of leadership towards the strategy being implemented	18	2.99	1.07
Sufficient support from Top management	18	3.45	0.90
Leadership style that allows those involved in strategy implementation to participate freely	17	4.55	0.08
Average Score	18	3.45	0.78
SKILLS			
Efficient feedback mechanisms	18	3.10	0.79
Availability of relevant skills and competences within the staff	18	4.61	0.39
Availability and allocation of financial resources	18	3.80	0.45
Availability of sufficient ways of developing skills	16	3.98	0.45
Average Score	18	3.87	0.52
SHARED VALUES			
Employees' belief in the vision and mission of the organization	18	3.88	0.80
The organization's culture and ability to change	18	4.44	0.68
Employee's awareness of the strategy being implemented	17	4.26	0.58
The strategy is supported by the prevailing local/ national culture	18	2.59	0.59
Average Score	18	3.79	0.66
Overall Average Score	18	3.77	0.65

The results in Table 2 suggest that the respondents believed that simple, clear, and easily understood strategies lead to the success of the process of implementing the strategy; the mean is 4.10; SD=0.68. In addition, the respondents indicated that the strategies employed should be compatible with the organization's vision and mission to larger extent (represented by a high mean of 4.12; SD=0.79).

The findings showed most of the respondents indicated that there was need for clear integration and coordination mechanisms in the organization as presented by a high calculated average score of 3.91, SD=0.73 . The findings are in support of Alonso et al. (2007) who cited that large companies are able to achieve a high level of internal direction and order with little or no centralization. The study also found that there is need for supermarkets to have an open system which allowed free flow of information between the departments/ branches within the organization to large extend as represented by computed mean 4.20, SD=0.59. Further it established that supermarkets should monitor the effectiveness of strategy implementation to a large extent. This was supported by a mean of 3.99, SD=0.95.

The study respondents agreed to a very large extent that good working relationship within members of the team lead to the success of the process of implementation of strategy, shown by average of 4.79,SD= 0.08 which implies there was uniformity in respondents' responses'. It was also found that respondents believed to a great extent that when there is sufficient number of staff with relevant skills and experience are allocated for strategy implementation process then the strategy is most likely to succeed with a mean of 4.34, SD=0.54.

The respondents also believed to very large extend availability of relevant skills and competences within the staff lead to the success of strategy implementation process with a mean of 4.61, SD=0.39. The study also sought to establish how the organization shared values influenced the success of strategy implementation process. The respondents also believed largely that employee's awareness of the strategy being implemented lead to the success of strategy implementation process with a mean of 4.26, SD=0.39.

The study established that the respondents believed that the element staff is very crucial in the implementation process compared to the other six elements. This was supported by a mean score of 4.34, SD=0.54. The relatively low mean score of 3.45, SD=0.90 was recorded where respondents indicated that there sufficient support form top management was required.

Firm Performance
The study sought respondent's views on how organizations measure performance. The results are presented in Table 3.

Table3: Firm Performance

	FIRM PERFORMANCE MEASUREMENT	No.	Mean Score	SD
1	Profitability	18	4.11	0.78
2	Growth of the organization e.g. opening more branches	18	4.67	0.49
3	Customer satisfaction	18	4.67	0.49
4	Employee satisfaction	18	3.78	0.88
5	Improved internal business processes	18	4.17	0.71
6	Environmental performance e.g. complying with environmental and safety standards	18	3.67	0.59
7	Social performance e.g. organization's image as perceived by the public	18	3.72	0.75
8	Efficiency (example: improved service delivery)	18	4.50	0.51
9	Effectiveness (example: waste reduction, optimum stock maintenance)	18	3.89	0.76
10	Customer retention	18	4.61	0.61
	Average Score	18	4.18	0.66

The results in Table 3 indicated that majority of the respondents strongly agreed that growth of the organization for example opening more branches (Mean of 4.67, SD=4.61) and customer satisfaction (Mean=4.67, SD=0.49) was an important measure of performance. The relatively low mean score (Mean=3.67, SD 0.59) was recorded for Environmental performance for example complying with environmental, health and safety standards.

Drivers of Strategy Implementation
The study sought to assess the various drivers of strategy implementation of large supermarkets in Nairobi. Table 4.7 presents findings on this study variable.

Table 4: Drivers of Strategy Implementation

	DRIVERS OF STRATEGY IMPLEMENTATION	No.	Mean Score	SD
1	Culture still remains a key factor in the strategy implementation process	18	4.63	0.49
2	The structure of the organization dictates the way strategy is implemented	17	3.72	0.45
3	Effective leadership is a plus in strategy implementation	17	3.74	0.74
4	Supportive systems e.g. monitoring, control, and communication systems support strategy implementation	18	4.70	0.43
5	The success of strategy implementation lies on the firm's ability to rapidly transform learning into action	16	4.67	0.42
6	Effective strategy implementation requires competent employees' participation and support	18	3.88	0.96
7	The strategy to be implemented must be well understood by all participants and effectively communicated	18	3.99	0.42
8	Adequate and prompt resources allocation	18	4.33	0.80
9	Support of the Shareholders/ Directors	18	4.32	0.46
10	Adequate planning of the strategy implementation process	17	3.79	0.56
	Average Score	18	4.18	0.57

The results in Table 4 revealed that respondents strongly agreed that supportive systems of monitoring, control, and communication systems support strategy implementation are effective parts of strategy implementation process(Mean=4.70, SD=0.43). A relatively mean score of 3.72, SD= 0.45) was recorded for the way the organization dictates the way strategy is implemented.

BARRIERS TO STRATEGY IMPLEMENTATION

Most supermarkets in Kenya are versed with their current economic state; they also have prospects of what they want to achieve, in that regard they formulate preferred actions or strategies to employ to attain their objectives. However some might not necessarily achieve their objectives due to barriers in strategy implementation process. The study therefore sought to establish the respondents' views on barriers that influence strategy implementation in large supermarkets in Kenya. The results are presented in Table 5.

Table 5: Barriers to Strategy Implementation

	BARRIERS TO STRATEGY IMPLEMENTATION	NO.	Mean Score	SD
1	Organization's structure should be aligned with the strategy	16	3.60	0.68
2	Employees who are not properly involved in the strategy formulation may lead to poor strategy implementation	17	4.79	0.49
3	Complex strategy is difficult to implement	18	4.44	0.20
4	A poor strategy implementation may be referred to weak leadership	17	3.58	0.47
5	Strategy implementation may fail due to lack of financial resources	18	4.68	0.79
6	Strategy Implementation should be aligned to the organization's culture – shared values	18	3.46	0.41
7	A poor strategy may be referred to poor measurement and control systems' mechanisms	17	3.82	0.99
8	Government policies and regulations	18	4.69	0.43
9	Inadequate rewards and incentives to staff	18	3.33	0.38
10	Elaborate implementation stages	17	3.61	0.60
Average Score		17	4.0	0.54

The results in the above Table 5 indicates majority of respondents strongly agreed that employees who are not properly involved in strategy formulation and or implementation may lead to poor strategy implementation (Mean=4.79, SD=0.49). The results indicate that there are inadequate rewards and incentives to staff (Mean=3.33, SD=.0.38). This is consistent with Gallagher (2002) who argued that engagement basis in the interaction among and between firm leaders and firm employees process of decision-making should be clearly expressed. Gallagher (2002) uses the concept of a 'ladder of decision making' in explaining responsibilities at various participation levels. The said ladder provides vision and a theoretical representation that helps elucidate role of participants and or players in the process of decision making.

Factor Analysis on the critical success factors for Firm Performance

In order to reduce and classify the above factors into meaningfully functional categories, factor analysis of the factors deemed important for the study. Preliminary analysis was first conducted to determine whether factor analysis is appropriate. The results indicate that none of the correlation coefficients were between 0.9) and 0.05.

The table 6 shows the Kaiser-Meyer-Olkin Sampling Adequacy measure and Bartlett Spericity Test.

Table 6: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.930
Bartlett's Test of Sphericity	Approx Chi-Square	19334.492
	Df	18
	Sig	.000

The KMO statistic is 0.930, indicating that the sum of the partial correlations is small relative to the sum of the correlations, an indicator of non-diffusion in the pattern of the correlations. In other words, the pattern of the correlations is relatively compact and so factor analysis should yield distinct and reliable factors.

Table 7 lists the Eigen values associated with the linear component (factor) before extraction, after extraction and after rotation.

Table 7: Factor extraction

component	initial Eigen value			extractions sums of squares loadings			rotations sum of squares loadings		
	total	% of variance	cumulative %	Total	% of variance	cumulative %	total	% of variance	cumulative %
1	7.29	23.01%	23.01%	7.29	23.01%	23.01%	7.11	22.44%	22.44%
2	5.739	18.11%	41.12%	5.739	18.11%	41.12%	5.70	17.99%	40.43%
3	4.317	13.63%	54.75%	4.317	13.63%	54.75%	4.11	12.97%	53.40%
4	3.227	10.19%	64.93%	3.227	10.19%	64.93%	3.36	10.61%	64.01%
5	2.145	6.77%	71.70%						
6	0.895	2.82%	74.53%						
7	0.806	2.54%	77.07%						
8	0.783	2.47%	79.54%						
9	0.751	2.37%	81.91%						
10	0.717	2.26%	84.18%						
11	0.684	2.16%	86.34%						
12	0.67	2.11%	88.45%						
13	0.612	1.93%	90.38%						
14	0.587	1.85%	92.24%						
15	0.549	1.73%	93.97%						
16	0.523	1.65%	95.62%						
17	0.508	1.60%	97.22%						
18	0.456	1.44%	98.66%						
19	0.424	1.34%	100.00%						

The results in Table 7 indicate that 20 linear components were identified. The Eigen value associated with each factor represents the variance explained by the particular linear component. Factor one explains 23.01% of total variance. Factors with Eigen values greater than one were then extracted, leaving only 4 factors. The Eigen values and the percentage of variance explained associated with the extracted and rotated factors are displayed. It is notable that rotation optimizes and equalizes the factor structure as shown. For instance, before rotation, factor 1 accounted for considerable more variance than the remaining three, however after the extraction it accounts for only 22.44% of variance compared to the rest.

Figure 1 presents the scree plot with a pointer to the point of inflexion on the curve. This confirms the choice of four factors as extracted by the PCA
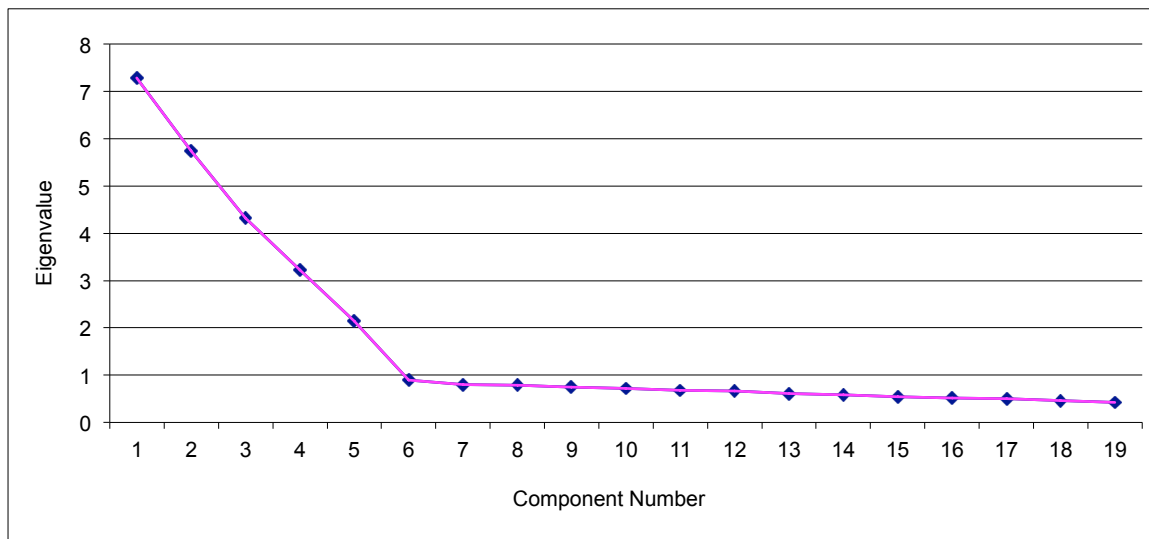

Table 8: Varimax Factor Rotation

	Factor 1	Factor 2	Factor 3	Factor 4
Items				
Factor 1: Strategy Adoption				
Use of latest technology	**0.79**	0.17	0.22	0.17
Cost cutting strategies	**0.84**	0.08	0.18	0.23
Business process automation	**0.80**	0.16	0.018	0.25
Staff reduction	**0.85**	0.13	0.17	0.23
Offering loyalty programs	**0.75**	0.12	0.08	0.13
Factor 2: Mckinsey's 7s Framework				
Support of key groups and other professionals	0.17	**0.81**	0.14	0.13
Attitude of leadership towards the strategy being implemented	0.24	**0.74**	0.15	0.31
Sufficient support from Top management	0.22	**0.84**	0.13	0.09
Efficient feedback mechanisms	0.32	**0.77**	0.25	0.17
Employees' belief in the vision and mission of the organization	0.24	**0.67**	0.18	0.28
Factor 3: Drivers to strategy implementation				
Culture remains an important consideration in the implementation of any strategy in the organization	0.15	0.25	**0.81**	0.11
The structure of the organization often dictates the way strategy is implemented	0.20	0.19	**0.78**	0.23
Effective leadership is a plus in strategy implementation	0.21	0.16	**0.76**	0.29
Factor 4: Barriers				
Organization's structure should be aligned with the strategy	0.14	0.22	0.23	**0.79**
Complex strategy is difficult to implement	0.28	0.26	0.18	**0.71**
Strategy implementation may fail due to lack of financial resources	0.33	0.14	0.24	**0.74**

Table 8 reveals that there are 5 factors. The variables uniquely load very highly onto a single

factor. The indicators/ variables that loaded very highly on factor one appears to all relate to performance cross-functionality. This indicate that there is a cross-functionality of the strategy adoption, McKinsey 7s Framework, Drivers to strategy Implementation and barriers to strategy implementation as the success factors for firm performance. The following discussion presents the rationale for these four factors being critical to the success of firms.

Factor 1: Strategy Adoption
The concept of strategy adoption provided an explanation on why some firms with very different approaches to their industry could succeed while others that followed similar approaches were not equally successful (Hamermesh, 1983). The element of strategy adoption refers to the actions that a company plans in response to or in anticipation of changes in its external environment, its customers, and its competitors (Waterman et al, 1980). Most organizations adopt various strategies to achieve competitive advantage and survival. Application of latest technology, cost cutting strategies and business process automation are some of the main strategies large supermarkets in Kenya adopt and have very critical influence on firm performance.

Factor 2: McKinsey's 7s Framework
Several academic authors have adopted McKinsey's 7S Model as a useful way of visualizing the key components managers must consider when disseminating a strategy throughout their organizations (DeKluyver, 2000; Pearce & Robinson, 1997; Wheelen & Hunger, 1995).The strengths of the McKinsey's 7S Model are its description of organizational variables that convey obvious importance, its recognition of the importance of the interrelationships among all the seven variables, and its generic form makes it applicable to all types of firms. The model can be used to help identify which elements need to be realigned to improve the performance the supermarkets.

Factor 3: Drivers of Strategy Implementation
Jones (2008) suggests that organization will be successful only when all members of the organization stand together to support the strategy implementation. Merchant and Van Der Stede (2007) adds that it is about understanding strategy, if the employees are ready for strategy implementation and if they are capable of implementing the strategy. The management of the supermarkets need to understand the critical factors that have greater influence on the success of strategies to be implemented. Organization's staff, structure, systems and leadership style are some of the critical factors that need to be aligned to achieve success of the strategy implementation process.

Factor 4: Barriers to Strategy Implementation
According to Fortuin (2007) 70 percent of the Chief Executive Officers did not fail because of poor strategy, but due to poor strategy execution. Implementing strategy might be very difficult if the structure of the strategy is very complex or if it is large as it makes monitoring and controlling processes to be confusing to the implementers and additional resources to succeed. Lewis et al. (2001) emphasize on the delaying effect the internal and external stakeholders can have upon the implementation of a strategy, especially within a Non-Profit Organizations. Several factors such as complex decision making process, inaccurate measurement tools, leadership style that does not involve all key groups required in the strategy implementation may impede the implementation process.

Regression Analysis

The first hypothesis was to assess the relationship between strategy, structure, system, staff, style, skills and shared value and firm performance. Table 9a presents the model summary of how the predictors affect firm performance.

Table 9a: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.868a	.753	.721	.0909809	2.001

Source: Primary Data

a. Predictors: (Constant), strategy, structure, system, staff, style, skills and shared value
b. Dependent Variable: Firm Performance

The results in Table 9a indicate a correlation coefficient of 0.868 which implies a strong relationship between Mckinseys 7s framework factors and performance of large supermarkets in Nairobi. The coefficient of determination (R^2) was 0.753. This indicates that 75.3% strategy, structure, system, staff, style, skills and shared value account for the variations in firm performance. The other 24.7% of the total variation in firm performance remains unexplained. Analysis of Variance (ANOVA) was used to test the significance of relation that exists between variables; thus, model's significance. The ANOVA results are presented in Table 9 b

Table 9b: Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.238	7	.034	615.760	.000b
Residual	.002	10	.000		
Total	.240	17			

Source: Primary Data

a. Dependent Variable: Firm Performance
b. Predictors: (Constant), strategy, structure, system, staff, style, skills and shared value

The ANOVA results presented in Table 9 b show that the regression model has a margin of error of $p < .001$. This indicates that the model has a probability of less than 0.1 thus, it is statistically significant.

The regression coefficients of the independent variables are represented in Table 9c.

Table 9 c: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.039	.061		.635	.528
Strategy	.311	.000	.020	2.797	.024
Structure	.892	.005	.044	3.425	.013
System	.239	.001	.034	42.865	.000
Staff	.631	.000	.034	5.428	.003
Style	.412	.001	.021	2.697	.024
Skills	.532	.002	.024	3.512	.013
Shared Value	.438	.001	.014	36.065	.000

a. Dependent Variable: Firm performance

The results in 9c reveal that all the factors are stastically significant p value >0.05. From the results the following model was formulated;

Firm performance = 0.039+0.311(Strategy) +0.892(structure)+ 0.239(system) +0.631(staff)+0.412(style)+0.532(skills) +0.438* (shared value) + e(error term).

From the model, the study found that holding strategy, structure, system, staff, style, skills and shared value at zero firm performance is calculated at 0.039. The study established that holding strategy, system, staff, style, skills and shared value constant, a unit increase in structure would lead to a 0.892 increase in firm performance. However, when strategy, structure, staff, style, skills and shared value are constant, a unit increase in system would lead to a 0.239 increase in firm performance. The study thus concluded that structure had the highest level of influence on enhancing performance of the large supermarkets in Kenya while system had the lowest.

The study sought to assess how strategy adoption, Mckinsey 7S framework, drivers to strategy implementation, barriers to strategy implementation influence firm performance. The model summary of how the predictors affect firm performance are presented in Table 10a.

Table 10a: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.921[a]	.848	.821	.0909809	2.001

a. Predictors: (Constant), Strategy adoption, McKinsey 7s framework, Drivers to strategy Implementation, barriers to strategy implementation
b. Dependent Variable: Firm Performance

Table 1.10a presents a correlation coefficient of 0.921 and determination coefficients of 0.848. This depicts a strong relationship between firm performance and the independent variables. The results show that strategy adoption, McKinsey's 7S framework, drivers and barriers to strategy implementation account for 84.8% of the variations in firm performance. The other 15.2% of the total variation in firm performance remains unexplained.

Analysis of Variance (ANOVA) was used to test the significance of relation exists between variables; thus, model's significance. The results are presented in Table 10b.

Table 10b: Analysis of Variance (ANOVA)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.136	4	.034	615.760	.000b
Residual	.003	13	.000		
Total	.139	17			

a. Dependent Variable: Firm Performance
b. Predictors: (Constant), Strategy adoption, McKinsey 7s framework, Drivers to strategy Implementation, barriers to strategy implementation

The ANOVA results presented in Table 10b shows that the regression model has a margin of error of p < .001. This indicates that the model has a probability of less than 0.1 thus, it is statistically significant.

Table 10c shows that the individual regression coefficients of independent variables.

Table 10c: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.039	.061		.635	.528
Strategy Adoption	.311	.000	.020	2.797	.024
McKinsey's 7S framework	.892	.005	.044	3.425	.013
Drivers to strategy Implementation	.239	.001	.034	42.865	.000
Barriers to strategy Implementation	.631	.005	-044	3.425	.013

a. Dependent Variable: Firm performance

From the results in Table 10c, the following regression model was established:

Firm performance= 0.039 + 0.311(Strategy Adoption) + 0.892 (McKinsey 7S Framework) + 0.239(Drivers of strategy implementation) + 0.631(Barriers to strategy Implementation) + ε(error term)

From the equation, the study found that holding strategy adoption, McKinsey 7S framework, drivers to strategy implementation and barriers to strategy implementation at zero firm performance is calculated at 0.039. The study established that holding strategy adoption, drivers to strategy implementation and barriers to strategy implementation constant, a unit increase in McKinsey 7s framework would lead to a 0.892 increase in firm performance. Additionally, when Strategy Adoption, McKinsey 7s framework and barriers to strategy implementation are constant, a unit increase in drivers to strategy implementation would lead to a 0.239 increase in firm performance. The study concluded that McKinsey's 7S framework is critical for the success of strategy implementation to achieve higher performance. The study established that all the McKinsey's 7S are statistically significant as they all have a probability of less than 0.1. The study also established that the McKinsey's 7S elements have positive influence on firm performance, with the highest being structure while system being the lowest. The findings agree with Geiger et al (2006) who argued that organizational structure is generally accepted as a fundamental part of effective strategy implementation. The study further established that strategy adoption, McKinsey's 7S framework, drivers of strategy implementation and barriers to strategy implementation are statistically significant and have a positive influence on firm performance, with the highest being McKinsey's 7S model and the lowest being drivers to strategy implementation. The findings agree with several authors who have adopted McKinsey's 7S model as a useful way of visualizing the key components managers must consider when disseminating a strategy throughout their organizations (DeKluyver, 2000; Pearson & Robinson, 1997; Wheelen & Hunger, 1995).

CONCLUSION

The study concludes that the adoption of McKinsey's 7S framework would lead to the success of strategy implementation process to a very large extent and thereby lead to improved firm performance. Furthermore the study concluded that organizational structure of the supermarkets influences its performance. It was also concluded that open system allows free flow of information between the departments/ branches within the organization to a large extent, while supermarkets with measurement and control mechanisms allowed them to

gauge their level of progress and find ways of improving operations as compared to their competitors.

The study also concluded that employee level of education, experience of organization staff, availability of relevant skills and competences, availability of multi-disciplinary team involved in the strategy, and good working relationship within members of the team would lead to the success of strategy implementation process. On the other hand, the government policies and regulations were barriers to effective implementation of strategy. This could be attributed to constraints associated with the regulations that could restrict the supermarkets from further expansion.

IMPLICATIONS OF THE STDUY

The study findings revealed that supermarkets need to use their resources optimally to achieve competitive advantage. Furthermore, supermarkets should rapidly transform their capabilities into action so as to exist in the dynamic competitive market environment. McKinsey's 7S framework proved to be of great importance in strategy implementation in order to achieve desired performance. The findings help build on the body of knowledge base specifically resource-based view and dynamic capabilities.

The findings showed that government regulations and policies impact to a great extent strategy implementation which is directly related to firm performance. The study provides invaluable insights to policy makers and retail industry regulators so as to be aware of the extent to which policies and regulations impact performance of the supermarkets. The study also established various strategies adopted by supermarkets, drivers and barriers to strategy implementation, impact of McKinsey's 7S framework on strategy implementation and how they relate to performance of the supermarkets. The results would impact how managers and investors seek to run the supermarkets to achieve sustainable competitive advantage.

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Consumers' Willingness To Pay For Safe Beef In Ibadan-North Local Government, Oyo State, Nigeria

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ABSTRACT

Beef demand among urban dwellers in Nigeria has grown overtime with increasing concerns for safety. Beef is commonly sold in open stalls where the risk of contamination is very high. Increasing the quality of beef and other beef products will require improvements on the management of abattoirs as well as inspection and certifications of beef quality. Such improvements will however come at a cost which consumers must be willing to pay. The study therefore assessed consumers' willingness to pay for safe beef in Ibadan Metropolis of Oyo State. Primary data was used for the study and obtained using well-structured questionnaires. Multi-stage sampling was used to select 150 beef consumers. Data were analysed using descriptive statistics and Heckman two-step regression model. Results reveal that majority of beef consumers (92%) are aware that beef sold in the open market may be contaminated while about 82% indicated their willingness to pay for safe beef. Beef consumers are willing to pay an average of ₦926.06 for a kilogramme of certified beef. Consumer's gender and awareness about safe beef significantly influence consumers' willingness to pay for safe beef. The age of the consumer positively influences the amount consumers are willing to pay for safe beef while the household size and frequency of purchase have a negative relationship. The study recommends increased enlightenment programs on safe beef, targeting females by entrepreneurs with respects to advertisements and sales activities while a mechanism of beef certification and quality labelling should also be put in place.

Keywords: Heckman, contingent valuation, selectivity, food safety, beef consumers.

INTRODUCTION

Beef is widely accepted as an important source of protein and staple food in many parts of the world. Globally, it is the third largest produced meat after pig and poultry meats and the second largest traded meat, after poultry meat (FAO, 2014). World beef production is estimated at about 60 million tonnes carcass weight equivalent (CWE), growing at an average of 1.7% annually (USDA, 2014). This is projected to reach 75 million tonnes CWE by 2023 with an average growth rate of 1.3% (OECD- FAO Outlook, 2015). The structure of beef production is highly concentrated with ten countries accounting for over 80% of global output; the United States and Brazil representing 35% of global production (USDA, 2014). On the other hand, consumption is estimated to be around 58 million tonnes with increased demand driven by the rise in the rate of urbanisation and lifestyle changes due to increased income (USDA, 2014 and Bernard *et al.*, 2009). The USA is the largest beef consumer in the world followed by Brazil

although; Uruguay accounts for the highest per capita consumption in the world with 49.2 kg. Per capita consumption in the USA and Brazil is about 25.6 kg (FAO, 2014).

In sub Saharan Africa, Nigeria is both the largest producer and consumer of beef, accounting for about half of total beef consumption in the ECOWAS region (Bernard *et al.,* 2009). The country has an estimated cattle herd of over 19.5 million (NBS, 2012), majority of which are tended by about 8 million nomads. This figure represents about 25% of the total cattle herd in West Africa (Bernard *et al.,* 2009). An estimated 7.5 million cattle is slaughtered annually in Nigeria to produce roughly 1 million tonnes of carcase beef (GEMS1, 2012). Per capita meat consumption in Nigeria is one of the lowest in the world. It stands at 1.8 kg per person per year while that of the sub-Saharan Africa region is about 3.3 kg (FAO, 2014). Demand for beef in Nigeria has been growing due to the increasing rate of urbanisation, consumers' purchasing power and the emergence of a new middle class (Bernard *et al,* 2009*)*.

Food safety concerns have recently emerged as an important issue among beef consumers in Nigeria, especially in the cities. This is because raw beef sold at different retail points face the risk of contamination due to exposure and contact with microbes from different sources (Umoh, 2002). Food safety issues concerning beef extends from the health and treatment of the live animal, through to slaughtering and final processing into beef and fifth quarter products that is sold to the consumers. Hence, improved management of abattoirs and slaughter houses is an important requirement in efforts to provide beef and beef products that meet quality requirements and that does not endanger public health. Although private beef retail businesses are growing, about 85% of the trade in beef and beef products in most parts of the country are still conducted in traditional, open market stalls where it is exposed to dust, flies and other environmental pollutants (Bernard *et al.,* 2009). The situation is worsened by overwhelming sanitation problems in markets and abattoirs such as improper refuse disposal, inadequate water supply and gross inadequacy of sanitary facilities. In the absence of standards and quality labels, consumers lack information about the quality of the beef they consume (Ehirim *et al* 2013). Verbeke and Ward (2006) suggested that information about beef quality can be communicated to consumers through labels and beef certifications. The needs of an increasing number of consumers who want healthier meat from regulated slaughterhouses can be satisfied by the private abattoir sector along with the private beef retail sector which is playing increasingly important roles within the beef industry. This will however come at a premium to cover the extra costs of beef processing (GEMS1, 2012) and more importantly, the success of such a programme will depend on the willingness of the consumers to pay for the extra costs arising from inspecting and certifying the quality of beef.

Several studies have examined different aspects of the beef industry in Nigeria; Oyediran (2015) investigated the impact of veterinary inspection practices on beef quality, Adeyemo (2002) examined the environmental implications of the unhygienic operation of a city abattoir, and Oluwafemi *et al.* (2013) reviewed beef processing practices. Only a few (Ehirim, 2015) examined the issue of beef quality from the demand side. However, none has disaggregated the analysis to examine the factors which influence consumers' decision to buy safe beef as well as what factors motivate the amount they will pay for safe beef. This paper therefore examined consumers' willingness to pay for safe beef in Oyo State. Specifically, we investigated the level of consumers' awareness of safe beef, identified the factors which influence both the consumers' willingness to pay for safe beef and the amount consumers will pay for safe beef as well as the average amount consumers will pay for a kilogramme of safe beef in the study area. The rest of this paper is organized as follows: section two describes survey design, data collection and the estimation methodology. This is followed by a discussion of the results of analysis in section three. The paper ends with a section on concluding remarks.

MATERIALS AND METHODS

The study was carried out in Ibadan Metropolis of Oyo State, Nigeria. Oyo State is located in the south-west geopolitical zone of Nigeria. The state covers a total of 28,454km^2 with a longitude and latitude of 8.1196^o N, 3.4196^o E respectively and a population of 5.592 million (NPC, 2010). The capital of Oyo state is Ibadan. The city is located at the edge of the savannah and is the third largest metropolitan area, by population, in Nigeria after Lagos and Kano; with a population of over 3 million (Makama, 2007). Ibadan   is located between latitude 7.23N and longitude 3.55E. Ibadan is located in south-western Nigeria, 128 km inland north-east of Lagos and 530 km southwest of Abuja, the federal capital, and is a prominent transit point between the coastal region and the areas to the north. Ibadan had been the centre of administration of the old western region since the days of the British colonial rule, and parts of the city's ancient protective walls still stand to this day. The city's total area is 1,190 sq. mi (3,080 km).

