Volume 2, Issue 2 – April 2014

ISSN: 2054-7404

ARCHIEVES OF BUSINESS RESEARCH

Society for Science and Education

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Archives of Business Research – Vol.2, No.2
Publication Date: April 30, 2014
DOI:10.14738/abr.22.43
Taiwo, F. H., and Adejare, A. T. (2014). Empirical Analysis of the Effect of International Financial Reporting Standards (IFRS) Adoption on Accounting Practices in Nigeria. *Archives of Business Research, 2*(2), 1-14.

Empirical Analysis of The Effect of International Financial Reporting Standard (IFRS) Adoption on Accounting Practices in Nigeria

Fasina H. Taiwo
Department of Management and Accounting, Ladoke Akintola
University of Technology, Ogbomoso.
taiwofash4real2@gmail.com

Adegbite Tajudeen Adejare
Department of Management and Accounting, Ladoke Akintola
University of Technology, Ogbomoso.
adetajud@yahoo.com

ABSTRACT
This study empirically analyses the effect of international financial reporting standards (IFRS) adoption on accounting practices in Nigeria. The study adopted personal interview and questionnaire methods as the major techniques for primary data collection. Data collected were analyzed using both descriptive such as tables, frequencies and percentages and inferential statistics of Chi-square and ANOVA respectively. The study concluded that that there is a strong positive relationship between the adoption of IFRS and financial performance due to cost reduction of an organisation. IFRS adoption improves business efficiency and productivity for effective business performance. The adoption of IFRS saves Multinational Corporations the expense of preparing more than one set of accounts for different national jurisdictions. It is recommended that the financial reporting practice in Nigeria should cut across the public and private sector to bring uniformity in accounting practice regarding annual preparation of financial reports to the owner of companies and other interested parties.

Key words: IFRS; Cost management; Challenges; Financial statement; Performance.

BACKGROUND AND INTRODUCTION

The widespread adoption of International Financial Reporting Standards (IFRS) heralded a new era in financial reporting. From 2005 onwards, publicly traded firms in more than 100 countries have been progressively required to prepare consolidated financial statements under IFRS (IASB, 2011). Realization of the anticipated benefits to be derived as a result of the change from national generally accepted accounting principles (GAAP) to IFRS in terms of improved quality of financial reporting is the core motive of the proponents of general adoption of IFRS. Supporters of IFRS adoption argue that benefits will flow from expanded financial statement disclosures, improved measurement and recognition practices, and the narrowing of differences in company reporting arising when a variety of national GAAP is used (Schipper, 2005; Whittington, 2005).The acceptance is also based on the concept of convergence of accounting standards to minimize areas of differences in reporting formats across international borders.

According to Hoti and Nuhiu (2011), The International Accounting Standards Board (IASB), the body that publishes International Financial Reporting Standards (IFRS), was established in

2001 as a successor to the International Accounting Standards Committee. In 2002 a meeting between IASB and FASB in Norwalk agreed that the two international organizations decided to work towards establishing uniformity between IFRS and U.S. GAAP. A Memorandum of Understanding issued by the two organisations in 2006 stated that the duo would seek convergence by 2008.

Accounting Framework has been shaped by International Financial Reporting Standards (IFRS) to provide for recognition, measurement, presentation and disclosure requirements relating to transactions and events that are reflected in the financial statements. IFRS was developed in the year 2001 by the International Accounting Standard Board (IASB) in the public interest to provide a single set of high quality, understandable and uniform accounting standards. Users of financial statement worldwide require sound understanding of financial statement but this can only be made possible based on Generally Accepted Accounting Practice (GAAP). With globalization of finance gaining ground, convergence with IFRS will enable the world to exchange financial information in a meaningful and trustworthy manner (Ikpefan and Akande 2012).