There are eleven (11) local government areas in Ibadan metropolis. Five of the local governments are urban which encompass Ibadan North, Ibadan North-East, Ibadan North-west, Ibadan south-east and Ibadan south-west. The remaining six are rural local governments covered by Akinyele, Egbeda, Ido, Lagelu, Ona Ara and Oluyole. The city is dominated by the Yorubas among other resident tribes while religion is mainly Christianity, Islamic and traditional religion background.

Primary data was used in this study and collected from beef consumers selected through a multi-stage sampling procedure. The first stage was the random selection of Ibadan North Local Government Area (LGA), followed by the second stage which involved the random selection of four out of the twelve wards in Ibadan North LGA. The final stage was the random selection of 40 beef consumers from each ward, making up a total of 160 respondents. However, only 150 beef consumers were used for analysis due to incomplete data. Information on consumers' socio-economic characteristics (such as sex, occupation, age, religion, marital status among others), the level of awareness and perception of safe beef were collected using structured questionnaires. Data was analysed using the double bounded dichotomous choice, contingent valuation method.

The double bounded dichotomous choice approach to contingent valuation was used to elicit information on consumers' willingness to pay for safe beef. It has been shown that the "double-bounded" approach is asymptotically more efficient than the conventional, "single- bounded" approach (Hanemann *et al.*, 1991). This method is also preferable to triple or higher bids. Cooper & Hanemann, 1995 showed that the additional statistical efficiency gains in estimating mean WTP from adding the third or fourth follow up bid is relatively small and it can increase the chance of inducing response effects.

Consumers were offered several opening bids ranging between ₦1000 to ₦1600. If a consumer accepts the first bid, the second bid is raised by ₦200. If the second higher bid is accepted, that value is considered as the WTP. However, if the consumer rejects the higher bid, the original bid offered is considered as the WTP. Also, if the consumer rejects the initial bid, then the bid is lowered by ₦200. If the lower bid is accepted, the value is considered as the WTP. If the second lower bid is however rejected, the consumer is asked to provide an estimate of the maximum amount she/he is willing to pay for safe beef. Note that in this process, each individual provides one of the four responses: yes-yes, yes-no, no-yes, no-no.

Heckman's two-stage model was used to analyse the determinants of consumer' willingness to pay for safe beef as well as the amount consumers will pay for a kilogramme of packed safe

beef. The first stage is a probit model which defines whether a consumer will pay for safe beef or not, while the second stage is an ordinary least squares regression model to determine the amount consumers will pay for safe beef.

According to Heckman (1979), consumers' willingness to pay *(WTP)* for safe beef is defined as:

$$WTP_i^* = X_I'\beta + \varepsilon_i, WTP_i = 1 \; if \; WTP_i^* > 0 \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1) \; and$$
$$WTP_i = 0 \; if \; WTP_i^* < 0 \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (2)$$
$$Prob(WTP_i = 1|X_i) = \Phi(X_i\beta) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (3) \; and$$
$$Prob(WTP_i = 0|X_i) = 1 - \Phi(X_i\beta) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (4)$$

The consumers' willingness to pay for safe beef is explicitly modeled as:

$$Y = \beta_{0+}\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \cdots + \varepsilon_i \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (5)$$

Where Y = consumer willingness to pay (yes=1, 0 otherwise)
X_1 = age (in years)
X_2 = sex (male=1, 0 otherwise)
X_3 = educational level (years spent in education)
X_4 = household size
X_5 = consumers' awareness of safe beef (yes=1, 0 otherwise)
X_6= frequency of purchase (number of times per week)
X_6= consumers' knowledge of safe beef (yes=1, 0 otherwise)
X_7= monthly income of the consumer (Naira)
X_8= marital status (married=1, 0 otherwise)
X_9= consumers' perception of quality index

Consumers' perception of quality index is an indicator of beef quality as assessed by the consumers. It is based on four beef characteristics namely beef colour, odour, freshness, and texture. Consumers are scored on a scale of 1-5 depending on their use of each characteristic to judge beef quality. The index is thereafter calculated by dividing the sum of the scores obtained by 20, the maximum obtainable. The index therefore ranges from 0 to 1 with values closer to 1 indicating higher beef quality perception by the consumers.

The second stage linear regression model is represented as:

$$WTP = w_i'\delta + u_i \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (6)$$

Where WTP is the amount consumers will pay for safe beef and it is observed only if Y_i = 1,
W_1 = age of the consumer (years)
W_2 = sex (male =1, 0 otherwise)
        W_3 = years of education (years)
W_4 = household size
        W_5 = frequency of purchase
W_6 = consumers' awareness of safe beef
W_7 = monthly income (naira)
        W_8 = quality perception index
        W_9 = lambda (Inverse Mill's ratio)

The coefficient on the Inverse Mill's ratio allows for a test of selection bias. If the regression coefficient of the inverse mills ratio is significant, it means there is sample selection bias and

the use of ordinary least squares will produce biased estimates of the amount farmers will pay for rainfall index insurance.

The error terms ε_i and u_i are assumed to have a bivariate normal distribution with zero means and correlation coefficient, ρ ($\varepsilon_i, u_i \sim bvn[0,0,1,\sigma_\varepsilon]$).

The mean willingness to pay for safe beef is estimated as:

$$E[(WTP|Y_i = 1, W_i, X_i) = W_i'\beta + \rho\sigma_u\lambda(W_i'\delta) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(7)$$

Where λ is the Inverse Mill's ratio.

RESULTS AND DISCUSSION

Table 1 presents the results description of socioeconomic characteristics of the beef consumers in the study area. The mean age is 37 (± 11.6) years and most of the consumers are females (68%) and married (72.7%) with a mean household size of 4 ± 2.25 members. This suggests that majority of the beef consumers are active working class people who can afford beef in their diets. Most beef consumers are well educated with an average of about 17 years of schooling. Consequently, it was observed that that most of the people who purchase beef have good-salaried jobs, given the mean monthly income of ₦106,805.33 ($305.16). Although there is a wide gap in the income of beef consumers as indicated on Table 1 which shows that about a quarter of the respondents belong to the highest and lowest income categories respectively. Results also indicate that majority of the consumers are civil servants (44%) and purchase beef about four to five times in a month (34%).

Table 1: Selected socioeconomic characteristics of beef consumers

Variable	Frequency	Percentage
Age (years)		
<30	52	34.7
31-40	52	34.7
41-50	24	16.0
51-60	17	11.3
>60	5	3.3
Mean	37.15	
S.D.	11.62	
Marital status		
Married	109	72.7
Single	41	27.3
Gender		
Male	48	32
Female	102	68
Years of education		
< 6	4	2.7
7-12	20	13.3
13-18	83	55.3
>19	43	28.7
Mean	16.89	
S.D	4.15	
Income (Naira)		
<20000	41	27.3
21000-40000	27	18.0
41000-60000	29	19.3
61000-80000	8	5.3
81000-100000	5	3.3
>100000	40	26.7
Mean	106805.33	
S.D	149125.51	
Household size		
<2	47	31.3
3-5	67	44.7
6-8	33	22.0
>9	3	2.0
Mean	3.87	
S.D	2.25	
Frequency of beef purchase		
Once per month.	43	28.7
2 to 3 times per month.	35	23.3
4 to 5 times per month.	51	34.0
>5 times per month	21	14.0
Occupation		
Civil servant	66	44.0
Self-employed	45	33.0
Private employed	32	21.3
Artisan	2	1.3
Others	5	3.3

Source: Field Survey, 2016.
Sample size = 150

From the results shown on Table 2, it can be seen that majority of beef consumers (92%) are aware that not all beef sold at various outlets are safe for consumption. This is not surprising given the mean years of education of the beef consumers. Many of them are aware of the risks of beef contamination due to exposure. With regards to knowledge on the human version of mad cow disease called variant Creutzfeldt - Jakob disease (vCJD), almost 95% of the beef consumers were aware that consumption of beef products infected with mad cow disease can

lead to vCJD. This may be due to the wide coverage which an outbreak of the disease in Europe received upon its discovery in the year 1996 (Setbon *et al.*, 2005). Moreover, almost a third of the beef consumers obtain information about the health risks of unsafe beef through a combination of mass media platforms (such as radio, television, and newspapers), family and friends and from health workers and the food and drugs regulatory agency (NAFDAC).

Table 2: Awareness of consumers about safe beef

Awareness	Frequency	Percentage
Awareness of safe beef		
Yes	135	90.0
No	6	4.0
Uncertain	9	6.0
Total	150	100
Awareness that unsafe beef consumption may lead to mad cow disease in humans		
Yes	142	94.7
No	5	3.3
Uncertain	3	2.0
Total	150	100
Source of safe beef information		
Mass Media	40	26.7
NAFDAC/Health Workers	20	13.3
Friends and Family	41	27.3
All of the Above	49	32.7
Total	150	100.0

Source: Field Survey, 2016.

Regarding the consumers' willingness to pay, Table 3 shows that over 80% of the consumers indicated a willingness to pay for safe beef. The observed willingness to pay can be attributed to the high level of awareness about the dangers posed by consumption of infected beef in addition to the high level of education of the beef consumers. It is therefore reasonable for the consumers to be positive about paying for safe beef in order to avoid the harmful effects of consuming contaminated beef. This result confirms the assertion by (GEMS1, 2012) that increasing demand for meat by consumers is accompanied by improved quality requirements.

The responses of the consumers to the bidding game are as shown in Table 4. Only respondents who indicated a willingness to pay were subjected to the interactive bidding game. About one –thirds of the consumers who indicated a willingness to pay agreed to pay even at higher prices. This shows that consumers who place a high premium on safe beef are prepared to pay a higher amount for the product. However, majority of the consumers only agreed to pay only after the opening bid was lowered.

Table 3: Distribution of consumers' willingness to pay for safe beef

Response	Frequency	Percentage
Yes	123	82
No	27	18
Uncertain	0	0
Total	150	100.0

Source: Field Survey, 2016.

Table 4: Distribution of beef consumers based on responses to bidding game

Responses	Frequency	Percentage (%)
yes-yes (yy)	43	34.96
yes-no (yn)	17	13.82
no-yes (ny)	54	43.90
no-no (nn)	9	7.32
Total	123	100.0

Source: Field survey, 2016

Table 5 shows the determinants of consumers' willingness to pay for safe beef. The chi-square value is 20.00 and it is significant at the 5% level of significance which indicates that the model is well fitted. The marginal effect shows the effect of a one unit change in the explanatory variable on the probability that a consumer will buy safe beef. The results indicate that awareness about safe beef is another factor which significantly affects consumers' willingness to pay for safe beef. The estimated coefficient is positive and significant at 1% level of significance, meaning that being aware of the deleterious effects of quality impaired beef increases the probability that a consumer will buy safe beef by 35.1%. This agrees with the findings reported by Xu and Wu (2010) that consumers who are aware of the health risks posed by quality impaired food items are more likely to pay for certified food. Further, the gender of the beef consumer significantly influences consumers' willingness to pay for safe beef. The estimated coefficient for gender is also positive and significant at 10% level of significance. This means that the probability of females paying for safe beef is 12.4% higher than males. This may be because females are largely responsible for the shopping decisions in most households and are therefore more likely to be interested in the quality of beef they purchase. This result is in agreement with the findings of Ehirim (2013) that women are more likely to buy safe beef than men.

Table 5: Determinants of consumers' willingness to pay for safe beef

Variable	Coefficient	Standard error	z-value	Marginal effects
Age	0.0023	0.0172	0.13	0.0005
Gender	0.5361*	0.2891	1.85	0.1242
Level of education	-0.0436	0.0391	-1.12	-0.0101
Household size	-0.0670	0.0787	-0.85	-0.0155
Frequency of purchase	-0.0893	0.6003	-0.15	-0.0207
Awareness of safe beef	1.5718***	0.4302	3.53	0.3515
Marital status	0.4120	0.3734	1.10	0.0954
Consumer's knowledge	0.5616	0.5640	1	0.1301
Monthly income	0.1693	0.1570	1.08	0.0392
Quality perception	0.2843	0.7490	0.38	0.0659
Constant	-2.1466	1.7544	-1.22	
LR χ^2	20.00			
Prob > chi2	0.0293			
Log likelihood	-60.709888			
Pseudo R^2	0.1414			

Source: Data Analysis, 2016
*, *** represent levels of significance at 10% and 1% respectively.

The results of the second stage regression of the Heckman model which shows the factors which influence the amount consumers will pay for safe are presented in Table 6. The chi square value of 19.22 is significant at 5% level of significance which indicates a good fit of the model. The lambda, which is the coefficient of the inverse mill's ratio is not significant which means that there is no selectivity bias in the sample. Findings reveal that the age of the beef consumer, the household size, and the frequency of purchase are the factors which determine how much consumers will pay for safe beef. The age of the consumer has a positive relationship with the amount the consumer will pay for safe beef and it is significant at the 10% level of significance. The estimated coefficient indicates that an increase of one year in the age of the consumer will increase the amount paid for safe beef by ₦10.97. This may be connected with the fact that older consumers are less likely to take health related risks especially as they will have to bear the cost of treatment of any ailment arising from contaminated beef consumption. This result is however inconsistent with the study of Wu *et al.* (2012) which found that age has no significant impact on the amount paid for safe food products. Further, the household size has a negative relationship with the amount the consumers will pay for safe beef. Its estimated coefficient is significant at the 5% level of significance. For each additional member in the household, the amount the consumers will pay decreases by ₦65.43. This could be as a result of the increase in total household expenditure which additional household members bring. This may reduce the ability of such households to afford safe beef. The frequency of purchase is also another factor which negatively influences the amount consumers will pay for safe beef. Its estimated coefficient is significant at 5% level of significance and indicates that frequent purchases of beef reduce the amount consumers will pay for safe beef by ₦423.66. This could be explained by the fact that most beef consumers are salaried and may not be disposed to increase the amount of household food expenditure allotted to beef purchase since it is fixed. This may be particularly for consumers who have not had any major health incident and assume that assessment of the beef by physical appearance is sufficient, thus; showing low valuation of safe beef. This result is consistent with the findings of Angulo and Gill (2007) that high frequency of buying beef reduces the premium paid for safe beef.

Table 6: Factors influencing the amount consumers will pay for safe beef.

Variable	Coefficient	Standard Error	z-value	P > |z|
Age	10.96532*	6.29119	1.74	0.081
Gender	-145.27	128.412	-1.13	0.258
Years of education	11.8303	16.1378	0.73	0.464
Household size	-65.42751**	28.9433	-2.26	0.024
Frequency of purchase	-423.658**	202.358	-2.09	0.036
Consumers' knowledge of safe beef	-271.95	175.146	-1.55	0.12
Monthly income	-26.189	60.5301	-0.43	0.665
Quality perception	295.313	305.995	0.97	0.334
Constant	1204.27	679.896	1.77	0.077
Lambda	13.1596	313.41	0.04	
Rho	0.0234			
Sigma	562.299			
Wald chi 2(8)	19.22			
Prob>chi2	0.0137			

Source: Data Analysis, 2016.
*, ** represent levels of significance at 10% and 5% respectively.

The average amount consumers will pay for safe beef is shown on Table 7. It is estimated from the fitted values of the Heckman model and the bounds are calculated using bootstrapping method. The result shows that the consumers will pay ₦926.06 for a kilogramme of safe beef.

Table 7: Mean willingness to pay estimate

Estimate	Observed coefficient	Lower bound	Upper bound
Mean	₦962.68	₦926.06	₦999.31

Source: Data Analysis, 2016.

CONCLUSION AND RECOMMENDATIONS

The study established that beef consumers are willing to pay for safe beef nevertheless; beef consumers who are aware of safe beef have a higher probability of being willing to pay for safe beef. Also, female beef consumers have a higher probability of being willing to pay for safe beef than males. Although, mean willingness to pay is about ₦962.68, the actual amount a beef consumer is willing to pay for safe beef is influenced by age, household size and frequency of purchase. Therefore, policy options should encourage increased enlightenment programs on safe beef. Also safe beef entrepreneurs should target the female folk with respects to advertisement and sales activities. Finally, a mechanism of beef certification and quality labelling should be put in place in order to assist safety-aware beef consumers in ascertaining the quality of the beef products they purchase.

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Is Post Earnings Announcement Drift A Priced Risk Factor in Emerging Markets? Chinese evidence

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ABSTRACT

This study examines the profitability of trading on earnings surprises in the post-earnings announcement period for equities listed in the Shanghai and Shenzhen stock exchanges spanning the period 2000 to 2008 when Chinese markets were developing. The paper also examines whether the drift is a priced risk factor. We show that a post-earnings announcement drift (PEAD) anomaly exists in China. We document that a hedge strategy of going long on stocks in the highest earnings surprise decile and going short on firms in the lowest earnings surprise decile generates 7.92% excess return in the 60 days following the earnings announcement. We also show that the PEAD is a priced risk factor. Our paper is the first to document that PEAD is systematically priced as a risk factor in stock returns.

JEL classification: G11 G14 G15 M41

Keywords: Post-earnings announcement drift, Earnings surprise, Divergence of opinion, Asset pricing

INTRODUCTION

In this paper we examine the profitability of trading on earnings surprises in the post-earnings announcement period for equities listed in the Shanghai and Shenzhen stock exchanges spanning the period 2000 to 2008. We also examine whether the PEAD is systematically priced as a risk factor in stock returns. We examine the significance of PEAD in the context of the one-factor and three-factor asset pricing models, as well as the enhanced one-factor and three-factor asset pricing models. We show that stock prices from the Chinese stock market have pronounced delayed reactions to earnings information. Specifically, a hedge strategy of going long the top decile of earnings surprise stocks and short the bottom decile of earnings surprise stocks can generate 7.92% excess return in the 60 days subsequent to earnings announcements. There is evidence that the magnitude of PEAD decreases in the level of market risk and increases in the level of trading volume as a proxy for transaction costs and liquidity. As far as the asset pricing tests are concerned we show that PEAD is a priced risk factor.

Post-earnings drift is the tendency for a stock's cumulative abnormal returns (CAR) to drift in the direction of a recent earnings surprise following an earnings announcement for several weeks or months (Linvnat and Mendenhall 2006). Since Ball and Brown (1968) first identified PEAD, a number of studies have confirmed the existence of PEAD in US markets.[1] Numerous

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See, for example, Brown and Kennelly (1972), Foster et al., (1984), Bernard and Thomas (1989, 1990), Ball and Bartov (1996), Kraft (1999), and Mendenhall (2002, 2004).

studies have attempted to explain the PEAD giving rise to three possible explanations. The first explanation is related to methodological shortcomings (Jacob et al. 2000; Livnat et al. 2006). The second explanation suggests investors' under-reaction to earnings announcement; that is, PEAD is caused by investors' underestimation of the significance of current earnings for future earnings (Foster, 1977; Bernard and Thomas 1990; Ball and Bartov, 1996). The third explanation suggests that PEAD is caused by the misspecification of the asset pricing model used to compute the abnormal returns. Although the first two explanations are the sources of PEAD, some studies show that, even after correction for methodology and investor under-reaction, the PEAD still remains. For example, Fama (1998) investigates market anomalies, and describes PEAD as the "granddaddy of under-reaction events"; more importantly, he argues that market efficiency survives the challenge from this anomaly by claiming that underreactions are just as frequent as overreactions in an efficient market. In a more recent paper, Richardson et al.(2010) argue that PEAD is not only one of the most researched accounting anomalies in academic area, it is also a popular trading strategy of the US institutional investors.

In contrast to the voluminous PEAD research in the US, there has been only limited research relating to non-US markets. Booth et al. (1996, 1997) show that PEAD is higher for positive earnings surprise than for negative earnings surprise in Finnish stock market. They relate PEAD to some unique features of the Finnish market. Hew et al. (1996) and Liu et al. (2003) find that there are significant drifts following earnings announcements of UK firms. A recent study by Truong (2010) reports that PEAD does also exist in the New Zealand stock market over 1994 to 2008 and that PEAD is stronger for negative earnings surprise than for positive earnings surprise. Truong (2011) also shows that PEAD exists in China. Our study not only extends the existing literature on PEAD to one of the most important Asia-Pacific stock markets, the Chinese market, which provides an interesting setting in which to investigate the PEAD effect but more importantly makes an important contribution by examining whether the PEAD is a priced risk factor. None of the prior studies we are aware of have investigated the PEAD in an asset-pricing context.

This prompts the question – Why China for a study of developing markets? Due to its rapid growth and increasing significance in the global financial markets, researchers and investors have turned much of their attention to the Chinese market. Since the inception of the Chinese stock markets in 1990, the total capitalization of the Shanghai and Shenzhen rose from 10.77 billion RMB to around 15.07 trillion RMB by the end of 2008, and the number of listed firms increased from 13 to 1604 during the same period. We show the change of Chinese stock market index and the rapid development of the whole market in Figure 1 and Table 1, respectively. The rapid growth of the Chinese markets is caused by the steady flow of newly listed firms and the vast reduction of state-owned shares. Because almost all publicly listed firms in China were once SOEs, the ownership structure of former SOEs has led to a mixed ownership structure of listed firms with several types of shares and non-tradable shares dominate Chinese markets.[2,3]

The types of shares in the Chinese market are state shares and legal person shares owned by the central government, local governments, or government-owned enterprises, and which cannot be traded publicly; A shares, traded by domestic investors or Qualified Foreign Institutional Investors; and B shares issued to foreign investors (Sun and Tong, 2003). Chinese firms are also allowed to issue shares in overseas stock markets, such as H shares listed in the Hong Kong Stock Exchange and N shares listed in the New York Stock Exchange (Poon et al., 1998; Sun and Chong, 2007).

Figure 1
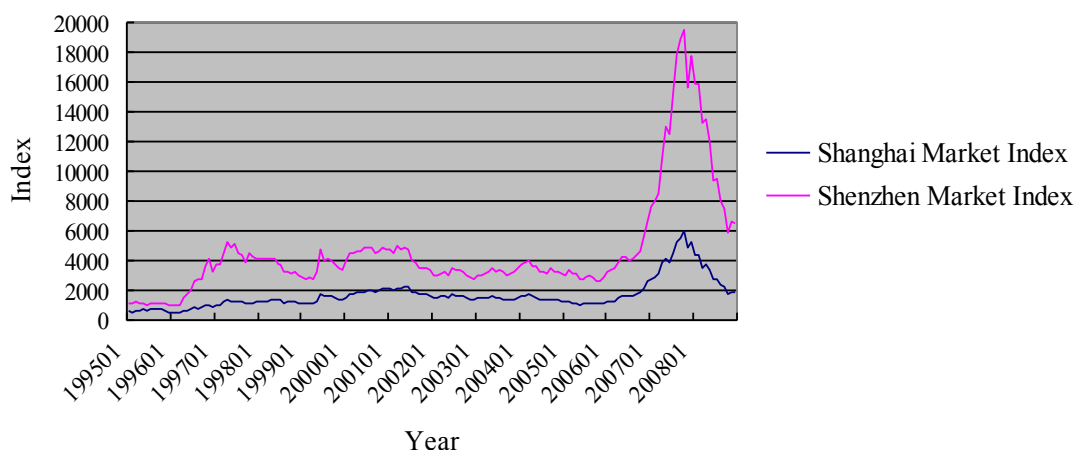**The Shanghai and Shenzhen A-share market index, 1995-2008.**

Figure 1 provides an overview of the Shanghai and Shenzhen A-share market index over the time period January 1995 to December 2008

Table 1
Descriptive statistics for the Chinese A-share market over the period January 1995 to December 2008

Year	Number of listed stocks	Total market value (in RMB, billions)	Market value of tradable shares (in RMB, billions)	Trading volume	Value of shares traded (in RMB, billions)
1995	287	333.78	79.68	68,095.67	395,816.63
1996	311	952.87	252.20	246,511.49	2,105,331.43
1997	514	1,731.66	488.18	247,129.84	3,029,521.18
1998	719	1,934.15	554.78	209,159.57	2,340,946.26
1999	825	2,630.52	797.74	280,931.81	3,104,367.78
2000	923	4,780.02	1,555.06	456,047.65	6,029,815.75
2001	1060	4,254.66	1,332.81	246,836.40	3,327,976.92
2002	1135	3,768.46	1,177.06	286,056.50	2,714,820.76
2003	1198	4,168.22	1,236.36	399,015.12	3,124,825.11
2004	1262	3,654.02	1,106.64	567,129.22	4,156,695.77
2005	1350	3,184.68	1,003.28	646,893.54	3,108,738.78
2006	1352	8,891.57	2,384.67	1,580,656.28	8,920,308.17
2007	1390	32,556.24	9,081.83	3,568,212.49	45,474,251.16
2008	1497	14,824.85	4,458.56	2,387,029.33	26,551,492.14

The Chinese authorities made several attempts to release non-tradable shares to the public. The first two attempts in 1999 and 2001 failed badly. On April 29, 2005, the Chinese authorities launched a new structural reform program to encourage all A-share listed firms to gradually transform non-tradable shares into tradable shares. Prior to the non-tradable share reform in 2005, about two-thirds of China's shares were non-tradable (Beltratti and Bortolotti, 2006; Lu et al. 2008). Non-tradable shareholders are entitled to the same voting and cash flow rights as holders of tradable shares but they cannot trade their shares publicly (Poon et al., 1998; Li and Greco, 2006).

This table provides an overview of the growth of the Chinese stock market from 1995 to 2008, including the number of listed firms, the total market capitalization of outstanding shares (tradable and non-tradable), the market capitalization of tradable shares, trading volume, and the value of shares traded.

Since the Chinese market has continued to reform since the late 1990s, the proportion of institutional investors has increased, including pension funds, mutual funds, and insurance companies. For example, closed-end funds became available as of 1998 and their number grew to 33 by the end of 2009, while open-end funds were issued starting in 2002 and increased to 335 by the end of 2009. Moreover, since 2000, the Chinese market has been open to international investors, who are referred to as qualified foreign institutional investors. However, institutional investors still play a limited role in the Chinese stock markets, such that short-term individual investors continue to dominate stock markets and limited investment instruments are available. The number of investor accounts has increased from 2.2 million to 79.73 million, 99.7% of the accounts being individual accounts and 0.3% are institutional accounts (http://www.szse.cn and http://www.sse.com.cn).

The average annual market turnover rate is 484% over the period 1993–2007, which is much higher than the 100% turnover rate for actively managed funds in developed markets. Hence, this unique institutional setting challenges traditional financial theory and asset pricing models. Kang et al. (2002) find that China is one of the few countries that are negatively correlated with the US markets. Drew et al. (2003) document that average returns are negatively related to book-to-market equity. Gong (2003) argues that because of unique cultural background of Chinese investors, they behave differently from western investors. Chen et al. (2007) show that Chinese investors sell stocks that have increased in value and hold on to stocks that have been decreasing in value.

Naughton et al. (2008) also show that although price momentum is strong in the Shanghai market, past trading volume has little predictability in China. Specifically, our study is related to that of Garfinkel and Sokobin (2006) in that we define earnings surprise as abnormal returns and to measure opinion divergence which is unexplained volume, the difference between earnings announcement turnover and the turnover from a non-announcement period. Our study extends the Garfinkel and Sokobin (2006) study by using Chinese market data to examine whether PEAD is associated with divergence of opinion.

Regarding the impact of arbitrage risk on PEAD our study is related to Mendenhall (2004), who finds that the magnitude of PEAD is significantly positively related to the arbitrage risk, which also impedes arbitrageurs who attempt to profit from it. With regard to the impact of liquidity and transaction costs, our study is related to Mendenhall (2004), who use the closing stock price 20 days prior to earnings announcement (PRICE) and the daily closing price times daily shares traded averaged over -120 to -20 days relative to earnings announcements (VOLUME) as proxies for transaction cost and liquidity. Our study is closely related to a recent study by Truong (2011) who investigates the PEAD for Chinese stocks. However, our study is different from that study in several aspects: we include divergence of opinion as a potential factor to explain PEAD; more importantly, from an asset pricing point of view, we examine whether the PEAD is a priced risk factor in explaining stock returns in the Chinese market, which is a major contribution of our study.

Overall, we make two main contributions. First, we provide new evidence by investigating the PEAD for Chinese equities and thereby contribute to the literature on the PEAD anomaly in the

context of an emerging market. We also examine the robustness of several factors that might determine the magnitude of PEAD. In doing so, we are the first to look at the relationship between the divergence of opinion and PEAD in China. This contributes to a better understanding of the nature of PEAD and the efficient market hypothesis. Our study is the first attempt to investigate whether the PEAD is a priced risk factor by constructing asset pricing models based on CAPM and Fama-French three-factor models and thereby contribute to risk-based explanations of stock price formation.

The remainder of this paper is organized as follows. Section 2 reviews the relevant literature and develops the motivation for this paper. Section 3 describes our data, methodology, variable definitions and research design. Section 4 presents empirical results and Section 5 concludes our study.

PRIOR RESEARCH AND MOTIVATION

As an empirical challenge to the semi-strong form of the EMH, the delay in stock price response to earnings announcement has been studied for four decades. Ball and Brown (1968) find abnormal returns before and after quarterly earnings announcements. Fama (1998) documents that "the granddaddy of underreaction events is the evidence that stock prices seem to respond to earnings for about a year after they are announced"(p.286), and he also states that "the post-earnings-announcement drift first reported by Ball and Brown (1968) has survived robustness checks, including extension to more recent data" (p.304). Subsequent studies have confirmed the significance of PEAD.[4] For the US sample, the magnitude of the drift which is obtained by a Compustat time series model and analyst forecasts data.[5] Some studies examine the PEAD anomaly in other stock markets. Booth et al. (1996) find that PEAD is stronger for firms that do not have smooth income series.

Booth et al. (1997) document that PEAD is stronger for firms that make significant adjustments for tax purposes. In the Finnish market, Finnish firms pay more attention to tax considerations, thus, earnings of firms that make significant tax adjustments are often larger because earnings need to be sufficiently large to allow for large depreciation. Using the Japanese sample, Mande and Kwak (1996) provide evidence of significant under-reaction among the analysts to earnings information. Griffin et al. (2008) confirm the profitability of PEAD strategy in several emerging markets. Troung (2010) shows that investors under-react to both analyst-based and time-series earnings surprise in New Zealand. Troung (2011) also provides convincing evidence that PEAD does exist in the Chinese market.

Although numerous studies confirm that PEAD exists, there is no consensus on what drives PEAD. A first potential explanation is focused on methodological shortcomings. For example, in the earliest PEAD papers, researchers use assumed rather than actual earnings announcement dates (Jones and Litzenberger 1970). Foster et al. (1984) avoid this problem by sorting stocks

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See Jones and Litzenberger (1970), Brown and Kennelly (1972), Joy et al.(1977), Watts (1978), Foster et al.(1984), Rendleman et al.(1987), Bernard and Thomas (1989, 1990), Freeman and Tse (1989), Mendenhall (1991), Wiggins (1991), Bartov (1992), Bhushan (1994), Ball and Bartov (1996), and Bartov et al.(2000), among others.

Using time series forecasts, Rendleman et al. (1982), Foster et al. (1984) and Bernard and Thomas (1989) document a top surprise decile versus bottom decile drift of about 8–10 basis points per day—about 5–6% per quarter from the 1970s to the 1980s. More recently, Collins and Hribar (2000) and Narayanamoorthy (2003) report two-quarter return differences of 7.1% for 1988–1997 and 6% for 1978–1998, respectively. Using analyst forecasts data, the magnitude of the drift is similar to that used in time series models. Abarbanell and Bernard (1992) find one- and two-quarter return differences of 4.98% and 7.02%, respectively. Using I/B/E/S data, Liang (2003) estimates the 60-day drift to be approximately 6% between 1989 and 2000.

based on the prior quarter's earnings surprise. The second explanation is that there is an increase in risk of companies for higher expected returns in equilibrium (Ball et al., 1993). The third potential explanation follows, for example, Rendleman et al. (1987) Bernard and Thomas (1989), and Freeman and Tse (1989) argue that the drift may be caused by investors who underestimate the implications of current earnings for future earnings, particularly next quarter's earnings. The third explanation is investigated in the recent literature in the form of several hypotheses. Several important factors that may influence PEAD are explored.

Arbitrage risk and PEAD
The statistical and economical magnitude of PEAD should attract arbitrageurs, who see the PEAD anomaly as a trading opportunity. Thus, it is likely to ask why arbitrageurs do not make profits by arbitraging away the PEAD. Wurgler and Zhuravskaya (2002) provide a possible answer, namely, that the demand of the arbitrageur for a stock is inversely related to that stock's arbitrage risk. Using a theoretical model where arbitrageurs have access only to a small number of stocks, Shleifer and Vishny (1997) find that if investors underreact to earnings announcements, stocks with high idiosyncratic risk will be more mispriced and therefore have higher drifts. Mendenhall (2004) defines arbitrage risk as the idiosyncratic part of a stock's volatility that arbitrageurs cannot avoid by holding offsetting positions, and argues that PEAD is positively related to arbitrage risk.

Transaction costs and PEAD
Trading frictions, such as transaction costs, can make attractive trading profits unrealizable. Garman and Ohlson (1981) show that stock prices can rationally differ from "frictionless prices" by as much as transactions costs. Bhushan (1994), Hou and Moskowitz (2005) and Brav and Heaton (2006) argue that stock price is negatively related to commissions and shows that the magnitude of the drift is positively correlated with the degree of trading frictions. However, Battalio and Mendenhall (2007) contradict Bhushan's (1994) inference that the drift is bounded by transactions costs.[6] Ng et al. (2008) study how transaction costs explain the existence of the PEAD effect. Chordia et al. (2009) also document that the PEAD occurs mainly in highly illiquid stocks.[7]

Divergence of opinion and PEAD
A stream of finance literature offers a potential explanation of return patterns following company events: divergence among investors' opinions (Miller, 1977; Varian, 1985; Harris and Raviv, 1993; and Hong and Stein, 1999).[8] Bamber (1987), Bamber et al. (1999), and Ajinkya et

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The authors investigate the impact of liquidity costs on the drift by examining actual quotes available to investors and their results show that an investor could have earned hedged portfolio returns of at least 14% per year after trading costs between 1993 and 2002.

Ng et al. (2008) predict that an underreaction to earnings announcement can occur because transaction costs constrain profitable trades and the drift in returns after earnings surprises is larger for firms whose shares have higher transaction costs. Consistent with predictions, these authors find that earnings response coefficients are lower for firms with higher transaction costs and the profits of implementing the PEAD trading strategy are significantly reduced by transaction costs. Chordia et al. (2009) show a difference of 1.55% in returns per month between the most liquid stocks and the most illiquid stocks. The explanation is that illiquid stocks have high trading and market impact costs. The authors also show that transaction costs account for anywhere from 66% to 100% of the paper profits from the long-short strategy.

Harris and Raviv (1993) state that even though investors receive the same public information in an earnings announcement, but they interpret information differently. Kim and Verrecchia (1994) document that earnings announcements may increase information asymmetries because different market participants process announcement information differently in private or informed judgment, which causes greater divergence of opinions and leads to an increase in trading volume. Kandel and Pearson (1995) predict that, as a proxy for divergence of opinion, trading volume should increase around the earnings announcement dates. The authors find

al. (2004) use trading volume around earnings announcements as a proxy for divergent opinions and find that volume is higher around those earnings announcements that are more likely to be associated with more divergent opinions.

Garfinkel and Sokobin (2006) provide a comprehensive study examining the relation between divergence of opinions and PEAD. They use unexpected trading volume as a proxy for divergence of opinion and find that unexpected trading volume around earnings announcements are positively related to future returns. In other words, a higher divergence of opinions at an earnings announcement date is associated with more positive returns during the post–earnings–announcement period. This evidence is consistent with Williams (1977), who predicts a positive association between future stock returns and divergence of opinion. In a more recent paper, Berkman et al. (2009) examine whether stocks with high differences of opinion have lower returns around earnings announcements.[9]

DATA AND RESEARCH DESIGN

The data used in this study are from two sources. First, from CSMAR, we obtain daily and monthly trading data and financial information for individual A-share stocks and the aggregated A-share market, including daily and monthly returns, daily trading volume, daily dollar trading volume, daily and monthly total market capitalization, and the daily and monthly market capitalization of tradable shares, as well as the risk-free rate. The market return is proxied by the daily or monthly aggregated market return constructed using A-share stocks listed on the SHSE and SZSE, and the risk-free rate is proxied by the daily or monthly return on the one-year fixed deposit. The accounting information used in this study is the book value of equity, which is defined as total shareholder equity. Second, from Bloomberg, we obtain the data for earnings announcement dates for A-share stocks from 2000 to 2008.

Our primary sample consists of earnings announcements between 2000 and 2008. All publicly listed firms in China are required to release quarterly announcements since the first quarter in 2002, and semi-annual reports since 2000.[10] To examine whether there is a PEAD effect following earnings reports in the Chinese market, we examine all earnings announcement observations, including quarterly, semi-annual and annual earnings announcements. For our sample, if there are multiple announcements on the same day for the same firm, we retain a single observation of the earnings announcement date. From Bloomberg, we collect 48,265 observations for earnings announcement dates for Chinese A-share stocks. When we eliminate observations with missing variables, we are left with 32,711 observations in our sample. For the asset pricing tests, we use two samples to investigate whether PEAD is able to explain stock returns. One sample consists of A-share stocks that have PEAD data, that is, 1517 stocks with 88,962 observations. The other sample includes A-share stocks that have return data, that is, 1,660 stocks with 110,644 observations.

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that volume is higher around earnings announcements than in non-announcement periods, in support of their prediction.

Berkman et al. (2009) use five proxies for divergence of opinion (earnings volatility, return volatility, dispersion of analysts' earnings forecasts, firm age, and share turnover) and find that stocks with a high divergence of opinion among investors have a price run-up prior to earnings announcements followed by a greater price reversal after the announcements. These findings favor Miller's (1977) hypothesis that stock prices which reflect an optimistic bias cannot persist indefinitely, in that periodic announcements that reduce differences of opinion also reduce upward bias in stock prices.

One interesting feature of the release of the earnings announcement date is that some listed firms release their annual and quarterly reports on the on the same day. For example, many listed firms in China release their annual reports of year *t* and the first quarter announcements of year *t + 1* on the same day, sometimes even releasing the fourth-quarter announcements of year *t*, the annual announcements of year *t*, and the first-quarter announcements of year *t + 1* on the same day.

We use the abnormal return at the earnings announcement as a measure of earnings surprise and proceed to investigate whether there is a PEAD effect. As discussed in the previous section, there are several potential determinants for the PEAD, including arbitrage risk, market risk, transaction costs and liquidity, divergence of opinion, short-sale constraints and investor sophistication. Short sales are not allowed in the Chinese stock market, so we are unable to construct a proxy for this factor. Due to the unavailability of data for investor holdings, this factor was also excluded. Hence, the variables used in this study are as follows.

Earnings surprise
In prior drift studies, a basic approach to estimating the earnings surprise is to use actual earnings minus a forecast of earnings divided by a deflator. The issue then is to determine the better proxy for earnings expectation. In general, there are two approaches. Researchers use either time series models based on COMPUSTAT data or analyst forecasts and actual earnings data from I/B/E/S. Our study uses the abnormal return to the earnings announcement as a measure of earnings surprise. There are several reasons: First, the available data for the analyst forecasts and actual earnings for Chinese A-share stocks from I/B/E/S are quite limited, and thus the I/B/E/S sample can be quite small.[11] Second, firms listed in the Chinese market are required to release quarterly earnings announcement only since the first quarter in 2002. If we use a traditional time series model to calculate earnings surprise, this sample would be much smaller than if we use the abnormal return as the proxy of earnings surprise. Third, there is no theory to determine the best proxy for earnings surprise. For this reason, we follow Garfinkel and Sokobin (2006) to estimate earnings surprise based on abnormal returns at the earnings announcements.

Daily abnormal returns are the raw daily return minus the daily return on the market portfolio from the CSMAR. Here the CAR earnings announcement event window is the CAR for the three-day window (*t - 1, t + 1*), where *t* is the earnings announcement date. We define the immediate short-term earnings announcement returns (CAR) as

$$CAR(-1,+1)_{i,event} = \sum_{t=-1}^{t=+1} \left(ret_{i,event,t} - R_{m,event,t} \right) \qquad (1)$$

where $ret_{i,event,t}$ is the raw return of stock i for day t relative to each earnings announcement and $R_{m,event,t}$ is the equal-weighted return of the market portfolio for day t relative to each earnings announcement. The event window (t - 1, t + 1) includes one day before the earnings announcement date, the announcement date, and the following day.

Post-earnings announcement abnormal returns
Consistent with prior drift studies (e.g., Foster et al., 1984; Bernard and Thomas, 1989), we calculate drift the firm's abnormal return cumulated from two days after each announcement through a window of 60 trading days following the announcement, that is, (*t* + 2, *t* + 60). The abnormal return is the raw return minus the average return on a market portfolio. The drift in returns following the earnings PEAD is defined as

[11] For Chinese A-share stocks, the I/B/E/S offers analysts forecast and actual earnings from 2004, but the number of forecasts is quite small, less than 700.

$$PEAD_{i,event} = \sum_{t=2}^{t=60} \left(ret_{i,event,t} - R_{m,event,t} \right) \tag{2}$$

where $ret_{i,event,t}$ and $R_{m,event,t}$ are defined as in model (5.1). The return period of drift PEAD (*t + 2, t + 60*) runs from two day after each earnings announcement date over a period of 60 trading days.

Control variables

We use several control variables that prior literature investigates the relationship between them and post-earnings announcement drift. Hence, we discuss the reasons for each control variable in this section. First, we estimate arbitrage risk by regressing the individual stock return against the market return in the 24 months ending one month before earnings announcements. Market risk is the explained variance from the market model regression. Since in Mendenhall (2004), the author estimates a stock's arbitrage risk as the residual variance from a market model regression over the 48 months ending one month prior to the earnings announcement. Second and third, we use the closing stock price 20 days prior to earnings announcement (PRICE) and the daily closing price times daily shares traded averaged over -120 to -20 days relative to earnings announcements (VOLUME) as proxies for transaction cost and liquidity.

Bhushan (1994) and Mendenhall (2004) point out that transaction costs and liquidity play an important role in explaining PEAD and thus we also include transaction costs and liquidity in our study to investigate their explanatory power. Fourth, following Garfinkel and Sokobin (2006), we use unexpected trading volume (turnover) as a proxy for divergence of opinion, which is the difference between earnings announcement turnover and the turnover from a non-announcement period. A large market microstructure literature uses turnover as a proxy for liquidity. So here we use turnover to capture liquidity and divergence of opinion. Our measure of unexpected turnover is used to control for liquidity and to capture opinion divergence by subtracting daily market-adjusted turnover over a non-announcement period from that around the earnings announcement. Specifically, we first calculate daily turnover as the firm's trading volume on that day divided by its tradable shares outstanding, and market turnover is obtained by the same method. Thus, the average daily market-adjusted turnover around earnings announcement window (*t - 1, t + 1*) is

$$TO_{i,ea} = \frac{\sum_{t=-1}^{t=1} \left[\left(\frac{Volume_{i,t}}{\#Shares_{i,t}} \right) - \left(\frac{MarketVolume_t}{\#MarketShares_t} \right) \right]}{3} \tag{3}$$

where $Volume_{i,t}$ is the trading volume for firm *i* on day *t* (*t* = 0 is the earnings announcement date), $\#Shares_{i,t}$ is the number of shares outstanding for firm *i* on day *t*, $MarketVolume_t$ is the aggregate market volume on day *t*, and $\#MarketShares_t$ is the aggregate number of shares outstanding in the market on day *t*. We then calculate the turnover over non-earnings announcements as the market-adjusted turnover averaged over a pre-earnings announcement period from day -54 to day -5 relative to the earnings announcement. The difference between earnings announcement turnover and the turnover from a non-announcement period $TO_{i,ea}$ is therefore

$$TO_{i,ea} = \frac{\sum_{t=-1}^{t=1}\left[\left(\frac{Volume_{i,t}}{\#Shares_{i,t}}\right) - \left(\frac{MarketVolume_t}{\#MarketShares_t}\right)\right]}{3} - \frac{\sum_{t=-54}^{t=-5}\left[\left(\frac{Volume_{i,t}}{\#Shares_{i,t}}\right) - \left(\frac{MarketVolume_t}{\#MarketShares_t}\right)\right]}{50} \quad (4)$$

Fifth and sixth, we use market capitalization (SIZE) to control for the information environment of the firm (Grant, 1980; Bamber 1987; Shores 1990). Since for larger firms, accounting information may be richer and more quickly incorporated into stock prices. The size effect is documented for Chinese equities (Drew et al. 2003; Wang 2004). We use B/M in one month before earnings announcements. B/M can be a proxy for risk and growth prospect. Those potential determinants of PEAD are summarized in Table 2.

Table 2
Earnings surprise measures and other potential determinants of post-earnings-announcement abnormal returns.

Variable	Description	Proxy	Expected sign
SUE	Earnings surprise is based on abnormal returns at the earnings announcements and daily abnormal returns are the raw daily return minus the daily return on the market portfolio from the CSMAR.	Earnings surprise	+
Arbrisk	Residual variance from market model regression estimated over 24 months ending one month prior to earnings announcement. *Source: CSMAR*	Unexplained risk	+
Mktrisk	Explained variance from the market model regression. *Source: CSMAR*	Explained risk	+ or 0
Price	Closing stock price 20 days prior to the earnings announcement. *Source: CSMAR*	Transaction costs/liquidity	+
Volume	Daily closing price times daily shares traded averaged over -120 to -20 days relative to earnings announcements. *Source: CSMAR*	Transaction costs/liquidity	+
ᵀTO	Difference between earnings announcement turnover and the turnover from a non-announcement period from day -54 to day -5 relative to the earnings announcement. *Source: CSMAR*	Divergence of opinion	+
SIZE	Market capitalization in year *t−1*. *Source: CSMAR*	Information environment/size effect	-
B/M	Book-to-market ratio. *Source: CSMAR*	Growth/BM effect	+

This table provides a summary of earnings surprise measures and other potential determinants of post-earnings-announcement abnormal returns

Research design
Portfolio analysis
To investigate whether there is a PEAD in the Chinese stock market, we examine differences in returns on portfolios based on earnings surprise. Following Garfinkel and Sokobin (2006), we estimate earnings surprise based on the abnormal return at the earnings announcement. Thus, we sort stocks into 10 decile portfolios based on the CAR for the three-day window (*t* - 1, *t* + 1) where t is the earnings announcement date. We follow Bernard and Thomas (1990) and Bhushan (1994) and transform CARs at the earnings announcement dates into decile ranks by sorting firms into 10 groups and assigning a decile rank to each firm within each decile. The highest positive CARs are allocated in Decile 10 and the lowest negative CARs are assigned to Decile 1. The coded rank of each firm is the decile rank divided by 9 minus 0.5. The ranks are then transformed to range between -0.5 to +0.5. The average time series drift for each decile portfolio is then calculated from two days after an each announcement through a window 60 trading days following the announcement, that is, (*t + 2, t + 60*).

Fama and MacBeth (1973) regression analysis

We examine determinants of PEAD by estimating cross-sectional regressions of interactive variables. We run the Fama–MacBeth cross-sectional regressions to investigate the explanatory power of each variable. The model is as follows:

$$PEAD(2,60)_i = Intercept + CAR_{i,t} + CAR_{i,t} * ARBRISK_{i,t}$$
$$+ CAR_{i,t} * MKTRISK_{i,t} + CAR_{i,t} * PRICE_{i,t} + CAR_{i,t} * VOL_{i,t}$$
$$+ CAR_{i,t} * SIZE_{i,t} + CAR_{i,t} * B/M_{i,t} + CAR_{i,t} * \Delta TO_{i,t} \tag{5}$$

Asset pricing analysis

To examine whether the PEAD is systematically priced as a risk factor, we run asset pricing tests on the CAPM one-factor, enhanced CAPM, and the FF three-factor and enhanced FF four-factor models. We follow FF (1993) to construct the market, size and B/M factor-mimicking portfolios and the proxy for the new PEAD factor (HPEADMLPEAD). The variable HPEADMLPEAD is the average difference in abnormal returns between the top 30% and bottom 30% of PEAD portfolios. Specifically, we calculate a PEAD factor-mimicking portfolio equal to the difference between the monthly excess returns of the top 30% and the bottom 30% of portfolios. The asset pricing tests that include the PEAD factor as an additional independent variable allow us to assess the degree to which PEAD contributes to the market risk premium, size and B/M premiums in explaining returns. Our CAPM model is

$$R_{i,t} - R_{f,t} = a_{pt} + b_i(R_{mt} - R_{ft}) + \varepsilon_{i,t} \tag{6}$$

The enhanced CAPM model is

$$R_{i,t} - R_{f,t} = a_{pt} + b_i(R_{mt} - R_{ft}) + p_i HPEADMLPEAD_t + \varepsilon_{i,t} \tag{7}$$

Our multifactor models of the FF three-factor model and enhanced FF four-factor models are

$$R_{i,t} - R_{f,t} = a_{pt} + b_i(R_{mt} - R_{ft}) + s_i SMB_t + h_i HML_t + \varepsilon_{i,t} \tag{8}$$

$$R_{i,t} - R_{f,t} = a_{pt} + b_i(R_{mt} - R_{ft}) + s_i SMB_t + h_i HML_t + p_i HPEADMPEAD_t + \varepsilon_{i,t} \tag{9}$$

where the dependent variable $(R_{i,t} - R_{f,t})$ is the daily excess returns of individual stocks, $(R_{m,t} - R_{f,t})$ is the excess daily return of the market portfolio, SMB_t is the daily return on the zero-cost portfolio for size, HML_t is the daily return on the zero-cost portfolio for B/M, and $HPEADMLPEAD_t$ is the daily return on the zero-cost portfolio for PEAD. The excess returns of individual stocks are regressed on each of the above asset pricing models (models 6 to 9) to determine whether the PEAD factor plays a significant role in explaining stock returns.

EMPIRICAL RESULTS

Portfolio analysis

Table 3 presents the means of CAR, PEAD, and characteristics for the period January 2000 to December 2008 for deciles sorted on CAR. Stocks are assigned to portfolios as described in the previous section.

Table 3
Average of PEAD and characteristics for decile portfolios based on CAR

Panel A: All earnings announcements sample									
	D_1	D_2	D_3	D_4	D_5	D_6	D_7	D_8	D_9	D_{10}
CAR	-0.0951	-0.0530	-0.0355	-0.0226	-0.0118	-0.0013	0.0097	0.0232	0.0435	0.1158
PEAD	-0.0494	-0.0468	-0.0397	-0.0312	-0.0260	-0.0185	-0.0030	0.0125	0.0176	0.0298

Panel B: Firm characteristics of the decile portfolios									
	D_1	D_2	D_3	D_4	D_5	D_6	D_7	D_8	D_9	D_{10}
Size	2,081	2,174	2,080	1,990	1,920	1,743	1,648	1,542	1,558	1,373
B/M	0.3857	0.3592	0.4261	0.4291	0.4079	0.4304	0.4086	0.4087	0.4068	0.4191
D/E	1.5699	1.3933	1.3365	1.4118	1.4269	1.2997	1.5310	1.3418	1.5177	1.7058
S/P	0.5303	0.5613	0.5548	0.5661	0.5460	0.5755	0.5465	0.5330	0.5153	0.5024
E/P	-0.0042	0.0072	0.0116	0.0101	0.0159	0.0160	0.0152	0.0131	0.0141	0.0185
C/P	0.0281	0.0326	0.0356	0.0402	0.0377	0.0383	0.0384	0.0371	0.0341	0.0413

Panel A of Table 3 represents the mean returns on 10 decile portfolios formed on earnings surprise which is based on the abnormal stock returns at the earnings announcement, CAR(-1,+1). We follow Garfinkel and Sokobi (2006) to calculate CAR (-1,+1), which is the CAR from day -1 to day +1 relative to earnings announcements. Panel B of Table 3 reports the firm characteristics of each decile portfolios, including size, B/M, leverage, S/P, E/P and C/P

Panel A of Table 3 presents the averages of CAR around earnings announcement and PEAD from day 2 to day 60 relative to the earnings announcement for 10 portfolios formed on CAR. Panel A of Table 3 reveals that there is a positive relationship between earnings surprise and PEAD: On average, the lowest-CAR decile (D_1) has a CAR of -9.51% and a PEAD of -4.94%, while the highest-CAR decile (D_{10}) has a CAR of 11.58% and a PEAD of 2.98%, a relative CAR difference of 21.09% (D_{10}-D_1) and 7.92% of PEAD. This delay in the stock price response to earnings announcements is consistent with the findings for developed markets because this delay is positive (negative) abnormal stock price performance following a better (worse) than expected earnings announcement.

Panel B of Table 3 presents the characteristics for portfolios, sorting on CAR. Interestingly, we find that, on average, stocks with larger CARs always have higher ratios of fundamental variables, such as B/M, leverage, S/P, E/P, and C/P. Thus, it appears that stocks that have larger earnings surprise are more likely to be value stocks. Table 4 reports the descriptive statistics for the explanatory variables of PEAD used in this study. Table 5 presents the correlations between the potential determinants of PEAD. Here CAR and PEAD are positively correlated, at 0.0699, and PEAD is also correlated to ARBRISK and $\triangle$TO but negatively correlated to other variables. CAR has a negative correlation with PRICE and VOLUME but is positively correlated with other variables. Since the correlations between PEAD and these explanatory variables are quite low, a regression analysis is required to investigate the impact of the potential determinants on PEAD.

Table 4
Descriptive statistics for the explanatory variables of PEAD

Variable	Mean	STD	25%	Median	75%
CAR	0.0021	0.1856	-0.0328	-0.0036	0.0250
ARBRISK	0.0084	0.9701	0.0052	0.0099	0.0209
MKTRISK	0.3959	1.1166	0.1484	0.2435	0.4227
PRICE	10.05	8.99	5.11	7.82	12.08
VOLUME	39,965	100,336	5,470	13,235	36,500
SIZE	1,825	5,788	467	824	1,593
B/M	0.4104	0.2827	0.2072	0.3422	0.5407
‧TO	0.0020	0.0258	-0.0066	-0.0003	0.0072

This table reports descriptive statistics for the explanatory variables used in this study to explain PEAD. Here CAR (-1, +1) is the CAR from day -1 to day +1 relative to earnings announcements. ARBRISK is the residual variance from a market model regression of monthly individual stock return against market return over 48 months ending one month prior to earnings announcements. MKTRISK is the return variance explained by the market model regression: PRICE is the closing stock price 20 days prior to the earnings announcements; VOLUME is the average dollar trading volume from day -120 to day -20 relative to earnings announcements (in millions of RMB); SIZE is the market capitalization in the one month prior to earnings announcement (in millions of RMB); B/M is the ratio of the book value of equity to market capitalization; and ‧TO is a proxy for divergence of opinion as described in this section.

Table 5
Correlation between potential explanatory variables of PEAD

	PEAD (+2,60)	CAR (-1,+1)	ARB RISK	MKT RISK	PRICE	VOLUME	SIZE	B/M	‧TO
PEAD (+2,60)	1.0000								
CAR (-1,+1)	0.0699	1.0000							
ARBRISK	0.0078	0.0021	1.0000						
MKTRISK	-0.0060	0.0035	0.4598	1.0000					
PRICE	-0.0632	-0.0077	0.0601	0.0763	1.0000				
VOLUME	-0.1104	-0.0240	-0.0150	0.0410	0.2990	1.0000			
SIZE	-0.0448	0.0138	0.0107	-0.0091	0.3271	0.7815	1.0000		
B/M	0.0764	0.0118	-0.0550	-0.0990	-0.4701	-0.1814	0.1273	1.0000	
‧TO	-0.0158	0.1337	0.0064	-0.0147	-0.0508	-0.0087	0.0353	0.0144	1.0000

This table presents Pearson correlation between the variables. Here PEAD (+2, 60) is the CAR from day +2 to day +60 relative to earnings announcements. Daily abnormal return is the difference between the daily return of individual stock and the market return. Here CAR (-1, +1) is the CAR from day -1 to day +1 relative to earnings announcements: ARBRISK is the residual variance from a market model regression of monthly individual stock returns against market return over 48 months, ending one month prior to earnings announcements; MKTRISK is the return variance explained by the market model regression; PRICE is the closing stock price 20 days prior to the earnings announcements; VOLUME is the average dollar trading volume from day -120 to day -20 relative to earnings announcements; SIZE is the market

capitalization in the one month prior to earnings announcement. B/M is the ratio of the book value of equity to market capitalization; and ▸TO is a proxy for divergence of opinion.

Fama-MacBeth regression results

To investigate how explanatory variables can affect the magnitude of the drift, we follow Bhushan (1994) and Bartov et al. (2000) to use interactive variables and the slope of the CAR–PEAD relation to vary with each potential determinant. We interpret the coefficient of each interactive variable as the average difference in abnormal returns between the highest and lowest CAR, since a regression slope coefficient is the expected change in the dependent variable for one unit change in the independent variable.

In Table 6, we present the Fama–MacBeth univariate regression results. For the regression of PEAD on the CAR, the average slope is 0.0103 and significant with a *t*-statistic of 2.04. This coefficient for CAR is consistently positive and statistically significant from zero at 5% level. We note that in Table 6 the drift is significantly negative related with market risk (MKTRISK), but positively related with VOLUME. The coefficient for the interactive variable CAR*MKTBRISK is -0.0275, with a significant *t*-statistic -2.77. The coefficient for the interactive variable CAR*VOL is 0.0264, with a significant *t*-statistic 1.96. The variables ARBRISK, PRICE, SIZE, B/M and divergence of opinion do not appear to add significant explanatory power for the PEAD. In summary, from the analysis of Fama–MacBeth regressions, we find that (1) the CAR is significantly and positively related to PEAD, which confirms the findings of portfolio analysis; (2) the factor of market risk is negatively related to PEAD; and (3) the factor of volume is positively related to PEAD. Full model regressions in Table 6 are repeated using a pool regression method in Table 7. The coefficients of CAR are negative and insignificant. With the exception of the significant coefficient for MKTRISK, all other coefficients are also insignificant.

Table 6
Fama–MacBeth univariate regression results of the potential explanatory variables for the PEAD

Model	Intercept	CAR	CAR *ARB	CAR *MKT	CAR *PRICE	CAR *VOL	CAR *SIZE	CAR *B/M	CAR *▸TO
1	-0.0073	0.0103							
	(-1.86)	(2.04)							
2	-0.0074	0.0103	-0.0093						
	(-1.87)	(1.97)	(-0.80)						
3	-0.0073	0.0104		-0.0275					
	(-1.89)	(2.05)		(-2.77)					
4	-0.0070	0.0102			0.0011				
	(-1.77)	(2.01)			(0.07)				
5	-0.0074	0.0101				0.0264			
	(-1.88)	(2.03)				(1.96)			
6	-0.0076	0.0104					0.0174		
	(-1.96)	(2.04)					(1.40)		
7	-0.0072	0.0100						-0.0133	
	(-1.80)	(1.91)						(-0.64)	
8	-0.0069	0.0119							-0.0178
	(-1.66)	(2.68)							(-0.89)

This table represents the results of the Fama–MacBeth regressions estimated every quarter and the coefficients are averaged across all estimates. T-statistics are in PEAD (+2, 60) is the CAR from day +2 to day +60 relative to earnings announcements. Daily abnormal return is the difference between the daily return of an individual stock and the market return. CAR (-1, +1) is the CAR from day -1 to day +1 relative to earnings announcements: ARBRISK is the residual variance from a market model regression of a monthly individual stock return against market return over 48 months ending one month prior to earnings announcements; MKTRISK is the return variance explained by the market model regression; PRICE is the closing stock price 20 days prior to the earnings announcements; VOLUME is the average dollar trading volume from day -120 to day -20 relative to earnings announcements; SIZE is the market capitalization in the one month prior to earnings announcement. B/M is the ratio of the book value of equity to market capitalization; and ﹐TO is a proxy for divergence of opinion. All independent variables are ranked into deciles that are then adjusted by dividing the ranks by 9 and subtracting 0.5, such that the coded rankings range from -0.5 to 0.5

Table 7
Pooled univariate regression results of the potential explanatory variables for the PEAD

Model	Intercept	CAR	CAR *ARBRISK	CAR *MKTRISK	CAR *PRICE	CAR *VOL	CAR *SIZE	CAR *B/M	CAR *﹐TO
1	-0.02872	-0.00080							
	(-20.70)	(-0.18)							
2	-0.02873	-0.00069	-0.00680						
	(-20.71)	(-0.16)	(-0.49)						
3	-0.02878	-0.00051		-0.03384					
	(-20.75)	(-0.12)		(-2.50)					
4	-0.02876	-0.00106			0.02161				
	(-20.73)	(-0.24)			(1.60)				
5	-0.02871	-0.00097				0.02090			
	(-20.70)	(-0.22)				(1.53)			
6	-0.02878	-0.00063					0.01871		
	(-20.74)	(-0.15)					(1.38)		
7	-0.02871	-0.00097						-0.00777	
	(-20.70)	(-0.22)						(-0.57)	
8	-0.02882	-0.00116							0.00836
	(-20.64)	(-0.27)							(0.64)

This table represents the pooled univariate regressions of the relationship between explanatory variables and PEAD. PEAD (+2, 60) is the CAR from day +2 to day +60 relative to earnings announcements. Daily abnormal return is the difference between the daily return of an individual stock and the market return. Here CAR (-1, +1) is the cumulative abnormal returns from day -1 to day +1 relative to earnings announcements: ARBRISK is the residual variance from a market model regression of a monthly individual stock return against market return over 48 months ending one month prior to earnings announcements. MKTRISK is the return variance explained by the market model regression; PRICE is the closing stock price 20 days prior to the earnings announcements; VOLUME is the average dollar trading volume from day -120 to day -20 relative to earnings announcements; SIZE is the market capitalization in the one month prior to earnings announcement. B/M is the ratio of the book value of equity to market capitalization; and ﹐TO is a proxy for divergence of opinion. All independent variables are ranked into deciles which are then adjusted by dividing the ranks by 9 and subtracting 0.5, such that the coded rankings range from -0.5 to 0.5.