International Financial Reporting Standards adoption by Nigeria at this time is in phases, however, IFRS remains as a standard with high quality accounting reporting framework. Thus, the users of financial statements can easily compare the entity's financial information between countries in different parts of the world. Implications of adopting IFRS means adopting a global financial reporting language that would create a company globally understood financial statement.

Statement of the problem

As evident from the foregoing, a good number of studies carried out in different countries have highlighted the benefits of having single set of financial reporting standards across the globe in supporting the adoption of IFRS globally. Few of the studies had given contradictory views questioning the relevance of IFRS adoption in developing and emerging economies. The effect of the adoption of IFRS on taxation has also been examined but the effect on the financial statement and cost management has not been empirically investigated thereby creating a research gap in this area which this paper intends to fill.

Objectives

The main objective of this paper is to examine the impact of IFRS on accounting practices. Other specific objectives are:

- To evaluate the impact of adopting IFRS on the published financial statements.
- To investigate the benefits and challenges of implementing IFRS in Nigeria
- To examine the effect of adoption of IFRS on cost management.

Research Hypotheses

These hypotheses are to be tested in this study.

Ho_1 -There is no significant relationship between adoption of IFRS and financial statement reporting format.

Ho_2 - There is no significant relationship between adoption of IFRS and cost reduction.

LITERATURE REVIEW

IFRS represent a single set of high quality, globally accepted accounting standards that can enhance comparability of financial reporting across the globe. This increased comparability of financial information could result in better investment decisions and ensure a more optimal allocation of resources across the global economy (Jacob and Madu, 2009). Cai and Wong (2010) conjectured that having a single set of internationally acceptable financial reporting standards will eliminate the need for restatement of financial statements, yet ensure accounting diversity among countries, thus facilitating cross-border movement of capital and greater integration of the global financial markets. Meeks and Swann (2009) revealed that firms adopting IFRS exhibited higher accounting quality in the post-adoption period than in the pre-adoption period. In a study of financial data of firms covering 21 countries, Barth (2008), confirmed that firms applying IAS/IFRS experienced an improvement in accounting quality between the pre-adoption and post-adoption periods. Latridis (2010), concluded on the basis of data collected from firms listed on the London Stock Exchange that IFRS implementation has favorably affected the financial performance (measured by profitability and growth potentials).IFRS compliant financial statements has the tendency to make comparability and company performance assessment across nations easier and result of such assessment more acceptable by stakeholders and highly reliable.

Marjan Petreski (2006) described the impact of IFRS adoption on the financial statements for the company and its influence on decision making by the management. This study used credible and comparable attitude as independent variables. Interview test instrument was used. The results showed that, information disclosure on financial statements was full and credible and comparability of financial statements across nations resulted in better decision making by management. The adoption of IFRS leads to a more restricted set of accounting measurement methods and, with fewer measurement rules to deal with, analysts can more easily master the existing set (Ashbaugh and Pincus, 2001). Tan et al. (2011) confirmed this result and found that mandatory IFRS adoption improves foreign analysts' attraction and forecast accuracy, particularly those from countries that are simultaneously adopting IFRS along with the covered firm's country, and those with prior IFRS experience. Proponents of accounting harmonization believe that comparability of financial statements worldwide is necessary for the globalization of capital markets. They suggest that there are many potential benefits that may arise from the use of one common set of accounting standards throughout the world. These include improved transparency, comparability and quality of financial reporting that lead to lower preparation cost, more efficient investment decisions and lower cost of capital for companies (Choi & Meek, 2005).