Asset pricing test results

We investigate whether a PEAD is systematically priced as a risk factor in stock returns. We examine the significance of PEAD in the context of the one-factor and three-factor asset pricing models, as well as the enhanced one-factor and three-factor asset pricing models. Table 8 reports the mean values of the coefficients and *t*-statistics for whether the mean coefficient is significantly different from zero. We begin by estimating the traditional CAPM and then add a new factor, HPEADMLPEAD. The coefficient for the new factor HPEADMLPEAD, is positive and highly statistically significant, with a *t*-statistic of 18.21. Although the coefficient of beta remains positive and significant, its magnitude and significance have decreased. This suggests that some information in the PEAD factor overlaps with the market risk premium. Nonetheless, the evidence of both significant variables indicates that neither beta nor the PEAD factor can replace the other. We also investigate whether PEAD adds explanatory power to a multifactor asset pricing model by examining the enhanced FF three-factor model. This result provides evidence as to whether the PEAD factor proxies for either or both the size (SMB) and the B/M factors (HML). The coefficient for the PEAD factor is 0.3997, with a *t*-statistic of 11.79. This result confirms the explanatory power of the new PEAD factor in stock returns. The results in Table 8 confirm that PEAD plays a statistical role in pricing stock returns. To investigate whether these findings are specific to the sample of stocks used to calculate the PEAD factor, we repeat the one- and three-factor tests in Table 9. Specifically, the CAPM tests show significant positive loadings on the PEAD factor, with a *t*-statistic of 4.32. The three-factor results show that the PEAD factor retains statistical significance in relation to the other three factors (*t*-statistic, 2.26).

Table 8
Regression analysis of the relation between expected stock returns and PEAD by testing the asset pricing models of the CAPM, the enhanced CAPM, and the FF three-factor and the enhanced FF three-factor models with a sample consisting of individual stocks that have earnings announcements data

	Base model: CAPM				Base model: FF 3-factor model			
	Coeff	*t*-Stat	Coeff	*t*-Stat	Coeff	*t*-Stat	Coeff	*t*-Stat
Intercept	0.0099	7.38	0.0072	-3.87	0.0196	13.60	0.0151	4.29
R_m-R_f	0.6617	82.72	0.4542	2.23	0.6795	61.19	0.4762	2.07
SMB					0.4951	29.87	0.5107	14.66
HML					-0.1055	-3.97	0.2866	2.03
HPEADMLPEAD			0.2495	**18.21**			0.3997	**11.79**

This table reports the coefficients and *t*-statistics for the asset pricing models including the CAPM, the enhanced CAPM, and the FF three-factor and enhanced FF three-factor models. The sample consists of the individual stocks that have earnings announcements data. We follow FF (1993) to define and measure the risk factors R_m-R_f, SMB and HML, where R_m-R_f is excess return on the market portfolio; SMB is the return on the size factor-mimicking portfolio, HML is the return on the B/M factor-mimicking portfolio; and HPEADMLPEAD is the return on the PEAD factor-mimicking portfolio.

Table 9
Regression analysis of the relationship between expected stock returns and PEAD by testing the asset pricing models of the CAPM, the enhanced CAPM, and the FF three-factor and the enhanced FF three-factor models with the sample consisting of individual stocks that have return data

	Base-model: CAPM				Base-model: FF three-factor model			
	Coeff	t-Stat	Coeff	t-Stat	Coeff	t-Stat	Coeff	t-Stat
Intercept	0.0271	16.75	0.0312	10.75	0.0174	3.08	0.0290	10.36
R_m- R_f	1.1603	96.65	1.1610	96.68	1.0456	82.78	1.0351	75.38
SMB					0.4807	6.60	0.6438	21.36
HML					0.2572	1.99	0.0688	1.12
HPEADMLPEAD			0.0897	**4.32**			0.0750	**2.26**

This table reports the coefficients and *t*-statistics for the asset pricing models including the CAPM, the enhanced CAPM, and the FF three-factor and the enhanced FF three-factor model. The sample consists of the individual stocks that have stock return data. We follow FF (1993) to define and measure the risk factors R_m-R_f, SMB, and HML, where R_m-R_f is excess return on the market portfolio; SMB is the return on the to size factor-mimicking portfolio, HML is the return on the B/M factor-mimicking portfolio, and HPEADMLPEAD is the return on the PEAD factor-mimicking portfolio.

CONCLUSIONS

This study investigates the delay in the stock price response to earnings announcements in the Chinese stock market. Consistent with the findings of Truong (2011), we confirm a PEAD in the Chinese stock market by showing that the hedge trading strategy of going long on the top 10% of earnings surprise stocks and short on the bottom 10% of earnings surprise stocks can generate 7.92% excess return in 60 days following the earnings announcement. Additionally, we examine potential determinants of the PEAD effect and find that the magnitude of PEAD is significantly negatively related to market risk. We also find evidence that the magnitude of the drift is positively related to trading volume as a proxy for transactions costs and liquidity. In the asset pricing tests, we find that the PEAD factor is significantly and positively priced as a risk factor, not only for the sample of stocks with PEAD data, but also for the sample of A-share stocks. To the best of our knowledge, this is the first study that examines whether the PEAD is a risk factor in China. The findings in this study have important implications for researchers and investors. For example, both domestic and global institute investors can conduct trading strategy based on earnings information in China. The significant role of the PEAD in explaining stock returns can help us understand stock price formation in an emerging market.

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The Role of Corporate Management in an Effective Crisis Management Program

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ABSTRACT

Contemporary businesses face many challenges that have the potential of compromising their success and, at times, survival. These challenges include "weathering the storm" when an organization is confronted with a crisis event or situation. A crisis may originate within an organization, as in the case of a defective product, financial or legal impropriety, or a security breach compromising customer information; or from an external source, as in the case of a catastrophic weather event or labor strike impacting an organization's operations. The importance of a proactive approach in advance of, during, and following a crisis event has demonstrated its merit in enhancing an organization's ability to prepare for, live through, and recover from a crisis event. This paper considers the importance of a proactive crisis management program in contributing to organizational resilience to "weather the storm" of a crisis event successfully and the essential role that corporate managers play in an effective crisis management program.

Keywords: Crisis management, Corporate management, Crisis communication, Business continuity, Organizational resilience, Reputation management

INTRODUCTION

While there are many challenges that a contemporary organization may face, one of growing practical and research interest has been the potential of facing a crisis event or situation. Crisis situations are inherent in the activity of any contemporary organization regardless of type (Mitut, 2011). Crisis situations impacting an organization may originate from both external and internal sources. Every organization faces the risk of crisis as the environment in which it operates continues to change constantly and present threats to its business operations and survival (Glamuzina and Lovrincevic, 2013).

Crisis management is a systematic attempt to prevent organizational crises and to manage those that do occur. Organizations have an essential role in studying internal and external factors responsible for crisis situations and identifying strategies for preventing crises and effectively and efficiently managing those that do occur. The capability to manage unexpected crisis situations strategically is a major strength of a contemporary organization (Taneja et al., 2014). The ability to manage a crisis has been identified as an important management skill set (Coombs, 2007). Crisis leadership skills have increased in importance with the increase in global disasters in recent years (Thach, 2012).

The purpose of this paper is to review and examine current literature on the management of crises in organizations. It reports on the insights gleaned from a comprehensive literature review, as well as review of how certain organizations have responded to crisis situations.

After considering the nature of and potential business impact of crisis events, the paper will discuss the expectations of various stakeholder groups during a crisis and the challenges that these expectations present to an organization experiencing a crisis event.

Review of the literature and situations where organizations experienced a crisis event reveals the importance of a proactive approach in preparing for, managing through, and recovering from a crisis. The study considered the importance of a proactive crisis management program designed ideally to prevent, and to respond successfully to and recover from those crises that do present themselves. A proactive crisis management approach will be advanced as an essential strategy in building the necessary organizational resilience to "weather the storm" of a crisis event or situation. A proactive approach is essential in enhancing a contemporary organization's resilience within the challenging, dynamic world of business.

A crisis management model will be introduced along with the importance of crisis management actions before, during, and after a crisis. The crucial role that corporate management plays during each phase of crisis management will be discussed. The important role of effective communication throughout a crisis will be emphasized, as will the importance of corporate leadership in preparing for, living through, and recovering from crises.

BACKGROUND
Nature of Crisis Events
While various authors, researchers, and practitioners define a "crisis" in different terms, there are certain common elements of these definitions that serve as a basis for the present study. These include the fact that a crisis situation or event demands time-sensitive attention, decision-making, and action in the interest of containing its potential impact on the organization. Crisis events are viewed as inevitable; it is not a question of if, but when a crisis will occur. Organizations have always been and will always be vulnerable to some form of crisis.   The key elements that differentiate a crisis from normal business problems or challenges are ambiguity, high stakes, and perception of urgency (James and Wooten, 2005). In the current dynamic market environment, organizations are vulnerable to many problems which can result in a real business crisis (Mazanek, 2015).

Several representative definitions of a "crisis" provide a context for this study. Coombs (2007) defines a crisis as "a sudden and unplanned event that threatens to disrupt an organization's operations and poses both a financial and reputation threat." James and Wooten (2005) view a crisis as "a rare, significant, and public situation, which creates highly undesirable consequences for the enterprise and its stakeholders and requires from business leaders immediate corrective action." Others have defined a crisis as "a series of unforeseen events that can thrust an organization into a downward spiral that is quick and has potential long-term effects if the situation is not handled promptly, effectively, and efficiently" (Taneja et al., 2014) and "an unplanned (but not necessarily unexpected) event that calls for real-time, high-level strategic decisions in circumstances where making the wrong decisions, or not responding quickly or proactively enough, could seriously harm the organization" (Davies, 2005).

While the concept of relating a proactive approach to effective crisis management to organizational resilience is a fairly new topic of growing practical and research interest, how prepared an organization is to respond to crisis situations is certainly a determinant of its continued success and, in some cases, survival. Crisis events or situations can originate from external and/or internal sources. Often cited examples of external factors that result in crises impacting an organization, industry, or nation include economic and market forces. Natural disasters and severe weather events are, likewise, external factors that can present themselves

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as a crisis requiring appropriate and timely action on the part of an organization. Recent instances where the infrastructure on which an organization relies was compromised through service interruptions of essential mission-critical services provided by traditional utilities and internet service providers further illustrate external sources that can cast an organization into a crisis situation.

Crisis events resulting from internal sources are typically based on the actions or lack of actions that triggered them. The discovery of financial improprieties or illegal activities serve as prime examples of actions that can tarnish an organization's reputation, as well as often compromising its ability to survive the crisis and continue to succeed and prosper. Contemporary organizations may face similar challenges resulting from inappropriate or flawed business relationships. How an organization prevents and responds to defective products or product tampering, as well as catastrophic accidents, is a crucial aspect of ensuring organizational resilience to potential crisis events. Classic examples of such situations would include how Johnson & Johnson handled the Tylenol product tampering a number of years ago, and the highly publicized handling by Exxon and British Petroleum (BP) of their respective oil spills.

An all too frequent crisis event in this age of information technology and the mission-critical role of this technology in the operations of many contemporary organizations involves technology failures. While the cause, scope, and impact of technology failures can vary, these crisis events can result in loss of data, security breaches, identity theft, service interruptions, and service failures. The fact that these events can not only compromise the effectiveness and efficiency of an organization's operations, but also can directly impact its customers and other stakeholders in the case of failure to protect their personal data and prevent identity theft, serve as a key factor in decisions of those with whom an organization does business deciding to take their business elsewhere.

Business Impact of Crisis Events

The potential business impact of a crisis event should be fully understood and never underestimated. Crises can impede the operations of an organization (Fragouli and Ibidapo, 2015), as well as damage an organization's reputation (Coombs and Holladay, 2014). Furthermore, a crisis can result in loss of operational control, concerned employees and owners, demoralized managers, and limited financial resources (Glamuzina and Lovrincevic, 2013).

The business impact will most certainly be determined by the nature and scope of a crisis. How an organization has positioned itself through advanced planning and action will influence the degree and impact of exposure. A number of organizational factors determine the degree of exposure that an organization faces during a crisis. Organizations with decentralized operations are often less vulnerable, particularly in the case of events that result in some facilities still being fully capable of continuing to perform their normal business activities, in comparison to those organizations that have centralized operations occurring at a single location or within a limited geographical region directly affected by a crisis. The operations impacted by a crisis situation will also determine the degree of exposure, as in the case of organizational units that perform mission-critical activities, including those with task interdependencies to other parts of an organization's operations.

The impact of exposure to a crisis event will be based on the extent to which it limits or suspends an organization's ability to conduct its business operations. Likewise, the length of

the interruption must be considered, as illustrated by an organization that is unable to operate for several days until utilities are restored after a major weather event, in contrast to an organization whose facilities were significantly damaged or destroyed by a weather event or building fire. Another consideration is the additional costs of operating during the crisis.

The business impact of a crisis event often involves reduced sales or revenues. Should this be a prolonged situation, decreased market share and profits can also result. A crucial challenge in times of crisis is the retention of an organization's existing customers, as the loss of customers and/or contracts can trigger a downward spiral in business performance. An essential aspect of the business impact of a crisis is its potential to tarnish an organization's reputation. While this is an obvious reality when stakeholders learn about financial, regulatory, or legal improprieties, how proactive an organization is in preventing crisis situations and addressing those that do occur is an integral determinant of reputation management. The responsiveness of an organization in terms of both keeping its stakeholders informed throughout a crisis and addressing the situation in an effective and efficient manner so as to resume normal business operations is essential. Obviously, the worst possible business impact is for an organization to experience business failure.

Enhancing Organizational Resilience Through A Proactive Approach

Successful organizations recognize the importance of assuming a proactive management approach that positions their organization to achieve desired business success as they strive to achieve their organizational mission. While a proactive approach can contribute to many aspects of organizational success, the merit of proactive management has not always been recognized in preparing organizations to prevent potential crisis situations and address those crisis events that do occur. The traditional event approach viewed crisis management as a largely tactical activity focused on incident response in terms of preparing for crisis events and responding to those that do occur. The trend in recent years has involved advanced preparation as opposed to traditional reactive crisis response. A new approach to crisis management is emerging that moves beyond a reactive approach to one that seeks to discover new opportunities for organizations (Jacques, 2010).

The importance of proactive crisis management cannot be overemphasized. How an organization handles a crisis is more important than how things were before the crisis (Heller and Darling, 2012). Every organization should have a plan in place for preventing and managing crisis events. The advantage of having a pre-existing crisis management plan is that, in addition to contributing to the effective and efficient handling of the crisis when it arises, it also provides the ability to detect crisis potential before one actually occurs and delineates mitigation actions that can be taken. "During a crisis, everything counts. If systems had not been put in place in advance, then a hurriedly put together crisis communication strategy may cause the organization to further crumble," (Lando, 2014). This statement illuminates the crucial importance of a proactive approach that ensures that the organization is prepared to skillfully enact and orchestrate its crisis management plan should a crisis strike.

An essential element of a crisis management plan is the crisis communication plan. How an organization communicates during a crisis can make it or break it. Organizations must be proactive and develop a crisis communication plan (Telang and Deshpande, 2016). A crisis communication plan should delineate how the organization intends to communicate with its various stakeholder groups before, during, and after the occurrence of a crisis. The value of crisis communication during these three phases of crisis management cannot be ignored (Fearn-Banks, 2007). An organization's crisis communication plan should include appropriate crisis communication strategies necessary to achieve damage control, while at times turning

the crisis into a growth opportunity for the organization (Telang and Deshpande, 2016).

It is imperative that those responsible for crisis management on behalf of a contemporary organization recognize the impact that the Internet and social media have had on crisis communication. The fact that anyone can become a "reporter" and disseminate information to an almost endless audience complicates organizational crisis communication activities. A growing number of organizations, recognizing the potential for the dissemination of inaccurate, confusing, or misleading information by other parties, assign a communications professional to monitor the Internet and social media in the interest of uncovering the need to ensure that information received by organizational stakeholders and others is accurate and credible.

Stakeholder Expectations During A Crisis

The obvious focus of any organization that has faced a crisis is to "get back to normal." What that means will depend on the nature, scope, and impact of a crisis event. In the case of an organization whose operations were halted as a result of the crisis, as in the case of a major weather event forcing a facility closure(s), the interest is to get "back in business." As important as this interest of an organization and its management is, it is imperative that the needs and expectations of the organization's various stakeholders are fully understood, appreciated, and addressed in a timely manner.

While an organization will have many stakeholder groups, each with its own expectations and sometimes conflicting demands on an organization, the three stakeholder groups that are typically considered the most important when conducting a stakeholder impact analysis are customers, employees, and owners. In the above example, employees want to get back to work in the interest of maintaining their income stream, customers seek the restoration of the organization's ability to deliver desired products and/or services, and owners look forward to the continued financial performance of the organization. Other stakeholder groups potentially impacted by the above crisis could be the organization's suppliers who are interested in continuing to provide goods and services to the organization, and its creditors who desire to be paid according to established terms.

While the importance of identifying and understanding the expectations of all of these stakeholder groups remains, it is important to realize that the relative importance of each group could possibly vary based on the nature of a crisis event. The findings of one study suggest that while customers and employees were found to be among the most important stakeholder groups, creditors in certain instances may rise in their importance as a stakeholder group, while owners might actually decrease in relative importance (Glamuzina and Lovrincevic, 2013).

Communication is a key component in determining organizational success in dealing with a crisis (Mazanek, 2015). A common interest of the various organizational stakeholder groups is that they receive accurate, complete, credible, professional, and timely information from the involved organization throughout the crisis. Coombs (2007) describes crisis communication as "a relatively young discipline born of the need to address very real problems" as well as the value of monitoring stakeholder reactions on social media as "barometers of the effectiveness of an organization's crisis response." His research also indicated that stakeholders can function as informal crisis managers and that their communication, if inaccurate, confusing, or misleading, can actually undermine the organization's crisis management initiatives.

Corporate management plays a critical role in ensuring that realistic and reasonable stakeholder expectations are fully met and, ideally, at times exceeded. This leadership can be the difference between organizational success and survival, having a strong motivating and organizational effect (Mitut, 2011). Organizational leaders are responsible for successful crisis management and how affected stakeholders are managed and should engage impacted stakeholders in developing crisis management strategies. Organizational culture also plays a role in the successful development and implementation of a crisis management plan. Executives in a culture of complacency and chronic crisis tend to focus on tactical rather than strategic issues. Complacency can facilitate and deepen crises as the presence of complacency serves to blind executives to emerging crises and curtails their ability to counter them (Ali, 2014).

THE CRISIS MANAGEMENT PROCESS

The various crisis management models that have been advanced have several commonalities in that they all portray crisis management as a process involving a number of stages coinciding with the respective phases of a crisis. Two respected models have been selected to provide a context for first considering necessary activities throughout a crisis event and subsequently the role of corporate managers throughout the management of a crisis.

Coombs (2012) developed a three-stage crisis management model that includes pre-crisis, crisis, and post-crisis stages. While the pre-crisis stage includes actions that are performed before encountering a crisis, the model acknowledges that since not all crises can be prevented, organizational members must be prepared to handle those that do occur. The *pre-crisis stage* consists of three sub-stages: signal detection, prevention, and crisis preparation. Once a potential crisis has been detected, actions must be initiated to prevent its occurrence. The *crisis stage* begins with a triggering event and consists of two sub-stages: crisis recognition and crisis containment. Communication with stakeholders is crucial during this stage. Crisis containment focuses on the organization's crisis response. The *post-crisis stage* involves actions that are intended to ensure that the crisis is actually over, to better prepare an organization for the next crisis it may face, and to ensure that stakeholders are left with positive perceptions of the organization's crisis management efforts.

Heller and Darling (2012) advance a four-stage crisis management model. The model acknowledges that a crisis can have long or short duration, can consist of as many as four different and distinct phases, and that in some cases these phases can be so closely related that they combine. During the *preliminary (pre-crisis) stage*, an organization may be provided limited advanced warning of a pending crisis situation. The *acute crisis stage* is characterized by at least some damage having occurred as a result of the crisis, with the potential for additional damage being somewhat influenced by the quality and integrity of corporate leadership. A prolonged crisis would transition into the *chronic crisis stage*. During the final stage of *crisis reduction,* the organization's goal of resolving the crisis is achieved, as is the desire to turn the crisis situation into an opportunity, if possible.

These crisis management models and others provide a context for the present study. The lessons learned regarding the roles of corporate managers in crisis management will first be considered in general terms. The specific roles of corporate managers will then be discussed with respect to four acknowledged stages or phases of crisis management. The first two involve actions of corporate management before the occurrence of a crisis and involve preventing crisis events and preparing for those crises that may occur. The third will consider appropriate actions of corporate management during a crisis event. The final phase will consider the post-crisis role that corporate management can play as their organization strives

to recover and learn from a crisis event.

ROLES OF CORPORATE MANAGERS IN CRISIS MANAGEMENT

In considering the roles that corporate managers should play during a crisis, it is important to acknowledge that there is a profound difference between corporate management and corporate leadership. Heller and Darling (2012) clearly articulate this difference in stating, "Corporate managers are people who do things right, and corporate leaders are people who do the right things." They further advocate that how corporate managers understand and enact their responsibilities during a crisis determines whether they are also corporate leaders and if effective crisis management becomes a reality through the development of meaningful corporate leadership strategies.

James and Wooten (2005) identify six core competencies in crisis leadership: building trust, willingness to share information, creating a new corporate mindset, identifying vulnerable areas, taking courageous action, and learning from the experience for effective change. They also advocated that the best crisis leaders build a foundation of trust that prepares their organization for difficult times and that the leadership demonstrated during a crisis is a major determinant of organizational success after a crisis. The importance of inspiration in terms of giving followers hope and setting the right level of motivation is also imperative, given that motivated personnel will perform well beyond expectations (Sailor, 2013).

Successful crisis management requires the strong leadership of corporate managers. Crises require leaders who do not follow the norm and are able to formulate strategies to manage the crisis and to bring about change and growth in their organization. In times of crisis, organizational leaders need to be visible within and beyond their organization, as this offers some stability to the situation and the organization (Fragouli and Ibidapo, 2015). Leadership also contributes to maintaining a positive organizational climate (Mazanek, 2015).

Strategies implemented during a crisis can result in two diametrically opposed outcomes – organizational survival or failure (Fragouli and Ibidapo, 2015). Successful crisis solutions don't occur spontaneously; they are triggered by the creativity and courage of corporate management (Glamuzina and Lovrincevic, 2013). The important role that corporate managers play also includes the essential action of incorporating crisis management into the organization's systems (Taneja e al., 2014). One of the most dangerous aspects of dealing with a crisis is to view it only from an economic cost standpoint: a mistake that augments the problem and can lead to further economic setbacks (Ali, 2014). The conceptual perspective and orientation of corporate managers position them to comprehend and address all relevant aspects and impacts of a crisis situation fully.

An integral role of corporate managers during a crisis involves reputation management. In a sense this role is often accomplished based on the successful actions of corporate managers before, during, and after a crisis. Virtually nothing can damage an organization's reputation more rapidly and severely than the impact of a major crisis (Jacques, 2010). Image management is important during a crisis, given that crisis situations usually result in negative publicity which threatens an organization's image and reputation (Weber et al., 2011).

The significant role that corporate managers play as corporate leaders in times of crisis should be clear, as should be the crucial roles that these organizational leaders must enact during a crisis event impacting their organization. The dedication, commitment, and passion that these organizational leaders demonstrate through their involvement, actions, and leadership before,

during, and following a crisis clearly serve to demonstrate the organization's commitment to "weather the storm" of crises in the interest of ensuring the organization's ability to survive any and all challenges associated with the crisis so as to continue to succeed in fulfilling its mission and meeting and, ideally, exceeding the expectations of its stakeholders.

The following sections of this paper will consider specific actions that corporate managers can take during the various phases of crisis management. These build on and complement the general actions discussed in this section.

Preventing Crisis Events

While organizations most certainly must be prepared to effectively and efficiently address crises that occur, the ideal is to avoid these undesirable situations or at least to minimize their impact on the organization through proactive action before their occurrence. Crisis preparation has thus evolved as an issue of increasing importance as organizational leaders seek to prevent, or effectively address, impending crises (Taneja et al., 2014).

Corporate managers have an important role to play in preventing crises that have the potential of harming their organization. They should engage in continual environmental scanning to reveal signs of a crisis (James and Wooten, 2005). Adopting a proactive crisis management strategy that incorporates crisis prevention, rather than just crisis response, necessitates moving responsibility from the operational to the executive level (Jacques, 2010).

Corporate managers clearly demonstrate corporate leadership and stewardship through their commitment to crisis prevention. Likewise, their active involvement in crisis prevention efforts demonstrate to the organization's employees, customers, and other stakeholder groups that the organization is committed to preventing crisis events that could impact its ability to continue to succeed in fully meeting and, ideally, exceeding their expectations.

Preparing for a Crisis

Successful crisis management involves actions that an organization takes before, during and after a crisis. Corporate managers have an integral role as an organization prepares for potential crises, operates during those crises that do occur, and recovers from them. The success of an organization's crisis management efforts in the two stages that follow are, in large part, determined by its crisis preparation commitment and activities. Organizations that utilize early detection methods and have existing crisis management plans before they face a crisis are better prepared to manage and survive a crisis event and have the opportunity to reposition themselves and turn a crisis into a strategic opportunity (Applebaum, Keller, Alvarez, and Bedard, 2012).

Corporate managers have an essential role in ensuring that their organizations not only have a realistic crisis management plan, but that their employees have received the necessary training to fully understand and enact their respective roles and responsibilities under the crisis management plan. The existence of a crisis management plan demonstrates an organization's commitment and preparedness to handle crises.

While many organizations have a crisis management plan, many organizations are ill-prepared in that their plan does not address crisis communication issues and strategies (Lando, 2014). The consequence of not having a robust crisis communication plan that outlines communication roles during a crisis can be the dissemination of inaccurate, confusing, or misleading information by others, including the news media and social media.

Operating during a Crisis

Corporate managers have instrumental roles during a crisis in two important respects. They are responsible for ensuring that organizational members within their area of responsibility are effectively and efficiently enacting their roles and responsibilities as defined in the organization's crisis management plan. This routinely involves motivating and empowering their employees and emphasizing the importance of their actions to a successful crisis outcome. It also involves ensuring that employees have the necessary resources to operate successfully during the crisis event.

Corporate managers will often have an active role in crisis communication activities through developing or approving media releases, participating in press conferences, and making themselves available for media interviews. The media provides an opportunity to deliver accurate information to the public and maintain or regain public trust and/or support.

During a crisis it is essential to define and orchestrate diverse communication roles and activities tailored to an organization's communication goals and that communicators be creative, inspiring, and adaptive, establishing a professional and productive relationship with the media (Lando, 2014). Crisis communication is very important during a crisis situation and should therefore be clear, free from ambiguity, and directed towards creating a positive image of the organization following a crisis (Telang and Deshpande, 2016).

Throughout a crisis it is essential that the organization provide its employees and other stakeholders with accurate, complete, credible, professional and timely information about the situation. While complete information may not be immediately available, an organization's desire and willingness to share what it knows in a timely manner goes a long way in enhancing its image and reputation in the eyes of its stakeholders. While many organizations will utilize seasoned communication professionals as public information officers, the presence and involvement of corporate management in press conferences, interviews, and media releases sends an important message regarding their organization.

Recovering from a Crisis

Corporate managers play a vital role in an organization's recovery after a crisis. They should insist on a complete review of the crisis and conduct an after-action critique at the executive level of the organization. The goal should be to discover the causal factors that lead to the crisis, how their organization responded to the crisis, and to learn what the organization can do in the future to be better prepared to prevent or "weather the storm" of future crisis events. This review should focus on the adequacy of the organization's crisis management plan, policies and procedures; whether the plan, policies and procedures were properly implemented; and the success of the organization in countering the crisis.

A complete review of relevant information disseminated by the organization and other parties during the crisis event should be conducted in the interest of identifying inaccurate, confusing, or misleading information in need of correction, as well as the sources of such information. This review must include the use of the Internet and social media platforms during the crisis by the organization and other parties that disseminated information about the organization or the situation it was facing. The lessons learned from this critique can be invaluable in reviewing and revising, as necessary, the organization's crisis management plan, policies, and procedures.

As mentioned earlier, it is always important to ascertain that the crisis and its impacts have actually ended. In so doing it is essential to look for ripple effects that may occur after the

crisis. Should these be revealed, it is crucial that they be appropriately addressed in a timely manner.

An important and often overlooked activity during crisis recovery is to acknowledge the dedicated efforts of the organization's employees who, through taking ownership for their defined roles and responsibilities under the organization's crisis management plan, enabled their organization to mitigate the crisis successfully. Without their support and assistance an organization's crisis management initiatives would often be ineffective.

Last, but certainly not least, corporate managers must utilize their conceptual skills and strategic mindset to look for ways of transforming a crisis event into an opportunity for their organization. It is likewise important to learn from a crisis and incorporate this understanding into future crisis management activities.

CONCLUSIONS

The research interest of this study was to determine the importance of a proactive crisis management program in preparing an organization to "weather the storm" of a crisis successfully and to consider the role of corporate managers in an organization's crisis management activities. The importance of both a proactive approach and the involvement of corporate managers in an organization's crisis management activities were confirmed through review of the literature and practical situations involving contemporary organizations.

Corporate managers play an instrumental role in the success of any contemporary organization. Both their organizational position and managerial skill set equip them to be entrusted with the mission-critical issue of crisis management. In addition to the various roles that they routinely enact during the "good times," these organizational leaders play an integral role in preparing their organization to avoid most crises and to address and recover successfully from those it does encounter. Their commitment to and support of its crisis management activities are instrumental in preparing their organization to address the many anticipated and unexpected crisis situations inherent to the contemporary business world.

The researchers intend to further expand this exploratory study in the interest of enhancing the understanding of the relationship that exists between proactive crisis management and organizational resilience. A focal point of future research will be the role of corporate managers in these mission-critical organizational initiatives.

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Linking Entrepreneurship Education With Entrepreneurial Intentions Of Technical University Students In Ghana: A Case Of Accra Technical University

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ABSTRACT
Entrepreneurship education is essential to the development and promotion of entrepreneurial intentions among tertiary students. The aim of this study was to examine the relative importance of entrepreneurship education and entrepreneurial intentions among Technical University students, and to determine if there existed relationship between entrepreneurship education and entrepreneurial intentions of students in Technical Universities using Accra Technical University. The issue that the Technical Universities as a Technical, Vocational, Education and Training (TVET) institution is strategically involved in the attainment of the post-2015 SDGs in Ghana by creating an enabling environment (through teaching and learning) for business start-ups among its graduates due to the higher unemployment rate in Ghana. The study is quantitative in nature and adopts the descriptive survey approach by using structured questionnaire and interviews. Stratified and simple random sampling techniques were used to select students from final year classes based on the population from selected departments of the various Schools in the Technical University to form the sample size. In addition, all entrepreneurship lecturers were interviewed. Data analysis was by descriptive statistics using SPSS and regression analysis. The result suggests a positive relationship between entrepreneurship education and entrepreneurial intentions. For policy implication, a more systematic approach to entrepreneurship education is needed to improve the quality of teaching and learning of entrepreneurship in the Technical Universities to promote entrepreneurial intentions among students.

Keywords: Entrepreneurship Education, Entrepreneurial Intentions, Technical, Vocational, Education and Training (TVET), Technical Universities, Sustainable Development Goals

INTRODUCTION

Entrepreneurship has been given much attention the world over as it plays an important role in economic growth and the creation of employment in a country. (Hisrich et al., 2013) Also in recent times most countries recognize the importance of entrepreneurship education as there is now a paradigm shift from being employed to self-employment. Therefore policies regarding education and training are geared towards fostering entrepreneurial intentions of students (Lans et. al., 2008). A study conducted by Linan and Chen (2006) found out that one of the indicators of entrepreneurial intentions is entrepreneurship education in higher institutions. Wilson et al. (2007) opine that entrepreneurship education is a medium use to increase students' interest in entrepreneurship career as they found out that people are motivated to start-up business because they are exposed to entrepreneurship education. According to Thompson (2009), entrepreneurial intention is self-acknowledge conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future. In a study conducted by Owusu-Ansah (2004), it was found out that entrepreneurship education motivates and increases the tertiary students' aspirations in starting their own business. In Sri Lanka, Kumara 2012 confirmed in a study that students who receive entrepreneurship education have positive attitudes and beliefs towards self-employment; thus there is a positive relationship between entrepreneurship education and entrepreneurial intentions. Entrepreneurial action is most often intentional, and intentions capture the motivational factors that influence a behavior: they are indications of how hard people are willing to try, of how much of an effort they are planning to exert to perform the behavior. As a general rule, the stronger the intention to engage in a behavior, the more likely should be its performance. (Hisrich et al., 2008)

Since entrepreneurship education influences entrepreneurial intentions most countries would like to encourage entrepreneurship amongst tertiary students to strengthen their willingness to undertake some kind of enterprising project to reduce the burden of unemployment on government. In the US, more colleges and universities have discovered that entrepreneurship is an extremely popular course of today (Zimmerer & Scarborough, 2008) and Ghana is no exception.   In Ghana the advent of youth entrepreneurship is being encouraged by the government through funding, TVET support and other non-governmental organizations to get more tertiary school leavers to develop entrepreneurial intention to start their own businesses after school. (UNESCO, 2002; Anamoah-Mensah, 2004). It has been realized that in higher education environment, entrepreneurial teaching and learning is a tool for strengthening enterprising behavior of students.   Entrepreneurial teaching involves the transfer of entrepreneurial attitudes and skills development relevant to personal characteristics and the specific training of technical and business skills for creating new firms. This is in line with the aims of both the Technical Universities and Technical and Vocational Education and Training (TVET). The purpose of setting up the Technical Universities is to train middle level manpower graduates in technical and skills development. The skill they so develop at the Technical Universities, the knowledge they acquire through entrepreneurship education and the contacts they have with industries through industrial attachments will encourage them to undertake enterprising ventures to curb unemployment in the economy. In Ghana, the unemployment rate according the Ghana Statistical Services now stands at an average of 8.82 percent from 2001 until 2013. This show an unprecedented high rate of 12.90% in 2005 and a record low of 15.20% in 2013. As the 2010 population and housing census (GSS, 2010) currently put unemployment rate among the youth aged between 15-24 as 16.4% for males and then 16.7% for females, it is anticipated that through entrepreneurship education at the Technical

universities the Sustainable Development Goal (4) to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all will be achieved.

Gibben, (2010) argue that entrepreneurship education is made up of entrepreneurial teaching and learning. Entrepreneurial teaching involves the transfer of entrepreneurial attitudes and skills development relevant to personal characteristics and the specific training of technical and business skills for creating new firms. With the continuous increase in unemployment rate, a further validation on quantitative information on students profile about their entrepreneurial intention is needed. Hence this study was undertaken to fill in this gap. The objective of the study is to add to the body of knowledge in the area of entrepreneurship by examining the relationship between entrepreneurship education and entrepreneurial intentions of students in higher institutions, precisely Technical Universities in Ghana. Specifically, the research looked at the following objectives: analyze the effectiveness of entrepreneurship educations in the Technical Universities, investigate the effect of entrepreneurship education on the entrepreneurial intentions of the students and to determine the relationship between their entrepreneurial intentions and the readiness to create a venture.

METHODS

The study used descriptive survey design to examine the effect of entrepreneurship education on the entrepreneurial intention of Accra Technical University students. The population for the study comprised all final year students in the Department of Secretaryship and Management Studies. The total population of both final year full-time and part-time constitute 363 students. A sample of 130 respondents was selected for the survey in the Department. Structured questionnaire with close ended questions was used to collect primary data from both full-time and part-time students. The study used the stratified and simple random sampling technique. Descriptive statistics was the medium used for analysis of quantitative data. Inferential statistics tools including chi-square test, KMO for factor analysis which involved the testing of hypotheses, identifying causality and reliability was also used.

The research tried to answer the following questions: How effective is entrepreneurship education in the Technical Universities? What is the effect of entrepreneurship education on the entrepreneurial intentions of students in the Technical Universities? Is there a relationship between the students' entrepreneurial intentions and their readiness to create a venture?

RESULTS AND DISCUSSION

This section presents the demographic profiles of the 128 respondents contacted. Of the respondents, 6.3 %(8) were male, while 93.8% (120) were female.

In the distribution of age, 69.5 %(89) were within 20-25year, 25.8 %(33) were within 26–30 year, while 3 %(5) were within the age group 31-35. There was one respondent who age was between 36-40 years (0.8%). From the analyzed data the subjects' age ranged from 25 and 35 are the most respondent who participated in this study.

In terms of level of students and their department, it was released that all the students were in the Secretaryship and Management Studies department and were all in level 300.

Table 1
Demographic profile of respondents

Demographics	Categories	Frequency	Percent (%)
Gender	Male	8	6.3
	Female	120	93.8
Age	20-25	89	69.5
	26-30	33	25.8
	31-35	5	3.9
	36-40	1	0.8
Level Of Students	300	128	100
Department	Sec & Mgt studies	128	100

Table 2, provides descriptive statistics for all the items. The result shows that entrepreneurship as a course of study in the polytechnic is very important that to be encourage in the institution. It had an estimated average of ($\bar{x}$ =4.77) and standard deviation of (σ= 0.61). Respondents agreed to the fact that the course content is enough to motivate them to become an entrepreneurs ($\bar{x}$=4.24), though it had a high value of the (σ = 1.07). Most of the respondents agreed that the course has improved their understanding of becoming entrepreneurs, ($\bar{x}$=4.48), withσ = 0.81. The result also shows that Entrepreneurship education is important in today's society as it had an ($\bar{x}$ =4.76) and a (σ =0.68). Respondents (students) rated the Entrepreneurship education in tertiary education leads to more start-up ventures and more economic growth high with an ($\bar{x}$ =4.52) and a (σ =0.71). This is an indication that entrepreneurship education is a key for development for students to start their own business. Unemployment rate could be reduced when entrepreneurship education is encourage ($\bar{x}$ =4.66) and a (σ =0.80).

The overall statistics (($\bar{x}$ =4.34) with a low dispersion of (σ =0.460).this is an indication that respondents agree to all the items to be positively to establish their own business in other that there will be low unemployment rate in the country. This shows that there is significant relationship between entrepreneurship education and intention to become entrepreneur.

Table2
Descriptive statistics of the items

S/N	Items	Mean($\bar{X}$)	Std. Deviation(σ)
1	Entrepreneurship as a course of study in the polytechnic is important*	*4.77*	*0.61*
2	The course content is enough to motivate me to become an entrepreneur*	4.24	1.07
3	The course has improved my understanding of concepts in entrepreneurship*	4.48	0.81
4	Improved my ability to think strategically when it comes to making business decisions as a result of the entrepreneurship course*	4.34	0.76
5	Motivated to do more than the minimum requirements for this course because I want to be an entrepreneur*	4.32	0.84
6	Entrepreneurship education is important in today's society*	*4.76*	*0.68*
7	Entrepreneurship education in tertiary education leads to more start-up ventures and more economic growth*	*4.52*	*0.71*
8	The entrepreneurship course should be more than one academic year*	4.23	1.01
9	Content with course delivery*	4.18	0.84
10	Rate the course delivery*	4.46	0.92
11	Entrepreneurship education will reduce unemployment*	*4.66*	*0.80*
12	Entrepreneurship education should be compulsory in all tertiary institutions	4.42	0.99
13	I am ready to be an entrepreneur*	4.45	0.80
14	I will make every effort to start and run my own business*	4.48	0.78
15	If I had the opportunity and resources, I would like to start a business*	*4.66*	*0.70*
16	I am determine to create a firm in the future*	*4.59*	*0.69*
17	I have got the intention to start a firm someday*	4.48	0.75
18	I have got the intention to start a firm right after school	3.69	1.11
19	I have not thought of immediately starting a business on my own	2.67	1.40
20	Being an entrepreneur would entail great satisfaction for me*	4.46	0.98
	OVERALL	**4.34**	**0.460**

*Statement means agreement

The figure 1 shows that about 88% of the respondents agreed that entrepreneurship education is relevant to students 5.92% of the respondents were neutral in their response and about 5.6% said they disagree that the entrepreneurship education in the polytechnic is relevant to them as students. This is an indication that majority of the students like the course content and are motivated to by the course to be able to do their own business.
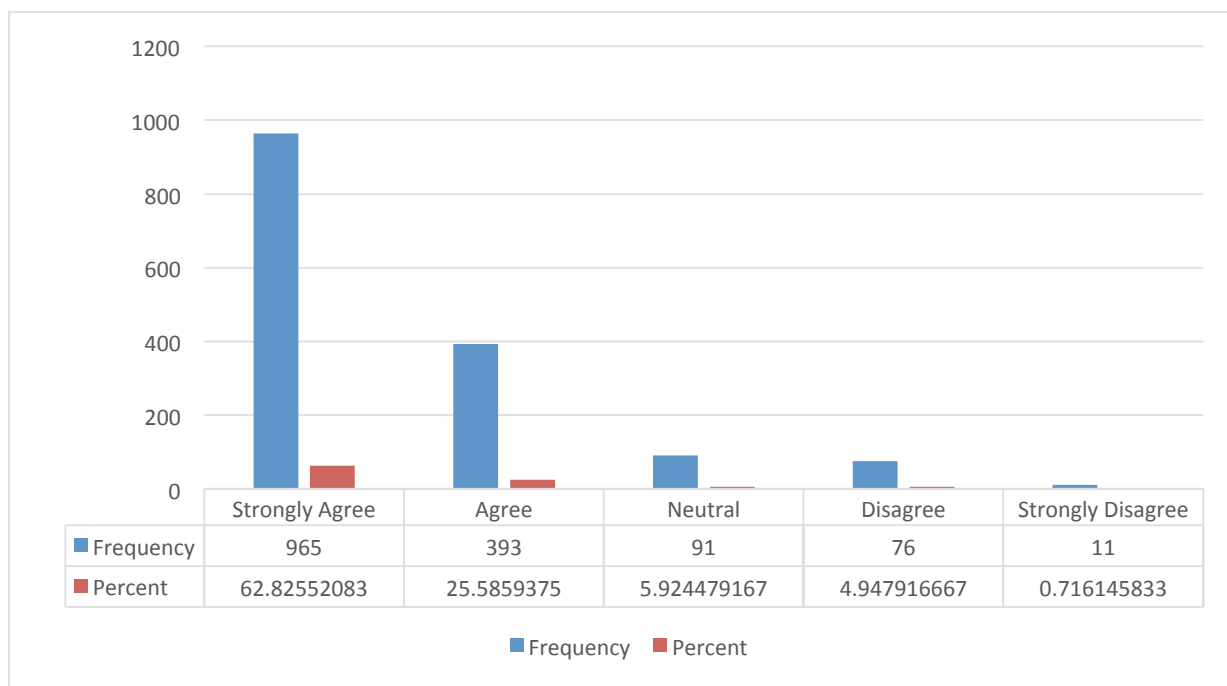
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Frequency	965	393	91	76	11
Percent	62.82552083	25.5859375	5.924479167	4.947916667	0.716145833

Figure 1: Students views on the relevance of entrepreneurship education

The figure 2 below shows the intent by respondents (students) whether they will become entrepreneurs not necessary depending on government for jobs. Comparing the rating on the relevance of entrepreneurship education by the students and their intention to become future entrepreneurs, there is no thought in their minds that majority agreed to that they want to do their own work as they rated the intentions about 79.8% support. About 11.52% of the respondents disagree that they would become entrepreneurs.
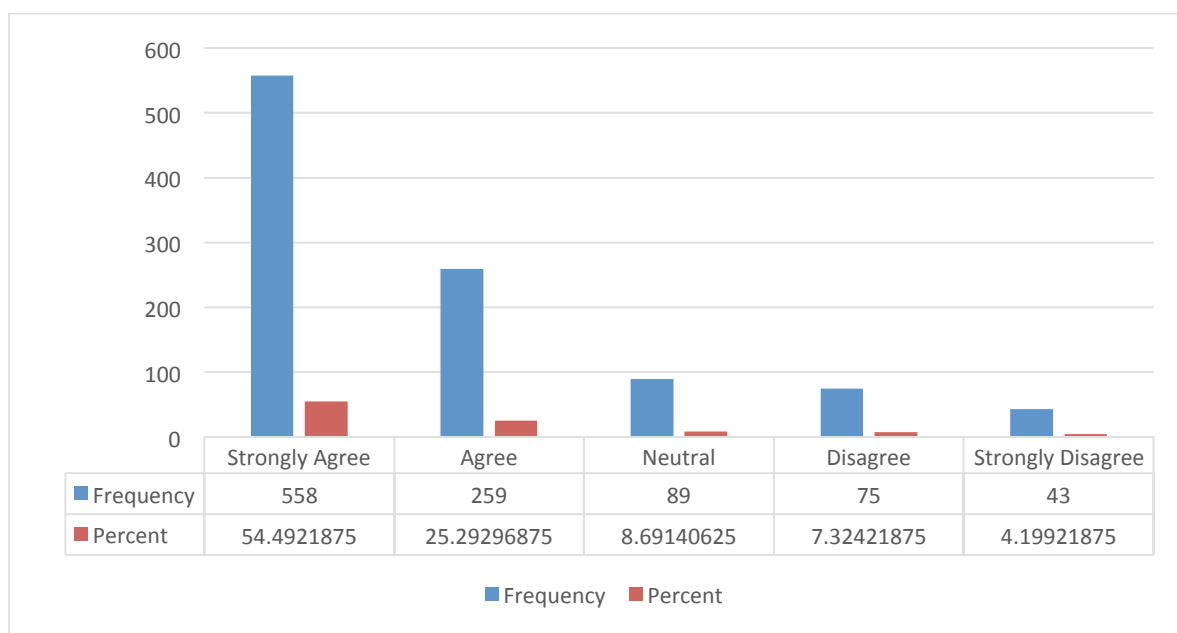

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Frequency	558	259	89	75	43
Percent	54.4921875	25.29296875	8.69140625	7.32421875	4.19921875

Figure 2: Students response on the intention to become entrepreneurs

TESTING OF THE HYPOTHESIS

Hypothesis 1: Entrepreneurship education significantly influence students to become entrepreneurs

The data were subjected to factor analysis using Principal Axis Factoring. The KMO values for the individual items were above 0.5 and the Kaiser-Meyer –Olkin measure was 0.828 indicating that the data were sufficient for EFA as indicated by Kaiser (1974). The Bartlett test of Sphericty $\chi^2(190)$ =861.578, p-value<0.001 showed that there were patterned relationship between the items. This means that entrepreneurship education has very good impact on the students to become entrepreneurs in future, therefore the hypothesis support the claim that, entrepreneurship education in the Polytechnic level significantly influence students to be entrepreneurs in their own society they find themselves. The correlation between the two construct also indicate that there is some level of relationship between the two constructs (*the entrepreneurship education and the intention to become an entrepreneur*)

This is very good direction to go, that is to solve unemployment related issues in the country. Tertiary education must also focus on the need to encourage students to be entrepreneurs to reduce the burden on government by providing job for graduate.

The result in table 3 shows the structure matrix which shows the correlations of the item with each of the factors. The factor 2 correlate very well with items 2 (the course content is enough to motivate me to become an entrepreneur), 3(The course has improved my understanding of concepts in entrepreneurship) and item 4(Improved my ability to think strategically when it comes to making business decisions as a result of the entrepreneurship course) with 0.661,0628 and 0.651 respectively. Factor 1 also correlate well with 13 items as highlighted in the table 3 below.

Table 3 Structure Matrix

S/N	Item	Factors	
		1	2
1	Entrepreneurship as a course of study in the polytechnic is important	0.288	0.309
2	The course content is enough to motivate me to become an entrepreneur	0.113	**0.661**
3	The course has improved my understanding of concepts in entrepreneurship	0.415	**0.628**
4	Improved my ability to think strategically when it comes to making business decisions as a result of the entrepreneurship course	0.403	**0.651**
5	Motivated to do more than the minimum requirements for this course because I want to be an entrepreneur	**0.641**	0.374
6	Entrepreneurship education is important in today's society	**0.544**	0.252
7	Entrepreneurship education in tertiary education leads to more start-up ventures and more economic growth	**0.514**	0.376
8	The entrepreneurship course should be more than one academic year	**0.495**	0.341
9	Content with course delivery	**0.483**	0.416
10	Rate the course delivery	**0.535**	0.395
11	Entrepreneurship education will reduce unemployment	**0.49**	0.251
12	Entrepreneurship education should be compulsory in all tertiary institutions	**0.455**	0.227
13	I am ready to be an entrepreneur	**0.58**	0.421
14	I will make every effort to start and run my own business	**0.474**	0.188
15	If I had the opportunity and resources, I would like to start a business	**0.625**	0.098
16	I am determine to create a firm in the future	**0.709**	0.104
17	I have got the intention to start a firm some day	**0.687**	0.213
18	I have got the intention to start a firm right after school	0.501	0.406
19	I have not thought of immediately starting a business on my own	0.034	0.381
20	Being an entrepreneur would entail great satisfaction for me	**0.572**	0.382

Factor: 1(Relevance of entrepreneurship education), 2(intention to become entrepreneur)

The exploratory factor analysis provided a correlation between the two factors a value of 0.454, which is quite good relationship between the two factors, the relevance of entrepreneurship education and the intention to be an entrepreneur. This relationship is positively good. Meaning that entrepreneurship education can influence the intention to become an entrepreneur about 45%, which is a positive sign

Students in the Technical Universities believe that education on entrepreneurship can have much impact to become successful in their society when the course content is updated often to meet the changing economy they find themselves in. the students also believe that they are motivated by the nature of structure of course and as a result they would challenge themselves to become future entrepreneurs in their society to help in the development of their society. Based on the result generated there is an indication that about 79% of the respondents would like to be entrepreneurs

CONCLUSIONS AND RECOMMENDATIONS

The study had look at the relationship between entrepreneurship education and entrepreneurial intentions of students of Accra Technical University. From the data gathered from the study, the following conclusion has been drawn. In the cause of the study it was

recognized that most students have the desire to start-up their own business as a result of knowledge acquired in entrepreneurship education.

The findings have both theoretical and practical considerations for the Technical Universities, policy makers, students and researchers. The result shows that a more systematic approach to entrepreneurship education should be adhere to improve the quality of teaching and learning of entrepreneurship in the Technical Universities to promote entrepreneurial intentions.

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Loyalty Card Membership Challenge: A Study on Membership Churn and their Spending Behaviour

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ABSTRACT
Understand member spending behaviour and their loyalty is important in all industries. By gaining loyalty from customers and understand how they spend, companies are able to retain their customers, increase their revenue and plan their marketing strategy to continue grow their business in a competitive business ecosystem. This research investigates member spending behaviour and membership churn for a loyalty card company in Malaysia. This research conducts exploratory analysis on three key partners registered with the company to understand their outlets' spending activities and patterns. Meanwhile, this research also model membership churn based on the last 24 months' membership data to identify factors that influence membership churn so that effective strategy can be formulated to retain active members in the company.

Keywords: Customer loyalty, member spending behaviour, loyalty card program, churn model, prediction

INTRODUCTION
Information technology has contributed a lot for marketing managers in terms of creating a new type of customer relationship management strategies (Uncles, et al. 2012). One of the tactics that most of the firms have considered was to establish a customer loyalty card program. By establishing customer loyalty card program to their customers, many attractive incentives and promotions can be planned based on the profiles and purchasing patterns of these customers. Plenty of loyalty program with different sizes and choices have been developed in the past decades. One of the successful stories was the increase airline frequent

flyer programs in the 1980s. Since then, loyalty programs have intensely interlinked with marketing strategies in a new modern way (Gault et al. 2012). Loyalty cards were initially implemented to reward regular customers and to urge them to continue shop in the same store (Arnett, 2013). Companies that provide loyalty cards holds more advantages compare with companies that don't (Acatrinei and Puiu, 2012). The reasons companies offer loyalty cards are because it is easier for them to identify their key customers and to create a deeper relationship with them by understanding their profile and behaviour. By doing this, companies can track their customer shopping patterns.

Organizations always reward loyal customers by providing top-up services or prices with discounts to retain them. In recent years, loyalty rewards programs have become one of the key factors in businesses of many segments. These programs have served as marketing tools to boost up the companies' revenue and sales by encouraging the loyal purchasing behaviour of their loyal customers. Card holders of loyalty card, point's card, rewards card or club card help to profile members' purchasing patterns hence reduce churn and allow ease of segmenting customer based on their needs and buying capability especially in the retail market (Singh & Khan 2012).

Loyalty programs can be used as an incentive by offering perks based on snowballing purchasing over time. Loyalty programs inspire customers to move from inactive or single-period decision making to active or multiple-period decision making. These programs stimulate repeat buying and increase retention rates by offering incentives for customers to buy more often and in higher volumes (Ghaleb Magatef Elham, et al 2015).

Hence, it is important to understand the customers' spending behaviour and factors that predict churn in the loyalty card industry. This research intends to study the factors that result in loyalty cardholders who churn in the data that have been collected for the last 20 years in the company. More than 100 attributes have been provided and churn will be investigated by using 2 data modelling techniques: decision tree and regression model. Several research questions have been defined. These questions include what are the factors that result in churn and what are the modelling techniques that are able to predict churn more reliably.

RELATED WORKS
Loyalty card and Spending Behavior
A loyalty card program is defined as an integrated system of marketing actions that aims to retain customers and increase customer loyalty by developing personalized relationships with them (Sharp & Sharp 1997; Yi & Jeon 2003; Meyer-Waarden 2008). It also acts as popular marketing tools in developing relationships, stimulating product usage and retaining existing prospects and customers (Meyer-Waarden & Benavent 2009). Liu (2007) further explained that loyalty programs is one of the important components of firms' customer relationship management (CRM) strategy and it aims to enhance customer loyalty by rewarding customers for their continuous support and doing business with the firm. By introducing such programs, it enables firms to gain more repeat business and at the same time, attain rich customer data that would be helpful for future CRM effort. For example, Tesco's loyalty program features a business model of program efficiency and a customer model of data-driven knowledge, which allows the firm to undertake tailored strategies and incentives to target on different customer segments (Humby *et al.* 2004).

Buying behavior is the decision processes and acts of people that involved in buying and using towards any products (Sharma 2014). Customer buying behavior refers to the buying behavior of the ultimate customer. There are many factors and characteristics that will influence or encourage the individual in what she is and the customer on her decision-making process,

shopping routines, buying behavior, the brands she purchases or the retailers that she frequently goes. Customer behavior refers to the selection, purchase and consumption of merchandises and services for the fulfillment of their needs and wants (Stavkova et al. 2008). Engel et al, (1986) define customer behavior as "those acts of individuals directly involved in obtaining, using and disposing of economic goods and services, including the decision processes that precede and determine these acts". The nature of customer choice is too complex and it involves more sophisticated concepts and methods to fully understand, effectively predict and possibly control customer behavior. Instead, psychology, social psychology and sociology are the widely-employed disciplines in this endeavor (Pachauri, 2002).

Given a wide variety of choices and a low switching barrier, it is relatively easy for customers to switch among different firms and this poses significant threats to customer relationships whereby customers are not likely to commit to a single brand or firm (Liu 2007). Loyalty program in this case helps to alleviate this lack of commitment by raising switching costs. Customers tend to focus their purchases in one program in order to maximize the benefits they receive as loyalty programs rewards customers for their repeated patronage (Sharp & Sharp 1997).

Data Quality
Many databases are not error-free and some of them contains a surprisingly large number of error. Arnold (1992) reported that more than 60% of the surveyed organizations have issue regarding data quality. A bank in New York found out that the data within their credit-risk management database were only 60% complete and it requires checking/validation before anyone can use it (Bailey,1983). Meanwhile Wang and Strong (1996) found that a company that has problem accessing all its sales data for a single customer because many different customer numbers were assigned to represent the same customer. To increase data quality, understanding what data quality means to data consumers is vital.

The purpose of improving data quality is to make sure that data can be reused at any time without worrying poor data quality. Motivations for reuse can be diversed, including data verification, reanalysis, meta-analysis, new analysis and reproducing original analysis and results (Wang and Strong, 1996). In order to carry out the data reuse process, the data need to be shared, processed and preserved in a way that ensures they are understandable by every single business unit in an organization and that there is enough information to be understood without the assistance of a subject matter expert (CCSDS,2012).

Customer Churn
Over the past few years, churn prediction has received escalating consideration in the consumer marketing and management research literature. Decision tree is one of the technique used to predict customer churn. Decision tree can be split into classification and regression decision tree. Classification trees are used to predict categorical outcome while regression trees are used to predict continuous outcome. For churn analysis, the outcome of the prediction will be binary. Therefore, a classification tree is used. One of the advantages of decision tree is, it can be easily interpreted because decision tree produce a set of understandable rules (Shaaban et al., 2012). When decision trees do not incorporate a stopping criterion, it is very likely to overfit the training data set. Overfitting occurs when the learning algorithm continues to develop hypotheses that reduce training set error but at the cost of increasing the test set error. There are (2) two ways to avoid overfitting when building a decision tree. Pre-pruning is the first way that stop the tree from growing earlier, before it

perfectly classifies the training data set. Post pruning is the second way where it allows the tree to grow fully first before pruning the tree. The second approach is the more logical approach because it is not an easy task to precisely estimate when to stop growing the tree. In a telecommunication industry, the prominent definition of prepaid churn is based on several successive months with zero usage. For example, a churned customer could be defined as not having any outgoing or incoming calls for the past two months. The definition of zero usage has to redefined, when a prepaid customer who has already churn, he/she can still have incoming calls from uninformed outsiders. These incoming calls will then be transferred into voicemail that will also be recorded. Therefore, defining zero outgoing calls and zero incoming calls cannot be taken as the optimal decision to decide whether a customer do or do not churn. A new threshold is set to the value of 30seconds of voicemail per month, which turned out to be a practical value. Therefore, a customer will be confirmed to be churn when he/she has zero usage with the combination of 30 seconds of voicemail per month.

Logistic regression is another technique used to predict customer churn. Logistic regression is a statistical model where the outcome variable is categorical instead of continuous. Logistic regression is widely used in a lot of application such as agriculture, overweight, obesity, credit scoring, prevention, accident analysis and churn analysis (Nie et al., 2011). According to Nie et al. (2011), there are 6 regression models built to predict credit card churn. The first model built is based on customer information. The second model is built based on customer and basic card information. The third model is built based on the combination of variables from model 1 (customer information) and model 2 (basic card information). Model 4 only takes the transaction information into consideration. The fifth model is built on variables from customer information, card basic information and also risk related information. The sixth model consist of variables from customer information, card basic information, transaction information and also risk-related information. After evaluating the 6 regression models, the sixth model was determined to be the best model as it best fits the data. The 6 models were evaluated using percentage of Type I error, Type II error, Average error and also misclassification cost. Model 6 appeared to have a 12.43% of Type I error, 18.22% of Type II error, 12.69% of Average error and 80377.25 of misclassification cost which is the lowest compared to the other 5 models (Nie et al., 2011).
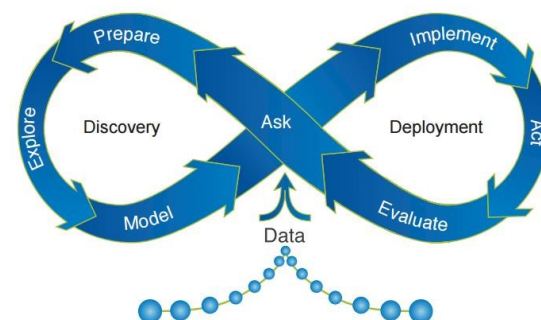
Analytical Life Cycle

Figure 1: SAS Analytical Life Cycle
Source: SAS (2016)

Figure 1 illustrates the analytical life cycle developed by SAS. Successful organization identify that analytic models are essential corporate assets that produce and deliver answers to production systems for improved customer relationships, improved operations, increased revenue and reduced risk. SAS developed an iterative analytical life cycle to guide user through the process of going from data to decision. There are eight phases to produce an effective
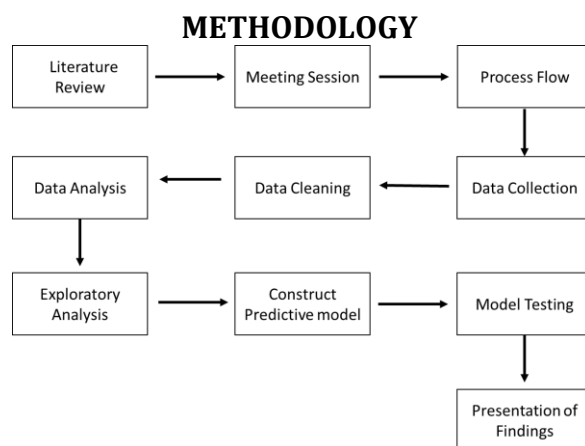
predictive modelling results.