Street and Gray (2001) examined the 1998 financial statements for 279 firms that referred to use of IFRS in their financial statements. The study revealed that, in many cases, disclosed accounting policies were inconsistent with IFRS. Schultz and Lopez (2001) suggest that uniform international accounting standards may not result in de facto uniformity among nations, particularly when the standards allow for significant discretion (ambiguity). Various accounting items exhibit high-value relevance in common law countries that have effective judicial systems, better investor protection, and higher quality of accounting practices (including more transparent reporting) and auditing systems compared with code law countries. It is expected that the smaller the deviation of a domestic practice from the IFRS, the higher the value relevance of that practice. In a study on financial data of public listed companies in 15 member states of the European Union (EU) before and after full adoption of IFRS in 2005, Chai at al (2010), found that majority of accounting quality indicators improved after IFRS adoption in the EU. According to Jones and Ratnatunga (1997), larger firms report to a greater concentration of external users who can influence the allocation of scarce resources. Given that financial statements have greater economic consequences for larger firms, larger firms are expected to be more susceptible to the financial reporting impacts of IFRS.

Spiceland et al., (2001) brought out that useful accounting information derived from qualitative financial reports help in efficient allocation of resources by reducing dissemination of information asymmetry and improving pricing of securities. According to Barth (2007), the adoption of a common body of international standards is expected to have the following benefits: lower the cost of financial information processing and auditing to capital market participants as users, familiarity with one common set of international accounting standards instead of various local accounting standards by Accountants and Auditors of financial reports, comparability and uniformity of financial statements among companies and countries making the work of investment analysts easy, attraction of foreign investors in addition to general capital market liberalization. The adoption of uniform standards cut the costs of doing business across borders by reducing the need for supplementary information. They make information more comparable, thereby enhancing evaluation and analysis by users of financial statements (Adekoye, 2011). Cai & Wong (2010), in a study of global capital markets demonstrated that capital markets of countries that had adopted IFRS recorded high degree of integration among them after their IFRS adoption compared with the period before adoption.

Adoption of IFRS in Nigeria

The quality of financial reporting is indispensable to the need of users who requires them for investment and other decision making purposes. Financial reports can only be regarded as useful if it represents the "economic substance" of an organization in terms of relevance, reliability, comparability and aids interpretation simplicity (Kenneth 2012). Before IFRS adoption era, most countries had their own standards with local bodies responsible for developing and issuance. The Nigerian Accounting Standards Board (NASB) was responsible for developing and issuing standards known as Statements of Accounting Standards (SAS) and in the new dispensation, the body was renamed Financial Reporting Council (FRC) of Nigeria as the regulatory body overseeing the adoption and implementation IFRS (Kenneth 2012). As a result of increasing globalization resulting in more competition, it becomes imperative that countries and companies alike address issues that will make them become more attractive of investors capital which is like the proverbial beautiful bride (Essien-Akpan, 2011). The introduction of an acceptable global high quality financial reporting standards was initiated in 1973 when the international accounting standard committee (IASC) was formed by 16 professional bodies from different countries such as United States of America, United Kingdom, France, Canada, Germany, Australia, Japan, Netherlands and Mexico (Garuba and Donwa, 2011). According to Ezeani and Oladele (2012), this body was properly recognized in 2001and later transformed into the International Accounting Standards Board (IASB) which developed accounting standards and related interpretations jointly referred to as the International Financial Reporting Standards (IFRS).

On Wednesday, 28 July 2010, the Nigerian Federal Executive Council accepted the recommendation of the Committee on the Roadmap to the Adoption of IFRS in Nigeria, that it would be in the interest of the Nigerian economy for reporting entities in Nigeria to adopt globally accepted, high-quality accounting standards by fully adopting the International Financial Reporting Standards (IFRS) in a Phased Transition (FIRS 2013). In December 2010, following the approval of the Federal Executive Council, the Nigerian Accounting Standards Board (NASB), (now designated as Financial Reporting Council of Nigeria (FRCN)) issued an implementation roadmap for Nigerian's adoption of IFRS which set a January 2012 date for compliance for publicly quoted companies and banks in Nigeria. According to FIRS (2013), the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission also adopted this date for compliance and has issued guidance compliance circulars to ensure full implementation of IFRS in Nigeria. The Council further directed the Nigerian Accounting