METHODOLOGY

Figure 2: Methodology

Figure 2 illustrates the methodology used in this research. The following sections explain each stage of activities in detail.

LITERATURE REVIEW
A literature review is used to identify various kinds of problems and techniques that have been studied in this research area by previous researchers. The literature review includes data mining, customer buying behaviour, loyalty card, analytic lift cycle and techniques & methods.

Meeting Session
The meeting sessions with the loyalty card company based in Malaysia will be carried out in this research project. In these meeting sessions, domain knowledge is acquired, problems of the industry will be shared and discussed, understanding of databases and tables will take place, updates on the project will be shared and discussed with all members of the project which include supervisors, lecturers from business school and employees from the loyalty card company. The purpose of these meetings is to make sure that the research project is on the right track. A preliminary investigation was conducted to understand the problem scenario faced by the company and the data from the company.

Process Flow
Figure 3 shows the overall chained of research activities needed to achieve the goal of this project. Understanding this process flow is crucial to ensure that everyone is always on the right path with same level of understanding. The DBMS indicates the database to be accessed from the loyalty card company. SQL statement will be written to select important tables and variables from the database. Selected tables will be imported to SAS Enterprise Guide for data quality processing purposes.
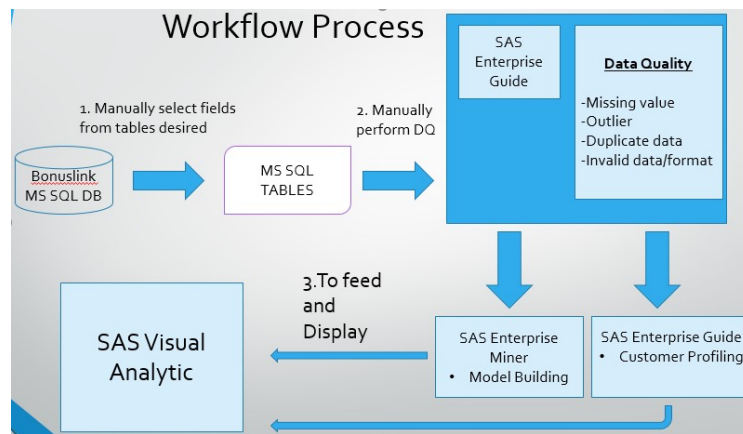
Figure 3: Process Flow

For this part, missing value, outliers, data duplication, invalid data, invalid input format will be identified and removed. Using the dataset provided, predictors and a target variable will be identified to build a predictive model using SAS Enterprise Miner (e-Miner). On the other hand, SAS Enterprise Guide (EG) will be used to perform exploratory analysis. Once this completes, the results will be presented in SAS Visual Analytic for visualisation purposes.

Data Collection
Before data is acquired, an NDA (Non-Disclosure Agreement) form will be signed to make sure all the data given to us will not be disclosed to unauthorized parties. The data contain 9 tables and they contain data from year 2014 and 2015. The data will be used to perform exploratory analysis.

Data Cleaning
SAS EG (Enterprise Guide) are used to clean up the given data. Cleaning up data meaning to detect and remove unnecessary or inaccurate records from the data set. Data cleaning include remove outlier, identify invalid format and variables and others.

Data Analysis
SAS Visual Analytics and SAS Enterprise Guild were the main tools to do analysis, important key matrix will be recognised. For example, the useful information such as customer's age will allow us to know what they usually spend on.

Exploratory analysis
The well-prepared set of variables will be put into SAS Enterprise Guide and SAS Visual Analytic to be analysed in the forms of bar charts and pie charts for better understanding of trends and patterns. This also helps to profile the customers that spend and use the loyalty programme. All the bar charts and pie charts are produced by using data give by the loyalty card company. From the charts, results for each category from different selected loyalty partners are easily shown clearly.

Construct Predictive model
SAS Enterprise Miner is used to build predictive models to forecast and predict customer churn. With this prediction, we will be able to estimate which customers that are about to churn and what appropriate actions should be taken. Factors will be identified at this stage. These independent variables can be used to construct effective marketing activities.

Model Testing
After building the predictive model, tests will be carried out using sample from the dataset to

examine the reliability of the model. If the model is not reliable, corrections will be made to improve the reliability of the model. Several cycles of model building activities will take place until desired objective is achieved.

Presentation of Findings

Results obtained from the SAS Enterprise Guide will then be presented in the form of charts and tables using SAS Visual Analytic for ease of multi-level drill down. A final report comprising all the results and future possible works will be documented at the end of this process.

FINDINGS AND DISCUSSIONS

In this section, findings are presented. Three key loyalty programme partners will be illustrated and discussed. They are from a departmental store, pharmacy chained store and a petrol company. They are chosen because these partners contribute the largest percentage of transactions from the total number of transaction per year. Membership profiling for these partners are illustrated in the first part of the discussion. In Section 4.2, churn model is presented. This is followed by customer spending behaviour in Section 4.3.

Member Spending Outlets Profile

This section briefly highlights the top customers' spending outlets for the three (3) key loyalty programme partners. The exploratory spending analysis provides a good understanding of when and where these loyalty card holders spend in the partners' outlets.

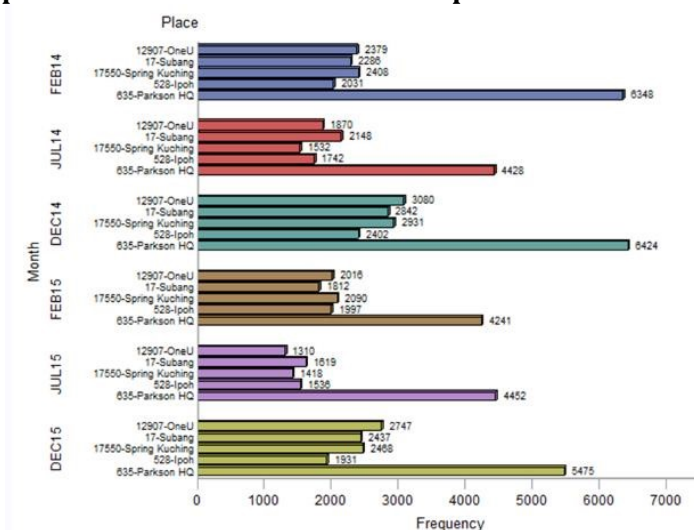**Top 5 outlets in 2014 & 2015 For Departmental Store by-quarterly**

Figure 4: Top 5 transaction frequency outlets.

Figure 4.0 illustrates the top 5 outlets for departmental store in 2014 & 2015 by quarterly. In Figure 4.0, every five outlets is grouped by the high transactional frequency quarterly. Based on 2014 and 2015 data, people tend to shop more during these three months. From the analysis, it shows that the departmental store HQ have the highest frequency of transaction for all the months. For other outlet, the month that has the highest frequency of transaction is on December 2014. This indicates that people shop more during year end promotions but people will also shop more during festive season such as Chinese New Year or Hari Raya.

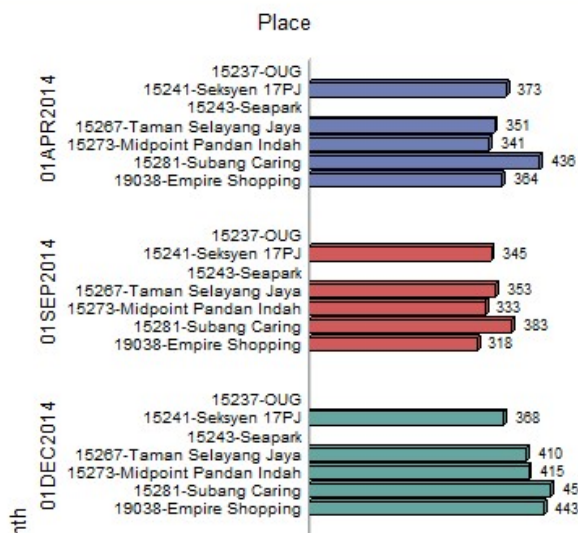**Top 5 outlets of 2014 & 2015 For Pharmacy chain store by quarterly**

Figure 5: Frequency of top 5 outlet on 2014

According to Figure 5, the five outlets that were grouped by the highest frequency (by transaction) month is shown. Based on 2014 data, people tend to shop more during these three months. From the bar chart, it shows that Subang Pharmacy chain store have the highest frequency of transaction for all the months. For the other outlets, it fluctuates over the three months. This indicates that, people will shop in the pharmacy chain store mostly during end of the year.
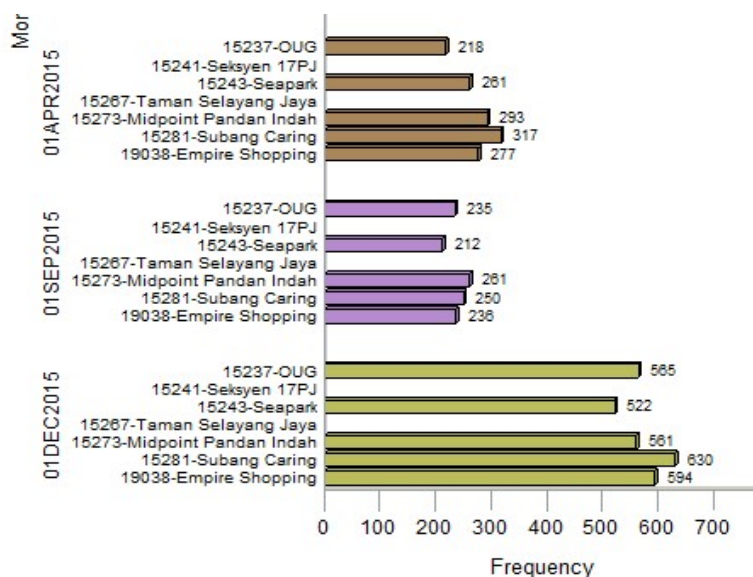
Figure 6: Frequency of top 5 outlet on 2015

In Figure 6, it was found that the five outlets are grouped by the highest transaction frequency month. Based on the 2015 data, card holders tend to shop more during these three months. From the chart, it shows that Subang Pharmacy chain store has the highest transaction frequency for all the months except September 2015. For the other outlets, the highest transaction frequency month is December 2015. This indicates that people will shop in The pharmacy chain store mostly at end of the year.

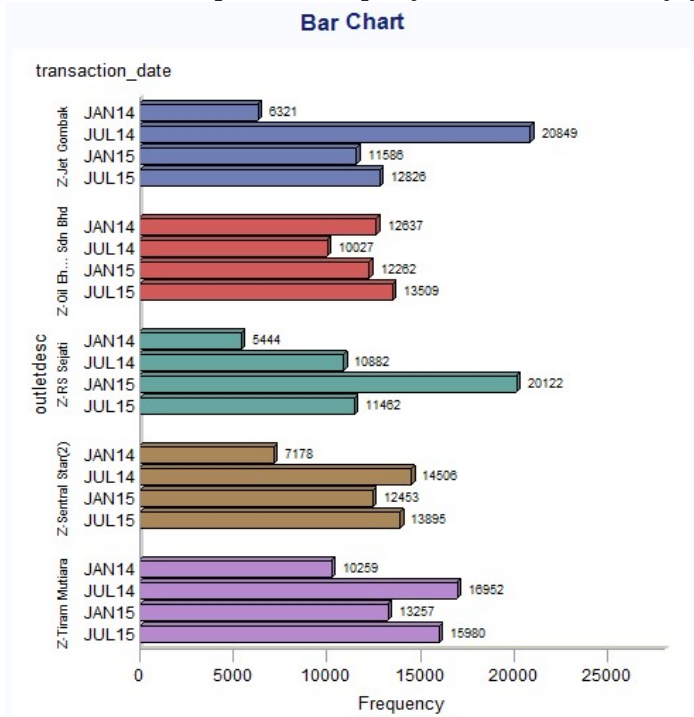**Top 5 outlets for the petrol company in 2014 & 2015 by-yearly**

Figure 7: Frequency of top 5 outlet by 6months

From Figure 7, it was found that every five outlets are grouped by-yearly for year 2014 and 2015. Each outlet has different transaction frequency for the first and second half of the year. From the figure, in 2014 data, outlet Jet Gombak shows that the second half of the year is higher than the first half of the year. However, in 2014 data, outlet Oil Ehsan shows that the first half of the year is higher than the second half. This indicates that different The petrol company outlets have different transaction frequency. This might be due to the location of the outlets.

CUSTOMER CHURN MODEL
Churn Model based on Customer Transaction data
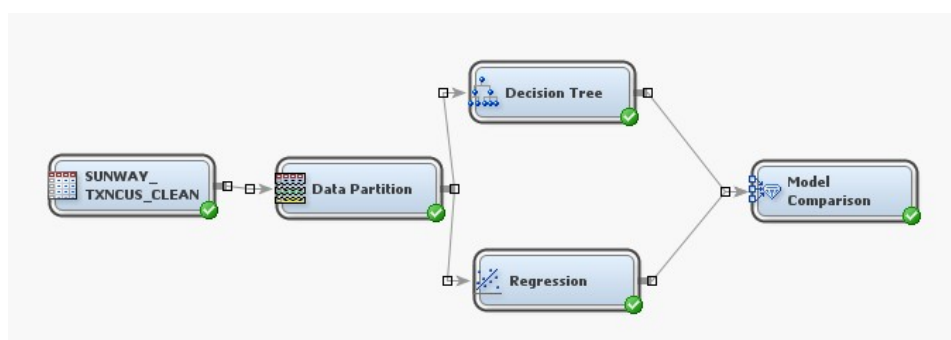
Figure 8: Predictive model for Customer Transaction table.

Figure 8 shows the flow of the predictive model constructed using SAS Enterprise Miner. The first node on the right represents the dataset used. In this case, it is the Customer Transaction table. The next node is the data partition node. This node separates the dataset into 3 parts. The first part is validation; it is used for performance tuning for the model built. The tuning process usually involves selecting among models of different types and complexities. The second part is testing; it is used for model assessment. The third part is training; it is used to

build the models. The data is partition into 60% training, 30% validation and 10% test. The next two nodes are the deductive models developed.

The first node on the top is decision tree. Since the predictive type is estimate, "average square error" method is used in the assessment measure. In order to ensure all the data is used to run this model, a default sample size is changed to "none" representing all data will be used for modelling. As for the second modelling node, regression model is used. Since the target variable is a categorical variable, the regression type used is "logistic regression" instead of linear regression. The selection model for this model is "stepwise" approach.
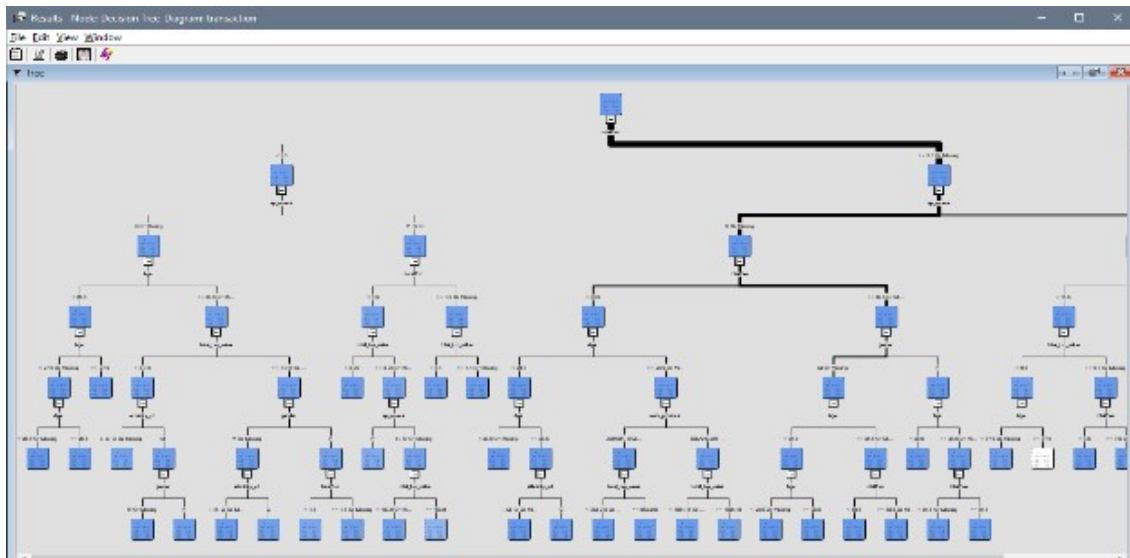
Decision Tree Churn Model

Figure 9: Maximum tree plot by decision tree model

Figure 9 shows the maximum tree plot generated by SAS Enterprise Miner. It has a total of 37 leaf nodes produced by the tree.

English Rule on Decision Tree for Transaction Table

```
                                    if total_txn_value < 4.015
                                    AND totalTxn < 5.5
if totalTxn < 5.5                   AND ethnicity_cd IS ONE OF: I, C, 0 or MISSING      if total_txn_value >= 3.95 or MISSING
AND ap_source IS ONE OF: S or MISSING   AND ap_source IS ONE OF: S or MISSING           AND totalTxn < 1.5
AND Age < 27.5 AND Age >= 25.5      AND Age >= 28.5 or MISSING                          AND ap_source IS ONE OF: P
then                                then                                                then
  Tree Node Identifier  = 33          Tree Node Identifier  = 36                          Tree Node Identifier  = 40
  Number of Observations = 16706      Number of Observations = 7675                       Number of Observations = 6467
  Predicted: card_status=P = 0.00     Predicted: card_status=P = 0.01                     Predicted: card_status=P = 0.00
  Predicted: card_status=F = 0.00     Predicted: card_status=F = 0.00                     Predicted: card_status=F = 0.02
  Predicted: card_status=C = 0.00     Predicted: card_status=C = 0.01                     Predicted: card_status=C = 0.00
  Predicted: card_status=A = 1.00     Predicted: card_status=A = 0.99                     Predicted: card_status=A = 0.98
```

Figure 10: English rule for decision tree churn model.

Figure 10 shows the English rules generated by the decision tree model. From Figure 5.20, we

observed that if totalTxn < 5.5 AND ap_source is S and age < 27.5 and age >= 25.5 then the predicted card_status is A. A represents 'card aborted' or 'card withdrew'. If total total_txn_value < 4.015 AND totalTXN < 5.5 AND ethinicity_cd is I, C, O AND ap_source is S AND age >= 28.5 then it is predicted that 1% will have the card_status equal to P and C while 99% of the card_status is equal to A. P represents card is phantom where card is new and active but transactions have not been registered with the server system yet. C represents card has been cancelled. Finally, if total_txn_value >= 3.95 and totalTxn < 1.5 AND ap_source is P then it is predicted that 2% will have the card_status equal to F while 98% of the card_status is predicted as A. F represents card has been force closed or permanently terminated.

```
if total_txn_value < 0.6
AND totalTxn < 15.5 AND totalTxn >= 5.5      if total_txn_value >= 0.6 or MISSING          if total_txn_value >= 0.6 or MISSING
AND ap_source IS ONE OF: P, N, O             AND totalTxn < 7.5 AND totalTxn >= 5.5        AND totalTxn < 15.5 AND totalTxn >= 7.5 or MISSING
AND Age >= 77.5                              AND ap_source IS ONE OF: P, N, O              AND ap_source IS ONE OF: P, N, O
then                                         then                                         then
  Tree Node Identifier   = 55                  Tree Node Identifier   = 56                  Tree Node Identifier   = 57
  Number of Observations = 34                  Number of Observations = 22385               Number of Observations = 75153
  Predicted: card_status=P = 0.00              Predicted: card_status=P = 0.00             Predicted: card_status=P = 0.00
  Predicted: card_status=F = 0.00              Predicted: card_status=F = 0.00             Predicted: card_status=F = 0.00
  Predicted: card_status=C = 0.12              Predicted: card_status=C = 0.00             Predicted: card_status=C = 0.00
  Predicted: card_status=A = 0.88              Predicted: card_status=A = 1.00             Predicted: card_status=A = 1.00
```

Figure 11: English rule for decision tree churn model.

Figure 11 shows the English rule for decision tree churn model developed. From Figure 11, we can observe that if total_txn_value < 0.6 AND totalTxn <15.5 AND totalTxn >= 5.5 AND ap_source is P, N or O AND age > 77.5 then it is predicted that 12% of the card_status is C (or cancel) while 88% it is predicted that the card_status A (or abort). On the other hand, if total_txn_value >= 0.6 AND totalTxn < 7.5 AND totalTxn >5.5 AND ap_source is P, N or O then the predicted card_status is A (or abort). Finally, if total_txn_value >= 0.6 AND totalTxn < 15.5 AND totalTxn >= 7.5 AND ap_source is P, N or O then the predicted card_status is equal to A (or abort).

```
if total_txn_value >= 4.015 or MISSING     if total_txn_value >= 4.015 or MISSING       if total_txn_value < 469.9 AND total_txn_value >= 3.95 or MISSING
AND totalTxn < 1.5                         AND totalTxn < 5.5 AND totalTxn >= 1.5 or MISSING   AND totalTxn < 1.5
AND gender IS ONE OF: F                    AND gender IS ONE OF: F                       AND ap_source IS ONE OF: N, O or MISSING
AND ap_source IS ONE OF: S or MISSING      AND ap_source IS ONE OF: S or MISSING        then
AND Age >= 28.5 or MISSING                 AND Age >= 28.5 or MISSING                      Tree Node Identifier   = 72
then                                       then                                           Number of Observations = 19122
  Tree Node Identifier   = 70                Tree Node Identifier   = 71                  Predicted: card_status=P = 0.00
  Number of Observations = 27710             Number of Observations = 68189               Predicted: card_status=F = 0.01
  Predicted: card_status=P = 0.01            Predicted: card_status=P = 0.01             Predicted: card_status=C = 0.00
  Predicted: card_status=F = 0.01            Predicted: card_status=F = 0.00             Predicted: card_status=A = 0.99
  Predicted: card_status=C = 0.00            Predicted: card_status=C = 0.00
  Predicted: card_status=A = 0.98            Predicted: card_status=A = 0.99
```

Figure 12: English rule for decision tree churn model.

Figure 12 shows the English rule for decision tree generated. From Figure 12, we have observed that if total_txn_value >= 4.015 or Missing AND totalTxn < 1.5 AND gender is F AND ap_source is S or Missing AND age >=28.5 or Missing then it is predicted that 1% of the card_status is equal to P (or phantom) and F (or force closed) while 98% is predicted to have card_status equal to A (or abort). On the other hand, if total_txn_value >= 4.015 or Missing AND totalTxn < 5.5 AND totalTxn >= 1.5 or Missing AND gender is F AND ap_source is S or Missing

AND Age >= 28.5 or missing the it is predicted 1% of the card_status is equal to P (or phantom) while 99% of the card_status is predicted to be A (or abort). Finally, if total_txn_value < 469.9 and total_txn_value > 3.95 or Missing AND totalTxn < 1.5 AND ap_source is N, O or Missing then it is predicted that 1% of the card_status equal to F (or force closed) while 99% of the card_staus is predicted to be A (or abort).

Fit Statistic for Decision Tree

Fit Statistics	Statistics Label	Train	Validation	Test
NOBS	Sum of Frequencies	2460666	1230333	410115
MISC	Misclassification Rate	0.003041	0.003041	0.003048
MAX	Maximum Absolute Error	0.999997	1	0.999965
SSE	Sum of Squared Errors	14883.24	7444.605	2487.497
ASE	Average Squared Error	0.001512	0.001513	0.001516
RASE	Root Average Squared Error	0.038886	0.038894	0.03894
DIV	Divisor for ASE	9842664	4921332	1640460
DFT	Total Degrees of Freedom	7381998	.	.

Figure 13: Fit statistic for decision tree.

In Figure 13, there are a total of 2460666 observations for train data, 1230333 observations for validation data and 410115 observations for test data. The misclassification rate for train and validation data is 0.003041, as for test data the misclassification rate is 0.003048. The misclassification rate difference between training, validation and test data is very small/not significant. The average squared error for training data is 0.001512, validation data is 0.001513 and test data is 0.001516. The difference in average square error between all validation, test and training data is not significant.

Subtree Assessment Plot for Decision Tree Churn Model

Figure 14: Subtree assessment plot

The plot in Figure 14 shows the Average Square Error corresponding to each subtree as the data is sequentially split. This plot is similar to the one generated with the Interactive Decision Tree, and it confirms suspicions about the optimality of the 37-leaf tree. The performance on the training and validation sample becomes monotonically better as the tree becomes more complex. The average square error decreases as the number of leaves in the tree increases. However, until approximately at leaf 31 the average square error remains the same until the tree matures.

Regression Churn Model

```
                    Summary of Stepwise Selection

              Effect                Number      Score        Wald
      Step    Entered        DF       In      Chi-Square   Chi-Square    Pr > ChiSq

        1     ap_source       9        1       2407.5516                   <.0001
        2     totalTxn        3        2       1421.4475                   <.0001
        3     Age             3        3        984.9698                   <.0001
        4     gender          3        4        574.7671                   <.0001
        5     work_province  45        5        617.7542                   <.0001
        6     ethnicity_cd    9        6        176.6191                   <.0001


    The selected model is the model trained in the last step (Step 6). It consists of the following effects:

    Intercept  Age  ap_source  ethnicity_cd  gender  totalTxn  work_province
```

Figure 15: Summary result of regression model using Customer Transaction table.

Figure 15 shows that there are a total of 6 variables selected by the regression model. The variables are ap_source, totalTxn, Age, gender, work_province and also ethnicity_cd. They are the predictors for the customer churn model using regression technique.

Odd Ratio Analysis

```
                         Odds Ratio Estimates

                                                card_        Point
      Effect                                    status     Estimate

      Age                                         P          1.025
      Age                                         F          1.014
      Age                                         C          1.033
      ap_source     N vs S                        P         <0.001
      ap_source     N vs S                        F          2.089
      ap_source     N vs S                        C          1.305
      ap_source     O vs S                        P         <0.001
      ap_source     O vs S                        F          2.161
      ap_source     O vs S                        C          1.505
      ap_source     P vs S                        P          0.004
      ap_source     P vs S                        F          2.264
      ap_source     P vs S                        C          1.356
      ethnicity_cd  C vs O                        P          1.491
      ethnicity_cd  C vs O                        F          1.399
      ethnicity_cd  C vs O                        C          1.863
      ethnicity_cd  I vs O                        P          1.032
      ethnicity_cd  I vs O                        F          1.393
      ethnicity_cd  I vs O                        C          1.966
      ethnicity_cd  M vs O                        P          1.189
      ethnicity_cd  M vs O                        F          1.448
      ethnicity_cd  M vs O                        C          0.992
      gender        F vs M                        P          1.746
      gender        F vs M                        F          1.420
      gender        F vs M                        C          0.636
      totalTxn                                    P          0.992
      totalTxn                                    F          0.917
      totalTxn                                    C          0.993
      work_province  JOHOR vs WILAYAH PERSEKUTUAN  P          0.463
      work_province  JOHOR vs WILAYAH PERSEKUTUAN  F          0.662
      work_province  JOHOR vs WILAYAH PERSEKUTUAN  C          0.586
      work_province  KEDAH vs WILAYAH PERSEKUTUAN  P          0.798
      work_province  KEDAH vs WILAYAH PERSEKUTUAN  F          0.850
```

Figure 16: Odd ratio estimate for regression churn model

Figure 16 shows the odd ratio estimate for each predictor selected by SAS Enterprise Miner. Odd Ratio expresses the increase in primary outcome odds associated with a unit change in an input. It is obtained by exponentiation of the parameter estimate of the input of interest.

Age
For Age with card_status predicted equals to P (or phantom), the odd ratio estimate equals 1.025. This means that for each addition age, the odds of predicting card_status equals to P change by a factor of 1.025, a 2.5% increase. On the other hand, for Age with card_status predicted equals to F (or force closed), the odd ratio estimate equals 1.014. This means that for each addition age, the odds of predicting card_status equals to F (or force closed) change by a factor of 1.014, a 1.4% increase. Finally, For Age with card_status predicted equals to C (or cancel), the odd ratio estimate equals 1.033. This means that for each addition age, the odds of predicting card_status equals to C(or cancel) change by a factor of 1.033, a 3.3% increase.

Ap_source (P vs S)
For ap_source with card_status predicted equals to P (or phantom),, the odd ratio (P vs S) estimate are 0.004. This means that cases with P value for ap_source are 0.004 more likely to predict card_status equals to P than cases with a value of S for ap_source. For ap_source with card_status predicted equals to F, the odd ratio (P vs S) estimate are 2.264. This means that cases with P value for ap_source are 2.264 more likely to predict card_status equals to F (or force closed), than cases with a value of S for ap_source. For ap_source with card_status predicted equals to C (or cancel), the odd ratio (P vs S) estimate are 1.356. This means that cases with P value for ap_source are 1.356 more likely to predict card_status equals to C(or cancel), than cases with a value of S for ap_source.

Ethnicity_cd (C vs O)
For ethnicity_cd with card_status predicted equals to P (or phantom), the odd ratio (C vs O) estimate are 1.491. This means that cases with C value for ethnicity_cd are 1.491 more likely to predict card_status equals to P (or phantom), than cases with a value of O for ap_source. For ethnicity_cd with card_status predicted equals to F (or force closed), the odd ratio (C vs O) estimate are 1.399. This means that cases with C value for ethnicity_cd are 1.399 more likely to predict card_status equals to F (or force closed), then cases with a value of O for ethnicity_cd. For ethnicity_cd with card_status predicted equals to C, the odd ratio (C vs O) estimate are 1.863. This means that cases with C value for ethnicity_cd are 1.863 more likely to predict card_status equals to C (or cancel) than cases with a value of O for ethnicity_cd.

Gender (F vs M)
For gender with card_status predicted equals to P (or phantom), the odd ratio (F vs M) estimate are 1.746. This means that cases with F value for gender are 1.746 more likely to predict card_status equals to P (or phantom) than cases with a value of M for gender. For gender with card_status predicted equals to F (or force closed), the odd ratio (F vs M) estimate are 1.420. This means that cases with F value for gender are 1.420 more likely to predict card_status equals to F (or force closed) than cases with a value of M for gender. For gender with card_status predicted equals to C (or cancel), the odd ratio (F vs M) estimate are 0.636. This means that cases with F (or force closed) value for gender are 0.636 more likely to predict card_status equals to C than cases with a value of M for gender.