Standards Board (NASB), under the supervision of the Nigerian Federal Ministry of Commerce and Industry, to take necessary actions to give effect to the Council's approval. Section 55 (1) of the Companies Income Tax Act, Cap C21, LFN 2004 requires a company filing a return to submit its audited account to the Federal Internal Revenue Service (FIRS) while Sections 8, 52 and 53 of the Financial Reporting Council of Nigeria Act, 2011 gave effect to the adoption of International Financial Reporting Standards. This implies that the audited accounts to be submitted to the FIRS after the adoption of International Financial Reporting Standards shall be prepared in compliance with Standards issued by IFRS. As part of plans to meet international standards, the Federal Government has disclosed that new accounting system, the international financial reporting standard (IFRS) should take off in Nigeria on 1st January, 2012. In Nigeria, the government has taken its stand to involve all stake holders including institutions before it finally decided to adopt the IFRS on a gradual basis. IFRS for SMEs is to be mandatorily adopted as at January 1, 2014. This means that all Small and Medium-sized Entities in Nigeria have been statutorily required to issue IFRS based financial statements for the year ended December 31, 2014. Entities that do not meet the IFRS for SME's criteria shall report using Small and Medium-sized Entities Guidelines on Accounting (SMEGA) Level 3 issued by the United Nations Conference on Trade and Development (UNCTAD). The implementation of IFRS would reduce information irregularity and strengthens the communication link between all stakeholders (Bushman and Smith, 2001). It also reduces the cost of preparing different version of financial statements where an organization is a multi-national (Healy and Palepu, 2001).

Benefits of Adopting IFRS

According to Ikpefan and Akande (2012), listed companies have a lot of benefits to derive from conversion to IFRS. Companies do not operate in isolation. Therefore, in the present global environment, compliance with foreign reporting requirements will help streamline their financial reporting. They pointed further that the following benefits are to be derived from IFRS:

- This will help minimize reporting costs as a result of common reporting systems and consistency in statutory reporting.
- Secondly, it will enable comparison/benchmarking with foreign competitors possible. Besides, adoption of IFRS may offer companies an edge over competitors in the eyes of users.
- Thirdly, since the adoption of IFRS will transcend national boundaries/cross border, acquisitions and joint venture will be made possible and there will also be easy access to foreign capital.
- Fourthly, companies can trade their shares and securities on stock exchanges worldwide.
- Fifthly, convergence of financial statements would provide a platform for management to view all companies in a group on a common platform.

They said further that time and efforts will reduce to adjust the accounts in order to comply with the requirements of the national Generally Accepted Accounting Principles (GAPP). Business acquisition would be reflected at fair value than at the carrying values. There will be more objectivity and transparency in financial statements. For companies to key into these benefits, a single set of accounting standards worldwide would ensure that auditing firms standardize their training and quality of work that they maintain globally.

Meeks and Swann (2009) revealed that firms adopting IFRS had exhibited higher accounting quality in the post-adoption period than they did in the pre-adoption period. In a study of financial data of firms covering 21 countries, Barth (2008), confirmed that firms applying

IAS/IFRS experienced an improvement in accounting quality between the pre-adoption and post-adoption periods. Latridis (2010), concluded on the basis of data collected from firms listed on the London Stock Exchange that IFRS implementation has favorably affected the financial performance (measured by profitability and growth potentials). Esptein (2009), emphasized the fact that universal financial reporting standards will increase market liquidity, decrease transaction costs for investors, lower cost of capital and facilitate international capital formation and flows. Various studies conducted on the adoption of IFRS at country level indicated that countries that adopted IFRS experienced huge increases in direct foreign investment (DFI) flows across countries (Irvine and Lucas, 2006). Cai & Wong (2010),in a study of global capital markets demonstrated that capital markets of countries that had adopted IFRS recorded high degree of integration among them after their IFRS adoption compared with the period before adoption. According to Kenneth (2012), some additional benefits foreseen from the transition are: companies can follow one set of accounting standards instead of two, comparability of financial statements will increase for investors all around the world, and companies will have the ability to offshore their accounting work. In terms of staffing, although many companies will have to hire new employees, there are also a lot of benefits. Companies can standardize training of employees around the globe, there will be an equality and standardization among entry level staff from educational facilities around the world and companies will have the ability to perform international staff transfers.