Work_province (Kedah vs Wilayah Persekutuan)
For work_province with card_status predicted equals to P, the odd ratio (Kedah vs Wilayah Persekutuan) estimate are 0.798. This means that cases with Kedah value for work_province are 0.798 more likely to predict card_status equals to P (or phantom) than cases with a value of

Wilayah Persekutuan for work_province. For work_province with card_status predicted equals to F (or force closed), the odd ratio (Kedah vs Wilayah Persekutuan) estimate are 0.850. This means that cases with Kedah value for work_province are 0.850 more likely to predict card_status equals to F (or force closed) than cases with a value of Wilayah Persekutuan for work_province. For work_province with card_status predicted equals to C (or cancel), the odd ratio (Kedah vs Wilayah Persekutuan) estimate are 0.443. This means that cases with Kedah value for work_province are 0.443 more likely to predict card_status equals to C (or cancel) than cases with a value of Wilayah Persekutuan for work_province.

Work_province (Sarawak vs Wilayah Persekutuan)
For work_province with card_status predicted equals to P (or phantom), the odd ratio (Sarawak vs Wilayah Persekutuan) estimate are 0.873. This means that cases with Sarawak value for work_province are 0.873 more likely to predict card_status equals to P (or phantom) than cases with a value of Wilayah Persekutuan for work_province. For work_province with card_status predicted equals to F (or force closed), the odd ratio (Sarawak vs Wilayah Persekutuan) estimate are 1.057. This means that cases with Sarawak value for work_province are 1.057 more likely to predict card_status equals to F (or force closed) than cases with a value of Wilayah Persekutuan for work_province. For work_province with card_status predicted equals to C (or cancel), the odd ratio (Sarawak vs Wilayah Persekutuan) estimate are 0.870. This means that cases with Sarawak value for work_province are 0.870 more likely to predict card_status equals to C (or cancel) than cases with a value of Wilayah Persekutuan for work_province.

Fit Statistic for Regression Churn Model

Fit Statistics	Statistics Label	Train	Validation	Test
AIC	Akaike's Information Criterion	105122.6	.	.
ASE	Average Squared Error	0.001513	0.001513	0.001516
AVERR	Average Error Function	0.010665	0.010715	0.010685
DFE	Degrees of Freedom for Error	7381923	.	.
DFM	Model Degrees of Freedom	75	.	.
DFT	Total Degrees of Freedom	7381998	.	.
DIV	Divisor for ASE	9842664	4921332	1640460
ERR	Error Function	104972.6	52730.54	17527.68
FPE	Final Prediction Error	0.001513	.	.
MAX	Maximum Absolute Error	1	1	1
MSE	Mean Square Error	0.001513	0.001513	0.001516
NOBS	Sum of Frequencies	2460666	1230333	410115
_NW_	Number of Estimate Weights	75	.	.
RASE	Root Average Sum of Squares	0.038897	0.038902	0.038941
RFPE	Root Final Prediction Error	0.038897	.	.
RMSE	Root Mean Squared Error	0.038897	0.038902	0.038941
SBC	Schwarz's Bayesian Criterion	106158.7	.	.
SSE	Sum of Squared Errors	14891.62	7447.724	2487.57
SUMW	Sum of Case Weights Times Freq	9842664	4921332	1640460
MISC	Misclassification Rate	0.003041	0.003041	0.003048

Figure 17: Fit statistic for regression model.

From Figure 17, the average square error for training and validation data is 0.001513, while test data is 0.001516. The misclassification rate for training and validation data is 0.003041 while test data is 0.003048. The Sum of Squared Errors for training data is 14891.62, while for validation data is 7447.724 and for test data is 2487.57. The average square error difference between training, validation and test data is not significant because the difference value is only 0.000003. Not only that, the difference in misclassification rate between training, validation and test data is also not significant.

Model Comparison for Decision Tree and Regression

Selected Model	Predecessor Node	Model Node	Model Description	Target Variable	Target Label	Selection Criterion: Valid: Misclassification Rate	Train: Akaike's Information Criterion	Train: Average Squared Error
Y	Reg3	Reg3	Regression	card_status	card_status	0.003041	105122.6	0.001513
	Tree3	Tree3	Decision Tr...	card_status	card_status	0.003041	.	0.001517

Figure 18: Fit Statistic for model comparison.

Figure 18 shows the fit statistic for model comparison. Based on the 2 models, the model comparison node chooses regression as the preferred model because the Average Square error for Regression is slightly lower than Decision Tree. The difference is 0.000004 therefore decision tree and regression model can be used for prediction.

CUSTOMER SPENDING BEHAVIOUR
Discussion on the Departmental store Customer's spending behaviour
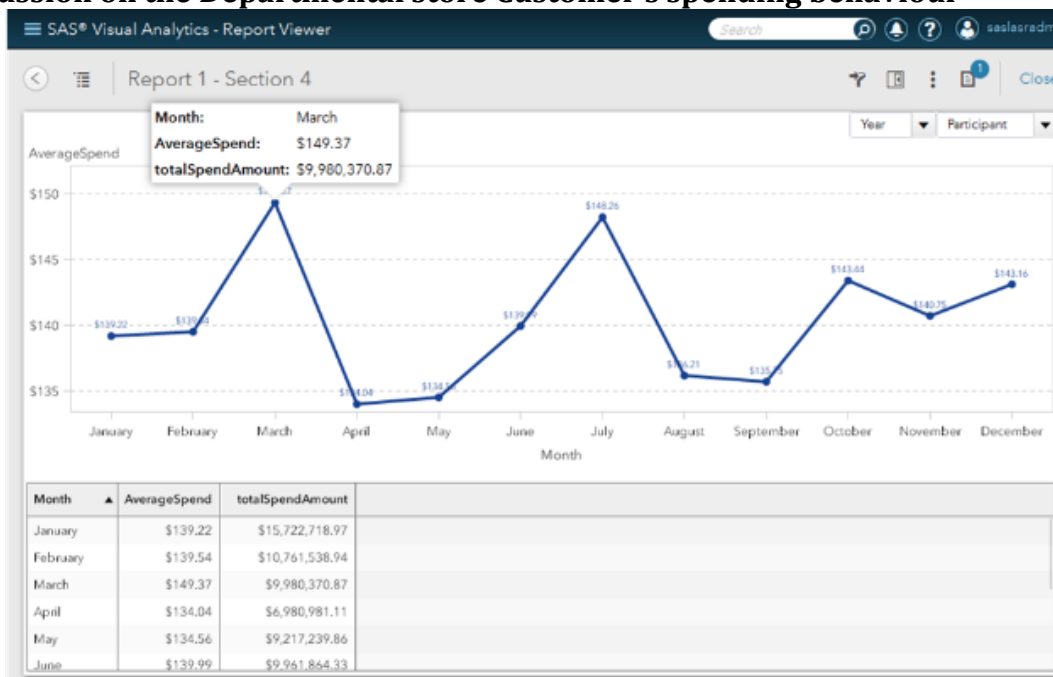
Figure 19: Total and average spending for the chosen departmental store

Figure 19 illustrates shows the total and average spending in two years for card holders at outlets of the departmental store. This shows that customers spend more in March and July. The reason that the departmental store achieves high sales in March is because Malaysians are likely to purchase more before the implementation of goods and service tax (GST) on April 2015 (Eugune Mahalingam, 2014). People tend to spend more again during July due to festive promotion and on Member day held in 2014. Furthermore, the table below the line chart is to show the details for every month's average and total amount spent by the customers.

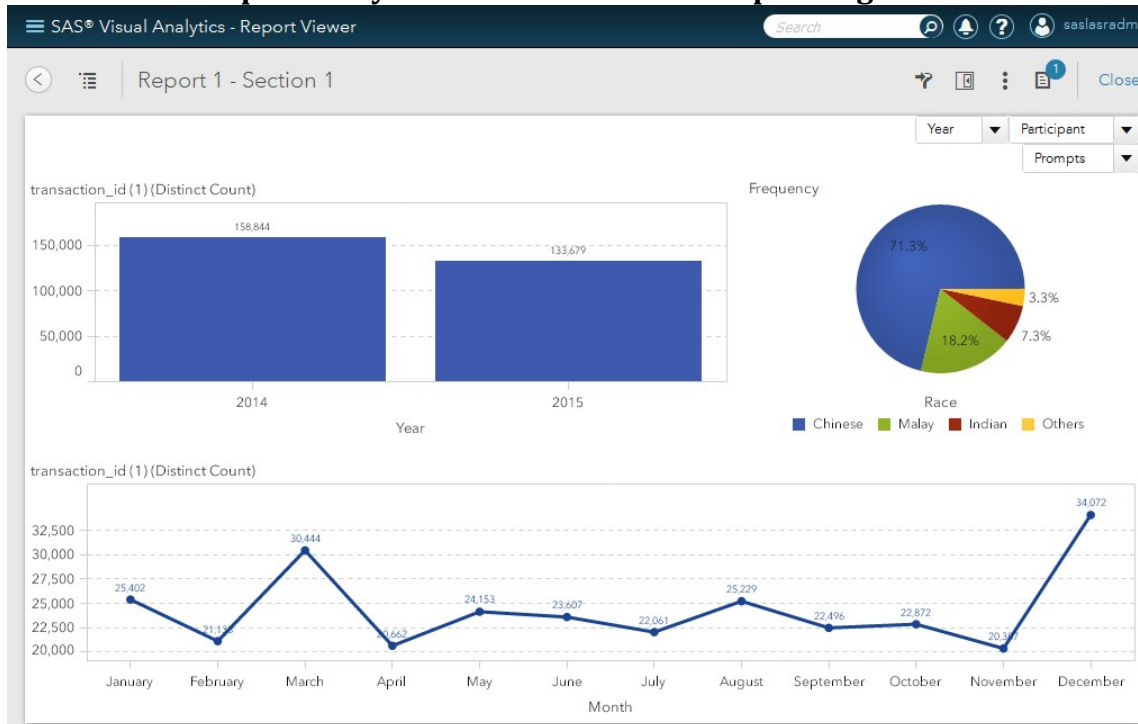## Discussion on the pharmacy chain store Customer's spending behaviour

Figure 20: Section 1 for the pharmacy chain store

Figure 20 shows the transaction frequency in two years and the customers' race for the pharmacy chain store. From the result, it can be seen that there is a huge change in customer's buying behaviour in 2015. This change caused a reduction in sales for all the pharmacy chain store outlet resulting in smaller number of transactions. The issue that causes this is the implementation of Goods and Service Tax (GST) in Malaysia at that point of the year. Other than that, the sharp drop of Malaysian currency also introduces price hike for many essential goods. Furthermore, the pharmacy chain store tends to have more Chinese customers as compared to other races. Because of the price hike, all the races tend to spend their money wisely and carefully. From the line graph, it shows that in March, there is a very high frequency of transaction. This is because customers tend to purchase more items before the implementation of GST in April 2015. This has caused the month before April 2015 to have very high number of transaction.

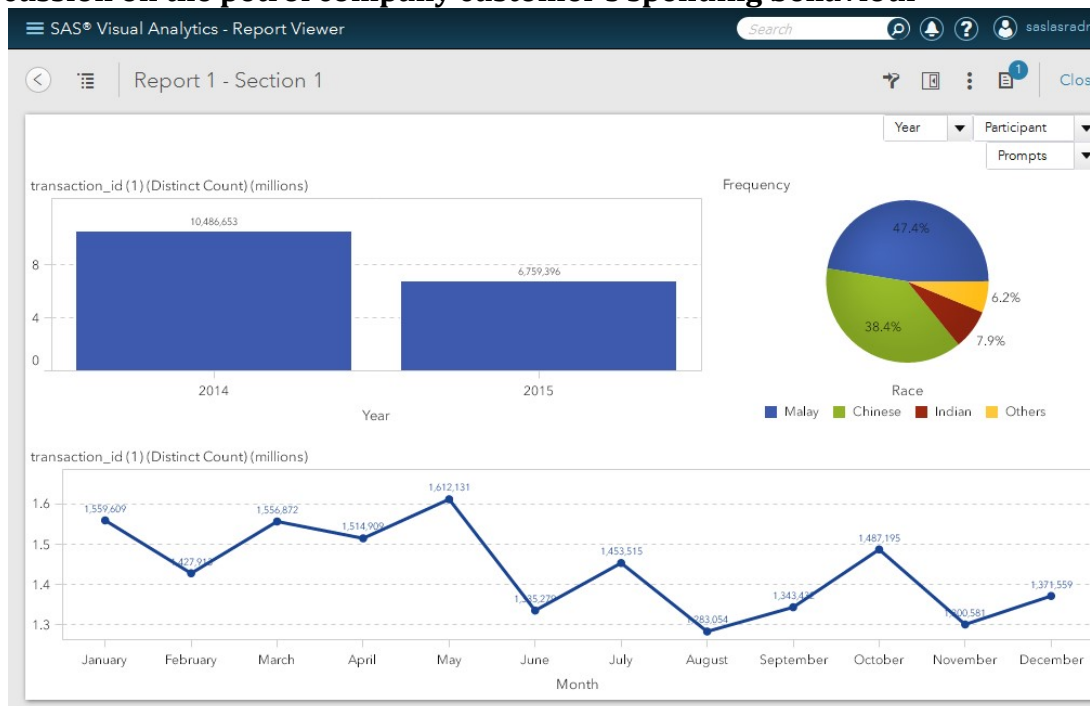## Discussion on the petrol company customer's spending behaviour

Figure 21: Section 1 for the petrol company

Figure 21 shows the transaction frequency for two years and the races of customers for the petrol company. From the result in Figure 21, it is found that there is a huge change in customer's buying behaviour in 2015. This has caused a significant impact on the petrol company's sales. As illustrated from the line graph, the number of transactions are not stable and fluctuate every month. This may due to the volatility of oil price which changes every month. With the implementation of GST and the depreciation of Malaysia Ringgit, customers have become very price sensitive and are watchful for low petrol price. When petrol price is low, customers tend to purchase more petrol before the petrol price increases again next month. Thus, resulting more transactions on some months. When petrol price is high, customers will pump less petrol. This has resulted less transactions on that month. Thus, the transactions for the petrol company are volatile due to changes of oil price. In addition, the chart also shows that the customer group for the petrol company consists more of Malay customers.

RECOMMENDATIONS FOR THE DEPARTMENTAL STORE, PHARMACY CHAINED STORE AND PETROL COMPANY.

Recommendation for the departmental store

From the results discussed, the loyalty card company and the departmental store are able to identify when their customers would spend or shop less. In the analysis, it was found that card holders spend less in April and September as compared to March and July. In order to boost up the sales or to have better sales every month, the marketing team of the departmental store can give incentive such as discounts on promotional items. This will provide incentive to the card holders purchase these promotional items. According to Arief Irsyad (2014), consumers will go crazy whenever consumers see the word "sale" or "discount" because this makes them think that the prices are lower. The above figure also shows that the number of transactions in April is the lowest. This might be due to gifts available for redemption are not attractive enough. Therefore, the departmental store could come out with more appealing gifts for their customers to attract them to redeem their earned points. As a result, customers will tend to use the loyalty card more whenever they make their purchases because the customers will want to

collect more points in order to be able to redeem attractive gifts. Instead of having exclusive sales for loyalty card members every month, the departmental store should reduce the frequency of having monthly sales or promotions and should carry out sales or promotions in the month of April and September to make their sales improved. The departmental store can do so by increasing the points per transaction for months April and September to attract customers to use the card when making purchases. Furthermore, the loyalty card company can set up booth in the departmental store during peak season to allow customers to sign up for the card and promote the benefits of the card.

Recommendation for the pharmacy chain store
From the findings, the management for the loyalty card company and the pharmacy chain store can understand the reasons why sales for certain months are not constant. There are so many competitors out there in Malaysia in the line of pharmacy stores. In order to boost up the sales, should consider frequent promotional activities on the healthcare products. This will attract health conscious card holders to shop at the pharmacy chain store. Other than that, the loyalty card company should also provide incentives such as big bonus points or high value free gifts for card holders when they shop at the pharmacy chain store during sales periods. Other than that, the pharmacy chain store can come out with cross selling products or services for their loyal customers. This is because the pharmacy chain store does not only sell healthcare products, but they also sell cosmetic and daily necessities. Furthermore, the loyalty card company can set up a booth in the store once a month to allow their customers to sign up for as new loyalty card members and to promote the benefits of the loyalty card.

Recommendation for the departmental store and petrol company
The results found from the discussion allows the management of the loyalty Card Company and the petrol company to identify when their customers spend or pump petrol less. When they anticipate to have less customers spend at their outlets, they can find ways to attract these customers to spend at the petrol company petrol stations. The petrol company can consider giving rewards to their customers for their continuous support with more appealing products and services such as cash voucher when they spend up to certain amount at their petrol stations. Hence these card holders can collect points from their transactions at the petrol company. Besides, can boost up their sales by having more contests or lucky draws to attract their customers to pump petrol at the petrol company. The petrol company can also provide training for their workers and remind their customers to use the loyalty card when filling up petrol. If customers do not hold any of the loyalty card, the petrol company's workers can promote them the benefits of collecting points and direct them to the sign-up booth at the petrol company. Therefore, loyalty Card company can set up the booth at the petrol company every month for non-members to sign up and thus will lead to more transactions when customers spend at The petrol company.

STRATEGIES FOR THE CHURN PREDICTIVE MODEL
One of the strategies proposed in this research is to offer a simple way to pay according to Meagan Rhodes, the Digital Marketing Lead of @Pay, a simple secure email payment technology company. As for loyalty card company, allowing card holders to easily use their loyalty card while making any transactions will be able to significantly increase the number of transaction by existing card user (Stringfellow, 2016). For example, not all customers carry their loyalty card everywhere they go. So, by allowing them to store their card details in their phone and make transaction through their phone will significantly increase the usage of the loyalty card because everyone do carry their phone everywhere they go. This strategy will need a substantial amount of investment and it takes time and effort before seeing the result.

A more economical way is to ask for feedback from customer on ways to improve their service said Chip Bell, a Senior Partner in Chip Bell Group (Stringfellow, 2016). For example, based on the predicted customers from the decision tree and regression model who will potentially churn, the loyalty company can reach out to these potentially churn customers and ask for their feedback, listen to their needs on the loyalty program and then based on their feedbacks and act accordingly.

Therefore, based on the English rule in Decision Tree model from figure 4.6 to figure 4.8 and the odd ratio estimate shown in figure 4.12 from the regression model, we will then determine who are the potential churners and take appropriate action.

Based on the English rules, we observe that if total_txn_value < 8.1 AND totalTxn < 5.5 AND totalTxn >= 1.5 AND ap_source is P, N, or O then it is predicted that approximately **43** customers will churn. Besides that, if total_txn_value > = 3.95 AND totalTxn < 1.5 AND ap_source is P then it is predicted that approximately **129** customers will churn. On the other hand, if total_txn_value < 0.6 AND totalTxn is between 5.5 and 15.5 AND ap_source is P, N or O AND age >77.5 then it is predicted that approximately **29** customers will churn. If total_txn_value >= 4.015 AND totalTxn <1.5 AND gender is F AND ap_source is S AND age >= 28.5 then it is predicted that approximately **277** customers will churn. Furthermore, if total_txn_value is between 3.95 and 469.9 AND totalTxn < 1.5 AND ap_source is N or o then it is predicted that approximately **191** customers will churn.

Actions can be taken on the application source (ap_source) P, N and O. As these 3 out of 4 application sources seems to be one of the cause of member churn. A more useful approach of membership application should be formulated to replace these application sources (with value equals to P, N and O).

Based on the odds ratio analysis in Figure 4.12, strategies can be implemented on card holders with their work province address equals to Perlis (3.334), Labuan (1.275), Negeri Sembilan (1.141), Sarawak (0.870), Selangor (1.073) and Perak (1.052) because card holders in these six (6) states have the highest odds of churning as compared to Wilayah Persekutuan. This indicates that the loyalty card company should focus more on customers from these 6 states which have higher churn probability. As for ethnicity, card holders who are Chinese and Indian have higher odd of churning as compared to Malay. Therefore, it is logical to implement strategies mentioned above on Chinese and Indian card holders more than Malay.

RECOMMENDATION FUTURE RESEARCH

Some of the limitations and challenges faced in this project can be solved to improve future works. In this project, two years of the loyalty membership and transactions data was collected and the data consists of 70 GB. The prediction would be more accurate if more years of data can be provided such as 4 to 8 years in order to see the pattern changes on the member spending patterns and churn factors. Preliminary investigation such as understanding the data with some questions being asked to the Head of IT has been conducted to understand the current situation better. For future enhancement, perhaps an interview and observation session can be conducted to enhance the data collection in the company.

CONCLUSION

The loyalty card company in this case study is a well-known loyalty card company in Malaysia with long history of establishment. In this research, the result generated by SAS Visual Analytic and SAS Enterprise Guide on demographic analysis such as gender, race and age group have shown interesting with different spending behaviours. For example, different races tend to

spend more on different month and different age groups tend to spend more at different partners. Demographics factors can enable loyalty card company to further analyse on customer spending behaviour and produce suitable approaches to target at their card holders. The graphical presentation produced by SAS Visual Analytic has clear and flexible presentation capabilities that can assist the loyalty card company to improve their businesses in the future.

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Business Ethics & Values in Multinational Companies Operating in India: An Innovative Approach

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ABSTRACT
Elements of Ethical Values include: Ethical values serve the ends of human well-being; The well-being promoted by ethical values is not personal and selfish well-being; No one person's well-being is to be counted as more worthy or valuable than any other's; Ethical values promote human well-being in an impartial way. The main purpose of this research paper is to explore importance of ethical values and business ethics in today's globalized   world of high competition and to create awareness about concept and essence of ethical values and business ethics for sustainable progress this globalized world. Research methodology comprises real data – primary and secondary as well based upon Personal Interview Method, Telephonic Interview Method and Questionnaire Method. Research relates to re-exploring the facts which are already with us. Knowledge lies in reviewing and finding new possibilities in information. Research helps in making new innovations to pursue for betterment of our existing awareness. Ethics deal with "what that ought to be". Patrick and Quinn (1997), defined ethics as the study of individual and collective moral awareness, judgment, character and conduct. Business ethics is an art and science of maintaining harmonious relationship with society, its various groups and institutions as well as recognizing the moral responsibility for the rightness or wrongness of business conduct. Values are in inborn within individuals – embedded in individuals. Values differ amongst individuals. Individual values do change temporarily due largely to external influences/forces. Individuals have different sets of values. Values reflect a person's sense of right or wrong. Values lay the foundation in understanding people's attitude and motivation. Values are what we, as a profession, judge to be right. They are more than words-they are the moral, ethical, and professional attributes of character. Values are the embodiment of what an organization stands for, and should be the basis for the behavior of its members. The study emphasizes the essence of ethical values; business ethics and social ethics as backbone in the field of business. Getting information from respondents becomes problematic as we had to interview individuals who had been quite busy to give proper thought to the questions. Indifferent attitude of some respondents could have affected the final findings. Ethical values and Business ethics include Honesty; Integrity; Responsibility; Quality; Trust; Respect; Teamwork; Leadership; Corporate Citizenship; Shareholder Value; social ethics, moral modes, a customer-centric focus, employee satisfaction, customer satisfaction and finally leading to sustainable business in this globalized world. Ethical Values and Business ethics help in satisfying the consumers and customers and employees in maintaining sustainable business in this globalized world. Rationale is a viable approach based on natural values related to the betterment of humanity. It demands honest dealing and proper business ethics which are in the interest of consumers, customers and even employees that lead to sustainable business in this corporate world. Since originality is independent, it depends upon the values that hold the best interest of humanity.

Keywords: Ethical Values, Business Ethics, Sustainability, Globalization, Corporate Citizenship, Leadership

INTRODUCTION

The path to operationalizing ethical capitalism requires formalizing an introduction to business ethics, grounded in a code of ethics, not just at the top, but throughout the organization. Over time, ethical leadership fosters and sustains enduring corporate cultures that self-govern around corporate values and set forth a code of conduct that meets the highest standards. Now the time has come that managers, CEOs, MDs and owners of business organizations will have to rethink about business ethics which include honesty and respect for company assets; no compromise with quality and competence; embracement of diversity and respect of dignity of fellow employees; respect of customers' needs and values; and so on. Recent global corporate scandals have done long-lasting damage to the reputations of some of our most important civic institutions and businesses. 21st century has opened many corporate ethical scandals that have harmed millions of employees and investors and sent shock waves to the business world. To name a few – Manu Chabra Group for wrecking the fortunes of about half a dozen companies and facing investigation on FERA violations, the Harshad Mehta epic stock scam, ITC's violation of excise laws, the recent UTI scam, the recent Adarsh, Kansal, CWG and 2G spectrum scam. Key constituents – employees, investors, and community members – no longer trust or respect many institutions as much as they once did. Meanwhile, increased transparency and connectivity have enabled greater access to previously private information. The way to thrive in this era of increased public scrutiny is to put an introduction to business ethics training at the core of how corporations conduct business, and by tangibly demonstrating they have nothing to hide. "Doing what's right" represents a sustainable way to create competitive advantage. These traits help in making the business sustainable.

What is Business Ethics?

The word "ethics" is derived from the Greek *ethos*, meaning "customary" or "conventional." Ethics is built on good work practices & what is right; it provides general guidelines on good behavior/conduct of individuals, group, and organization as a whole. Ethics determiners what is right or wrong and choosing what is right. Ethics governs the behavior and conduct of individuals/groups in the workplace. Ethics is one of the hallmarks of a well run Company. Ethics can re assure investors/stakeholders about the Company's approach to its non financial risks. Ethics also help to protect/enhance Corporate/business reputation. Example, corporate image/branding,). To be ethical in the sense of ethos is to conform to what is typically done, to obey the conventions and rules of one's society and religion. Ethics involves a discipline that examines good or bad practices within the context of a moral duty. Moral conduct is behavior that is right or wrong. Business ethics include practices and behaviors that are good or bad.

Ethics is defined as 'a theory or a system of moral values: 'an ethic of service is at war with a craving for gain'.

Ethics may also be defined as 'the branch of philosophy that tries to determine the good and right thing to do; choices regarding right & wrong*.*

Ethics (plural, noun): 'the system of beliefs and rules used to judge human action'.
Example: 'he is a very honorable person who always acts accordingly to his ethics'*.*

Oxford Advanced Learner's Dictionary defines the word 'ethics' as "moral principle that govern or influence a person's behavior". Ethics is thus a benchmark of human behavior. The

conduct of human beings is influenced either by the emotions of life or the actions people perform in different situations. The coordination of action and emotions generates ethics.

Ethical Values
Values are in inborn within individuals – embedded in individuals. Values differ amongst individuals. Individual values do change temporarily due largely to external influences/forces. Individuals have different sets of values. Values reflect a person's sense of right or wrong. Values lay the foundation in understanding people's attitude and motivation. Values exert major influence on the behavior of an individual/group Values serves as general guidelines in all situations. Values (set of preferences) are said to be the cause and Ethics effect. If one operates in a given instance from a Value emotion within the outward action will tend to be Ethical. Values are those beliefs or standards that incline us to act or to choose in one way rather than another. A company's core values are those beliefs and principles that provide the ultimate guide in the company's decision-making.

Value is defined as a concept that describes the beliefs of an individual or culture. 'A set of *values* may be placed into the notion of a *value* system' *(Business Dictionary.com).*

Values are those things that really matter to each of us ... the ideas and beliefs we hold as special. Caring for others, for example, is a value. *(Business Dictionary.com).*

The word "values" can sometimes be interpreted with having only to do with "touchy-feely" type things like feelings. However, the idea of values, when it comes to management/strategy, relates much more to practical matters. There is a huge correlation between correct value alignment and success. Values can be defined as those things that are important to or valued by someone. That someone can be an individual or, collectively, an organization. One place where values are important is in relation to vision. One of the imperatives for organizational vision is that it must be based on and consistent with the organization's core values. Values are what we, as a profession, judge to be right. They are more than words-they are the moral, ethical, and professional attributes of character. Values are the embodiment of what an organization stands for, and should be the basis for the behavior of its members. Elements of Ethical Values include: Ethical values serve the ends of human well-being; The well-being promoted by ethical values is not personal and selfish well-being; No one person's well-being is to be counted as more worthy or valuable than any other's; Ethical values promote human well-being in an impartial way.

Need of Study
In this world of competition and globalization the challenge is to manage the business ethics and ethical values in an appropriate and standardized way. To survive in today's tough competitive business environment and to introduce sustainability in our business, ethical values and business ethics is mandatory to apply in practical form. Right and wrong defined by different people may manifest diverse thinking, motivated by each individual's personal values. Within a work environment, the cultural values that drive business decisions are critical to the organization's credibility with its employees, customers, and shareholders. Today, in business, value is about prioritizing individual and operational values for the workplace and establishing codes of value and codes of conduct that ensures that employee behaviors and the internal systems are aligned with those values which in turn affects the performance of the organization.

Key leadership with appropriate values establishes the moral compass that guides the organization through the complexities of what is right and wrong and how management and

staff are therefore expected to behave. Critical then, becomes the ability to manage for ethical outcomes—this is values-based management. Values provide the basis for judgment about what is important for the organization to succeed in its core business. Values are traits or qualities that are considered worthwhile; they represent an individual's highest priorities and deeply held driving forces. The need of the study arises for the purpose to make an appropriate balance between the ethical values in business with the profits of its concerned institute.

OBJECTIVES OF THE STUDY

- To identify reasons why the study of ethics is important.
- To explain the nature and meaning of business ethics
- To identify the status of business ethics and ethical values.
- To realize the contribution of business ethics and ethical values in sustainable development.
- To create awareness about business ethics and ethical values for the benefit of industry, employees, customers, consumers, shareholders and society.
- To study how business ethics and ethical values standards improve productivity, profitability and quality of an organization.

Motivation of Research

Motivation, in general, is essential in pursuit of every activity. There is 99% perspiration and 1% inspiration in motivation. Since, research involves hard labor, persistence and perseverance; these traits can be undertaken only under spirit of motivation. One has to remain internally impelled to pursue knowledge, be patient with difficulties and be ever optimistic to explore and reach some new horizons in the process of research. We personally felt motivated under guidance of our teachers who encouraged us to pursue knowledge for knowledge sake with full interest and thereby enjoy the thrill of research. Our inner urge has always pushed us to remain engrossed in studies and achieve some worthy position in the field of education and research.

Research Limitations

Getting information from respondents becomes problematic as we had to interview individuals who had been quite busy to give proper thought to the questions. Indifferent attitude of some respondents could have affected the final findings.

Research Methodology

Research methodology used during the study conducted in this research paper is based upon real data – primary as well as secondary. To conduct this study, exploratory qualitative approach was in practice.

Theoretical frame work was developed from the literature, data collected from the multiple sources of evidence in addition to books, news papers, journals, websites and other professional magazines. A survey was conducted, based on refined questionnaire (reviewed by four experts who had years of experience in the sector of business management) with senior managers, CEOs, and mangers/officers. Apart from these some support personnel (employees of the organizations) were also contacted to make this paper more real and worthy.

ETHICAL VALUES FOR BUSINESS SUCCESS

Ethics is based on a set of moral and ethical values. These values must be absolute - that is, you must take them seriously enough to override any human rationalization, weakness, ego, or personal faults. When all else fails, you will always look back to these core values to guide

you. Unfortunately, life is not that easy and there's always disagreement about what values should reign supreme.

Honesty
The old adage, "honesty is the best policy" is true today more than ever. It's not just lip service.

Employee manuals from most scandalized corporations are likely to contain slogans touting its commitment to honesty. Claiming to be honest in an employee manual is passé. You're either honest or not. Even if you haven't got caught yet, most people know who is and who isn't.

Integrity
Integrity connotes strength and stability. It means taking the high road by practicing the highest ethical standards. Demonstrating integrity shows completeness and soundness in your character and in your organization.

Responsibility
Blaming others, claiming victimhood, or passing the buck may solve short-term crises, but refusal to take responsibility erodes respect and cohesion in an organization. Ethical people take responsibility for their actions. Likewise, actions show the ability to be responsible both in the little and big things.

Quality
Quality should be more than making the best product, but should extend to every aspect of your work. A person who recognizes quality and strives for it daily has a profound sense of self-respect, pride in accomplishment, and attentiveness that affects everything. From your memos to your presentations, everything you touch should communicate professionalism and quality.

Trust
There's no free ride. Trust is hard to earn and even harder to get back after you've lost it. Everyone who comes in contact with you or your company must have trust and confidence in how you do business.

Respect
Respect is more than a feeling, but a demonstration of honor, value, and reverence for something or someone. We respect the laws, the people we work with, the company and its assets, and ourselves.

Teamwork
Two or more employees together make a team. It is a business necessity to work openly and supportively in teams whether formal or informal.

Leadership
How many hardworking, honest employees have been tainted and led astray by corporate leadership failings? Managers and executives should uphold the ethical standards for the entire organization. A leader is out front providing an example that others will follow.

Corporate Citizenship
A foundational principle for every company should be to provide a safe workplace, to protect the environment, and to become good citizens in the community.

Shareholder Value

Without profitability, there is no company. Every employee should understand how he or she fits into the profitability picture. Everyone's common goal should be to build a strong, profitable company that will last.

Innovative Study

In this research paper we have discussed empirical study of Cadbury, Nestle, other MNCs (Tata, Sail, Maruti, ONGC, Wipro, Reliance, Infosys, Canon, Johnson & Johnson, Ford Motor Company, IBM) as follows:

Ethical Values and Business Ethics of Cadbury

Cadbury is one of the world's largest confectionary manufacturers. Cadbury believes that good ethics and good business go together naturally to produce the best long-term results for all the stakeholders. Cadbury's vision is to be the biggest and the best confectionery company in the world. Its success is sustained by understanding and responding to the needs of consumers, customers, suppliers, colleagues and citizens. Its values are based upon performance, quality, respect, integrity and responsibility, honesty, openness and courtesy. This means everyone in Cadbury acts in an ethical way to protect and promote the company and its reputation among the people and communities it does business with. Cadbury maintains ethical sourcing standards and develops sustainable agriculture programmes such as the '**Cadbury Cocoa Partnership'.** Cadbury recognizes its environmental responsibilities. It reduces environmental impact, in particular targeting carbon, packaging and water use, within its broad **'Purple Goes Green'** environmental programme.

Ethical Values and Business Ethics of Nestle

Nestle is the world's leading nutrition, health and wellness company. With over 276,000 employees, the company has operations in almost every country in the world. The people know more by brands and the portfolio covers practically all food and beverage categories, with market leaders like Nestle, DRUMSTICK, NESCAFE, STOUFFERS, KITKAT, Nestle GOODSTART, Nestle PURE LIFE and PURINA , to name a few. Since its founding, Nestlé's business practices have been governed by integrity, honesty, fair dealings and full compliance with all applicable laws. Nestlé's employees worldwide have upheld and lived this commitment in their everyday responsibilities ever since, and Nestlé's reputation remains one of the Company's most important assets today. The Nestle Corporate Business Principles prescribe certain values and principles which Nestle has remained committed worldwide.

Ethical Values and Business Ethics of other MNCs

(TATA, SAIL, MARUTI, ONGC, WIPRO, RELIANCE, INFOSYS, CANON, JOHNSON & JOHNSON, FORD MOTOR COMPANY, IBM)
The Tata Group has always sought to be a value-driven organization. These values continue to direct the Group's growth and businesses. The five core Tata values underpinning the way we do business are: Integrity; Understanding; Excellence; Unity; and Responsibility. SAIL (Steel Authority of India) is To be a respected world Class Corporation and the leader in Indian steel business in quality, productivity, profitability and customer satisfaction. Maruti Udyog: We believe our core values drive us in every endeavour: Customer obsession; flexible and first mover; innovation and creativity; networking and partnership; openness and learning. ONGC: To be a world-class Oil and Gas Company integrated in energy business with dominant Indian leadership and global presence. The Spirit of Wipro is the core of Wipro. Spirit is rooted in current reality, but it also represents what Wipro aspires to be – thus making it future active.

The Spirit is an indivisible synthesis of all three statements: Manifesting intensity to win; Acting with sensitivity; and being unyielding on integrity all the time. Reliance Industries: Reliance believes that any business conduct can be ethical only when it rests on the nine core values of: Honesty; Integrity; Respect; Fairness; Purposefulness; Trust; Responsibility; Citizenship; and Caring. Growth is care for good health. For Reliance Industries: Growth is care for safety; Growth is care for the environment; Growth is conservation; Growth is betting on our people; and Growth is thinking beyond business. Infosys Technologies is a globally respected corporation that provides best-of-breed business solutions, leveraging technology, delivered by best-in-class people and achieves its objectives in an environment of fairness, honesty, and courtesy towards our clients, employees, vendors and society at large. Ethical Values of Infosys Technologies are: Customer Delight; Leadership; Integrity and Transparency; Fairness; and Pursuit of Excellence. Ethical values of Canon include: To foster good relations with customers and communities; to maintain good relation with nations and environment; and to bear responsibility for the impact of their activities on society. Ethical Values of Johnson & Johnson include: high quality and prompt service at reasonable price with a view to making fair profit; to respect individuality of employees keeping in mind their job security and means of fulfilling family responsibility; Informal communication; Just and ethical action; and to encourage community service. Ford Motor Company's ethical values include: Doing right thing for the customer, people, environment and society; Providing superior returns to our shareholders; and The customer is job 1. Ethical values of IBM include: Respect for individual; IBM anthem; Devotion to customers; Lifetime employment; and Open door program. For IBM Ethics matters because it makes good business sense to "do the right thing". Additionally good corporate ethics results in: Attracting better talent; Retaining employees; Attracting new customers; Retaining customers; Positive effect on Corporate Reputation.

Ethical Values for Managers
In this research paper we have discussed ethical values for Indian Managers and Western Managers as given below:

Ethical Values for Indian Managers
Indian managers are moving away from the concept of values and ethics. The lure for maximizing profit is deviating them from the value based managerial behaviour. There is a need for our managers today both in private and public sectors to develop a set of values and believes that will help them attain the ultimate goals of profits and survival and growth. they need to develop the following values: Optimum utilization of resources; Attitude towards work- Managers have to develop the visionary perspective in their work. They have to develop a sense of larger vision in their work for the common good.; Work commitment; and Vision- Managers have a long term vision. The visionary managers must be practical, dynamic and capable of translating dreams into reality.

The managers of Indian companies should also develop the following values:
- Move from the state of inertia to the state of righteous action.
- Move from the state of faithlessness to the state of faith and self-confidence.
- Move from unethical actions to ethical actions.
- Move from untruth to truth.

Ethical Values for Western Managers
Western managers are highly professionals with excellent analysis power, high professional education and specialization. Western managers follow a proper code of conduct and work in the structured formal atmosphere with no place of modesty in their behaviour. Professional

efficiency and work disciplines are the conditions under which western managers perform. They consider rules as sacred in their value system. Western value system teaches contractual obligations. Managers honor their contracts. Western managers value principles above its privilege and they consider this as the best strategy to win.

SURVEY RESULTS

The survey results of the study are as follows:
1) 98 % of the respondents believed ethics and compliance programs are essential to corporate governance.
2) 80% of those surveyed had developed codes of ethics beyond those required.
3) 90% included statements concerning the company's obligation to its stakeholders.
4) Research has shown that consumers give preference to companies that adopt CSR practices. According to the 2002 Edelmen Strategy of Survey of Opinion Leaders, 76% would switch to a company with strong CSR practices, if price and quality are equal to non-CSR competitors. In the same survey, 75% surveyed reported they would give a CSR company the "benefit of the doubt" if the company were subjected to negative publicity.
5) 52% of employees observed at least one type of misconduct in the workplace in the past year, with 36% of these observing at least 2 or more violations.
6) Types of misconduct most observed by employees include:
    - 21% observed abusive or intimidating behavior towards employees.
    - 19% observed lying to employees, customers, vendors, or the public.
    - 18% observed a situation that places employee interests over organizational interests.
    - 16% observed violations of safety regulations.
    - 16% observed misreporting of actual time worked.
    - 12% observed discrimination on the basis of race, color, gender, age or similar categories.
    - 11% observed stealing or theft.
    - 9% observed sexual harassment.
7) 69% of employees report their organizations implement ethics training.
8) 65% of employees indicated their organizations have a place they can seek ethics advice. (9) 55% of employees who observed misconduct at work reported it to management.
9) Reasons Why Employees Do Not Report Observed Misconduct: 18% of the employees do not know Who to contact; 24% employees do not care they feel – Someone else would inform; 39% of the manpower fear no Anonymity; 46% of the human resources fear Retaliation; and 59% of the employees think there is no corrective action.

KEY FINDINGS

1) Ethical Values and Business Ethics help to improve productivity, profitability, quality, public image and brand value of an organization in this world of globalization.
2) Ethical Values and Business Ethics are very effective to achieve sustainable development of an organization.
3) There is limited attention to ethical values and business ethics in India. Business environment in India is not favorable for business ethics and ethical values. There is utmost need to educate the employees as well as managers and even some of the owners, CEOs and MDs also about business ethics and ethical values.

4) Business must maintain the highest standards of behavior for the benefit of industry, employees, customers and society only with the help of ethical values and business ethics.

The best way of promoting high standards of business practices is through self regulation through ethical values.

CONCLUSIONS

Lastly in this paper, we conclude that ethical values and business ethics act as a vital tool for removing unethical practices and various scandals that are occurring frequently in this hi tech world of competition and globalization. . Apprehension is that such practices are creeping into general ways of life which are bound to prove detrimental to our social life. There is great need to educate the employees, managers, administrators, CEOs, MDs and even owners of the business organizations regarding ethical values and business ethics along with technical and corporate trainings so as to make our customer and consumers delighted, thus leading to business sustenance and to survive in today's globalized world.

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The Role Of School Administration And Educational Curricula In Promoting The Intellectual Security At Students

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ABSTRACT

This study aims at identifying the role played by school administrators' and curricula in promoting the intellectual security to students. To achieve this purpose, the researchers adopted the descriptive approach. Data were gathered and analyzed by using a questionnaire that determines the role of school administrations and curricula in the promotion of intellectual security. The questionnaire includes two sections: first; the respondents' profile information, second; sixteen 5-point Likert-type questions. The study sample consisted of 27 male and 14 male. The data obtained from the questionnaire show that school administrators', extracurricular activities, and curricula had a statistically significant effect on promoting the intellectual security of students respectively. For this research study, results, along with practical implications and recommended future research directions were discussed.

Keywords: school administration, intellectual security, educational curricula, extracurricular activities.

INTRODUCTION

Background

Education considered one of the most important investments in the developed societies that always striving to promote their capacity and their human prospect, in order to achieve their independence, sovereignty, and development. As well, Education is the cornerstone in achieving the desired goals; keeping pace with security changes locally, regionally and internationally; rooting security responsibility; deepening it in the hearts of youth; promoting the collective responsibility; and to increasing the security sense among members of society.

When any nation or society is exposed to crisis or tribulations, education is the most appropriate tool for change and correction in view of the role of educational institutions in enhancing the intellectual security and encountering the intellectual deviations that may be exposed by students' who are the basis of nation survival and progress. Therefore, investing in education through students became a vital necessity an urgent matter in the current circumstances and challenges in the era of globalization and transformation of the world into a small village affected and influenced in various areas of life.

Educational Curriculum is also a significant factor and has an influential role in enhancing the intellectual security of the students. In addition, the curricula have a very important role in instilling the correct concepts in the minds of students; including the incubation of intellectual

and security awareness and marginalization Intuitive thoughts on society contribute to fine - tuning the behavior of individuals (Learning, Vol. 6, & ISSN 1927-5250 E-ISSN 1927-5269). According to (Al-Hoshan)**,** educational institutions are the most important fields to achieve intellectual security as these institutions instill security awareness in their fields of study and their developed educational curricula as well.

Security includes all matters related to individual's memory, such as values, culture, and moral principles that he received. Also, it includes the protection of all his rights related to freedom of choice and freedom of acting provided that this freedom does not violate or conflict with the rights of others; as well as the human's right in maintaining the intellectual security (Tomlinson J. (.-2.-0.)**.**Intellectual security is the integrity of thought's deviation and out of moderation in an understanding of religious, political and social issues that lead to the preservation of public order and community's stability. On the other hand, providing students with opportunities to practice the extracurricular activities like holding seminars and hosting those concerned with the intellectual deviation will promote the concept of their intellectual security.

This paper is structured as follows; section 2 provides literature review and hypotheses development**.** Section 3, presents the methodology of the research. Section 4 presents the data analysis and findings. Section 5 offers a conclusion around the research findings. Section 6 provides implications, limitations, and recommendations for Further Studies.

Problem Statement
In the light of the modern administrative models based on the participation and integration principles between educational institutions and local community, we must emphasize the role of school administrations and educational curricula in promoting community security of all kinds, and specifically intellectual security which will be examined in the current study. And in view of what our region and the world are facing on security level of violent wars and terrorism in addition to human and material losses accordingly.

For promoting the intellectual security between students and prevention of intellectual deviation and drift in misguided thoughts, modern school administrative models of appropriate quality and developed educational curricula and well planned extracurricular activities plays an important role in this area. Therefore, addressing the intellectual security issues became an important material in scientific research because of it plays an important role in achieving the economic and social security which represents the cornerstone of integrity and unity of society components. All this and others led to the confirmation that there is a research problem that summarized in the following main research question: *what is the role of school administrations and educational curricula in promoting the intellectual security of students?*

Purpose
The researcher seeks to examine the role of curricula in promoting intellectual security between students from the point view of school administration.

Specific Research Objectives and Questions
This paper has three specific objectives: **First**, to explore the effect of schools' administrations in promoting intellectual security between students. **Second**, to examine the impact of educational curricula in promoting intellectual security between students; and **third**, to investigate the impact of extracurricular activities in promoting intellectual security between

students. In line with those objectives, the following three research questions were addressed. **First**, do schools' administrations affect intellectual security? **Second**, do educational curricula affect intellectual security; and **third**, do extracurricular activities affect intellectual security?

Definition of terms
School administrations
A system composed of school director and his assistants, administrators, and teachers, each according to his responsibilities, tasks, and the requirements of his function that working in a team spirit, cooperation and advice for the success of the entire educational process.

Intellectual security for student
The integrity of the student's mind and behavior from any intellectual deviation in beliefs and in his perceptions towards the different aspects of life.

Educational curriculum
Curriculum refers to the means and materials with which students will interact for the purpose of achieving identified educational outcomes. Educational curricula have a great role in deepening the concepts of intellectual security among students and promoting a culture of tolerance and combating terrorism in all forms.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT
This section presents the previous literature related to the research model which maps out the theoretical basis of the research in general. Also hypotheses were developed.

The importance of school administration in promoting intellectual security stems from for two facts: first, those who run these institutions are the intellects of the nation, and they must meet good qualities; second, the school includes all segments of society of all ages (Al-Qarni). School administrations have an important role in promoting intellectual security aspects through its educational curricula; many extracurricular activities; deepening the dialogue and openness between the educational and security institutions (Al-Yousuf).

A study of Tomlinson (2006), he pointed out the interest of the educational institutions in strengthening intellectual security principles by integrating ethical and cultural values in the educational curriculum in the USA;also he concluded that the school and the teacher lead a major role in promoting the intellectual security between students through their efforts in spreading the concepts of values and ethics and culture, which are of the educational foundations upon which the curriculum is based (Tomlinson J. (.-2.-0.).

The educational foundations that contribute to enhancing the intellectual security to students require the establishment of precise controls (scientific and personal) for the selection of educational supervisors, consultants, principals and their agents, and evaluating the performance of teachers in the field of achieving intellectual security effectively and to address any imbalance. It also requires a review of the available scientific curricula which calls for extremism for their evolution and the provision of appropriate scientific references to address the intellectual, procedural and behavioral deviations to be accessible to students and teachers as well. In addition to linking educational curricula to the real life and the problems of contemporary intellectual society, and use of some courses and educational activities to illustrate the seriousness of intellectual deviation to immunize students in the face of it (Nakpodia).

Study of (Tomlinson, 2006) pointed to the interest of educational institutions in promoting the

principles of intellectual security by integrating ethical and cultural values in educational curricula in America.The study used the analytical method by mentioning a number of studies related to the subject. The study concluded that school and the teacher play a key role in enhancing intellectual security among the students through their efforts in spreading the concepts of values, ethics, and cultures, which are the educational foundations on which the curriculum is, based (Tomlinson J. 2.-2.).

Nakpodia, 2010, examined the importance of strengthening the cultural foundations in the curriculum as a means of developing intellectual security and promoting it among students. The study also aimed to explain the meaning of the culture and its types; the development of the curriculum; the effect of culture on children's learning and enhance the concept of intellectual security. It has been shown that culture must be the basis of the educational process underlying modernization of the curriculum (Nakpodia).

In general, there are a number of procedures that can be taken by educational institutions for the contribution in achieving intellectual security such as continuing the process of students' socialization in order to refine their personality and to ensure their familiarity with the surroundings; making the student familiar with his social duties as education is not only an informative but also a social and humanitarian process (Learning, Vol. 6, & ISSN 1927-5250 E-ISSN 1927-5269); expanding the circle of human relations and interacting with various community groups; linking students to the culture prevailing in the community and introducing them to the heritage of their nation, as well as spreading the spirit of innovation and creativity in response to cultural developments and changes; the integration of educational efforts between home, school, and community; examining social behavior and lifestyles and introducing them to students to become useful members in the society and to ensure they do not fall in the circle of deviance (Nakpodia); Training students on discipline and good disposition; the ability to understand the surrounding circumstances, and how to deal with it properly; linking educational activities with the community efforts (Faraj).

Khoraif (2006) addressed the role of the assistant school principals in achieving intellectual security among the students. He aimed at identifying the means and procedures taken by the school administration for achieving intellectual security. The study showed that there is a great importance of attending seminars and workshops in order to promote the intellectual security of the students; and that there is a great significance of the extracurricular activities programs in the promotion of intellectual security (Khoraif).

Al-Reb'i (2009) examined the role of the curriculum in promoting the intellectual security among university students in the Kingdom of Saudi Arabia. The study aimed to show the importance of the educational institutions in general and the curriculum in particular, in the formation of the individual's personality. Also, the study determined the roles of the school curriculums in explaining, straightening and strengthening the intellectual security concepts among students. The results showed that the role of the curriculum in enhancing intellectual security was moderate; and that the courses that provide the most concepts and information related to intellectual security are those in Education of Islamic Culture (Al-Reb'i).

Research Model and Hypotheses
The research proposes an integrated model to examine the relationships between the constructs of this research, namely: school administrations (SAs), educational curriculum (EC), extracurricular activities (EAs), and intellectual security (IS). The theoretical model used in the current study is presented in Figure 3 (which represents a causal relationship schema). In this

figure, the boxes represent the constructs which were measured by a set of item; the arrows represent the hypotheses 1 to 3 as mentioned below, and the '+' sign besides the hypotheses indicates the expected influence to be positive.
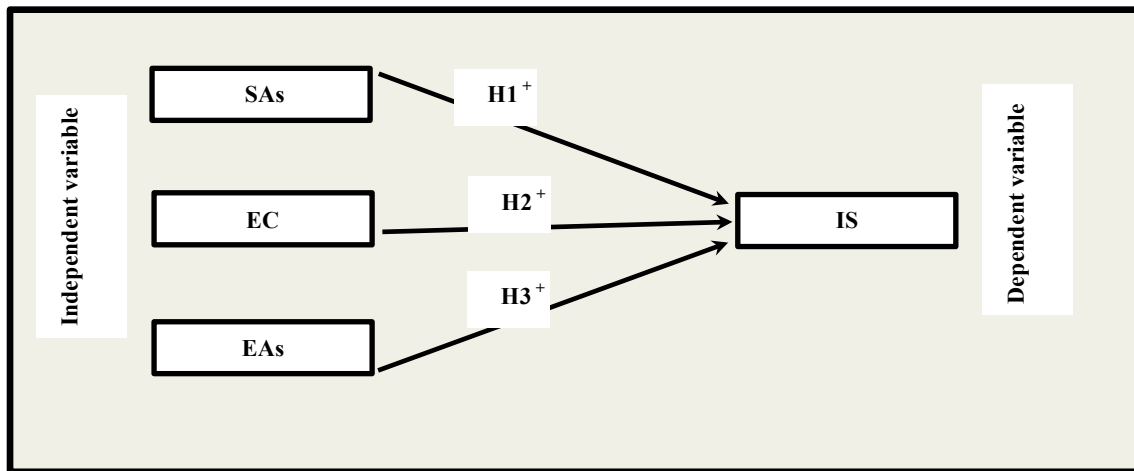
In accordance with the previously stated objectives and consistent with related literature, the following hypotheses were proposed by the researchers of this research study based on the above research model.

Hypothesis One (H1): Schools' administration has a significant effect on promoting intellectual security.
Hypothesis Two (H2): An educational curriculum has a significant effect on promoting intellectual security.
Hypothesis Three (H3): Extracurricular activities have a significant effect on promoting intellectual security.

METHODOLOGY
Method
Due to the nature of this study, the descriptive method was utilized. Based on the theoretical literature and the previous studies, this research study used a questionnaire as a research tool was designed to achieve the study purpose. The questionnaire included three demographic questions, sixteen 5-point Likert-type questions. The format of the 5-point Likert-type item used by the researchers was: 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, and 5-Strongly agree. The questionnaire was distributed to the study sample; then, the data was analyzed using a software program SPSS.

Population and Sample
The study population included all secondary school in the south- west education department in Jeddah city including four high schools. Forty-one participants who were selected using the stratified random sample. Table 1 shows the distribution of the sample according to the preliminary data. The paper version of the questionnaires were handed to and collected from the participants by group of researchers.

Table.1 Summary of Respondent's Profile

Demographic	Frequency (n= 41)	Percentage (%)
Gender		
Male	27	65.854
Female	14	34.146
Academic level		
Bachelor	24	58.537
Master Degree	13	31.707
Doctorate degree	04	09.756
Job description		
Manager	09	21.951
Teacher	35	60.976
Physiological guide	07	17.073
Total	**41**	**100 %**

Table 1 shows the respondents' demographic profile frequency and percentage. Among respondents, 65.854 % (27) were male and 34.146 % (14) were female. Moreover, majority of them were teachers.

DATA ANALYSIS

Reliability analysis

To evaluate internal consistency and reliability of variables in this study, a Cronbach's alpha reliability analysis was conducted. A Cronbach's alpha value of greater than 0.7 is considered an acceptable reliability level (Tavakol) .All Cronbach's alpha values in this study were above 0.7, which demonstrated a high internal consistency and reliability. Table 2 shows the Cronbach's Alpha values for the internal reliability testing.

Table2. Constructs and reliability tests

Constructs	Items in Scale	Cronbach's Alpha
Schools' administration	4	0.893
Educational curriculum	4	0.735
Extracurricular activities	4	0.881
Intellectual security	4	0.856

Factor analysis

Factor analysis was utilized to examine the construct validity of four factors: schools' administration; educational curriculum; extracurricular activities; intellectual security. Four statements were included in the questionnaire to measure each factor. A factor analysis score greater than 0.6 is considered a good level of questionnaire validity (Chesney, 2006). All of the factor analysis scores in this questionnaire were greater than 0.6, which showed a good validity and reliability of the survey. Table 3 displays the results of the factor analysis.

Table 3: results of the factor analysis

Items	1	2	3	4
SA1	0.71			
SA2	0.87			
SA3	0.61			
SA4	0.78			
EC1		0.86		
EC2		0.89		
EC3		0.91		
EC4		0.84		
EA1			0.85	
EA2			0.86	
EA3			0.80	
EA4			0.84	
IS1				0.85
IS2				0.83
IS3				0.87
IS4				0.87

Note. SA= School Administration; EC = Educational curricula; EA = Extracurricular Activities; IS = Intellectual Security

Regression results

Linear regression analysis was conducted to test the hypotheses. Linear regression result for hypothesis one **(H1)"** Schools' administration has a significant effect on promoting intellectual security", in which schools' administration   was used as an independent variable, and intellectual security was used as dependent variable. As shown in Table 4, hypothesis one (H1) failed to be rejected with (β = 0.678 and p < 0.001), therefore, schools' administration has a significant effect on intellectual security.

Table 4: Linear regression result for hypothesis One

	$β$	P	t	R^2
School Administration	0.678	< 0.001	5.579	0.456

Linear regression result for hypothesis two (H2)" An educational curriculum has a significant effect on promoting intellectual security", in which educational curriculum was used as an independent variable, and intellectual security was used as dependent variable. The regression results in table 5 indicated that educational curriculum have a significant effect on promoting intellectual security with (β = 0.593 and   p <0.001), therefore, hypotheses two (H2) failed to be rejected.

Table 5: Linear regression result for hypothesis two

	$β$	P	t	R^2
Educational curriculum	0.593	< 0.001	4.657	0.351

Similarly, Hypothesis three (H3) "extracurricular activities have a significant effect on promoting intellectual security", were tested by linear regression analyses with extracurricular activities as independent variable, and   intellectual security as a dependent variable. The regression results in Table 6 indicated that extracurricular have a significant effect on intellectual security with (β = 0.849 and p <0.001), therefore, hypothesis three (H3) failed to be rejected.

Table 6: Linear regression result for hypothesis three

	$β$	P	t	R^2
Extracurricular activities	0.849	< 0.001	10.20	0.719

CONCLUSION

Authors concluded this study by answering the research questions with proper and relevant information findings.

First research question: do schools' administrations affect intellectual security?

Findings indicating that school administrations increase the intellectual security level between students and indirectly encourage encourageteach6ersandp students. The results of this study indicate that school administrations had a statistically significant effect on promoting the intellectual security of students. This confirms the relevant hypothesis and answers the second research question. This finding is consistent with previous research indicating the role of schools' administrations on influencing intellectual security of students'[(Al-Qarni); (Learning, Vol. 6, & ISSN 1927-5250 E-ISSN 1927-5269)]

Second research question: do educational curricula affect intellectual security?

The results of data analysis reveal that educational curricula supported by schools' administrations and teachers significantly impacts intellectual security of students. When students are encouraged to understand the importance of security by their administrators and teachers, along with developed curriculum, they are, of course, more likely to practice these concepts towards peers, families, and society as a whole. This answers the second research question and confirms the relevant hypothesis, as well supported by many previous studies indicating the role of educational curricula on influencing intellectual security of students'[(Al-Hoshan); (Khoraif); (Learning, Vol. 6, & ISSN 1927-5250 E-ISSN 1927-5269)].

Third research question: do extracurricular activities affect intellectual security?

Data analysis shows that have more effect than educational curricula on intellectual. Accordingly, concentrating on the extracurricular activities in and outside of schools will promote intellectual security between students and has a positive and significant effect. This result is supported by many previous studies on the same subject [(Nakpodia); (Tomlinson J. (.-2.-0.)]. In conclusion, this research study found that proposed factors affecting intellectual security of students.

IMPLICATIONS, LIMITATIONS, AND RECOMMENDATIONS FOR FURTHER STUDIES

So as to achieve the principle of originality and contemporary together, educational institutions especially school is responsible for building the personality of individuals and refining them in accordance with social and moral values through the development of planned plans and programs to instil intellectual security in the minds of students within the vocabulary of the selected curriculum. In addition, intellectual security encourages students to love and loyalty to their homeland and deepens the sense of belonging and preserves the heritage and values of civilization, as well as maintains its capabilities and properties. This study is a response to the most prominent problems in our region, which needs to clarify the reality of the concepts of intellectual security and analysis of its dimensions and how to achieve in accordance with our culture as an approach to enhance the role of the school administrators, educational curricula in promoting intellectual security of students.

One of the most important theoretical implications of this research study is that it conducted in light of the events of violence, unrest, and Arab revolutions and the accompanying vibration of values and ideas and the absence of intellectual security. The need for the educational field, especially in the Arab region for such types of studies in light of the repercussions of globalization and weak identity, and the emergence of deviant ideas. Furthermore, this study is concerned with the issues of education and curricula, especially school and university teachers

and their role in contributing to the achievement of intellectual security which in turn is reflected in the community security as a whole.

We must acknowledge that there are some limitations in this research study. We must acknowledge that there are some limitations in this research study. **First**, the sample size is relatively small, which may restrict this study from reaching convincing results, particularly from a quantitative analysis viewpoint, and, therefore, cannot be generalized. **Second**, the research study did not specify which educational curricula that directly affect intellectual security. **Third**, also, this research study did not consider other important aspects that affect intellectual security such as family education, poverty, family problems, and educational media. What follows are several recommendations for future studies to deal with the limitations .

Future researchers are suggested to set a larger sample size of respondents in order to acquire more reliable information and ensure generalizability of the findings. Second, additional suggested research area in this regard such as: the role of religion teacher in enhancing intellectual security; obstacles to fulfilling the intellectual security in high schools. Additional dimensions for independent variables can be added into the research model for the purpose of identifying the other dominant factors that affect intellectual security such as family education, poverty, Problems between parents, and educational media.

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