Challenges to IFRS Implementation in Nigeria

According to Abdulkadir (2012), the following are the challenges in implementing the IFRS:

Accounting Education and Training

One of the principal challenges Nigeria may encounter in the practical implementation process, shall be the shortage of accountants and auditors who are technically competent in implementing IFRS. Usually, the time lag between decision date and the actual implementation date is not sufficiently long to train a good number of professionals who could competently apply international standards.

Training Resources

Training materials on IFRS are not readily available at affordable costs in Nigeria to train such a large group which poses a great challenge to IFRS adoption.

Tax Reporting

The tax considerations associated with the conversion to IFRS, like other aspects of a conversion, are complex. IFRS conversion calls for a detailed review of tax laws and tax administration.

Amendment to Existing Laws

In Nigeria, accounting practices are governed by the Companies and Allied Matters Act (CAMA) 1990, and the Statement of Accounting Standards (SAS) issued by the Nigerian Accounting Standards Board (NASB) and other existing laws such as Nigerian Stock Exchange Act 1961, Nigerian Deposit Insurance Act 2006, Banks and Other Financial Institution Act 1991, Investment and Securities Act 2007, Companies Income Tax Act 2004, Federal Inland Revenue Services Act 2007. All these provide some guidelines on preparation of financial statements in Nigeria. IFRS does not recognize the presence of these laws and the accountants have to follow the IFRS fully with no overriding provisions from these laws. Nigerian law makers have to make necessary amendments to ensure a smooth transition to IFRS.

According to Bewaji (2012), the following are the major challenges to implementing IFRS:

- Current systems may not have the functionality to handle IFRS requirements hence, changes in financial information requirements due to IFRS should be identified and the impact of these requirements on the existing data models should be assessed.
- Changes in accounting policies and financial reporting processes can also have a significant impact on a company's financial systems and reporting infrastructure.
- These changes may require some adjustments to financial reporting systems, existing interfaces, and underlying databases to incorporate specific data to support IFRS reporting.
- Executives will need to collaborate with their IT counterparts to review systems implications of IFRS.
- The conversion to IFRS can also result in changes to the number of consolidated entities, mapping structures and financial statement reporting formats, all of which will require adjustments to the consolidation system.

METHODOLOGY

Research Design

A combination of descriptive and cross sectional research designs were considered to be the most appropriate. This enabled the researcher to collect as many options as possible from the respondents.

Study Population.

The population comprised of 172 professionals in accounting and finance sections across companies selected and registered as group companies, public limited companies, small and medium sized companies and non-profit making organizations with identification numbers in Lagos state. Lagos state was selected being the commercial nerve centre of Nigeria and the home of headquarters and operational centres of most companies in Nigeria.

Sampling Method and Size

The simple stratified random sampling technique incorporated with the Slovin formula provided below as used in Asaolu and Argozie (2012) is adopted due to the technical nature of the information to be derived from the respondents:

$$n = \frac{N}{1 + Ne2}$$

Where: n=Sample size
N=Population size
e= Margin of error

Applying the desired error margin of 5% on the population of 171 professionals under study, 120 respondents were selected.

Stratified sampling was used to determine the sample size. Respondents were grouped in strata. Purposive sampling was used in each stratum to get the information from Group companies, public limited companies, small and medium sized companies and non-profit making organizations across the different organizations. Simple random sampling was used to limit the biasness of purposive sampling.

Method of data collection

To achieve the objectives of the study, a descriptive design such as personal interviews and questionnaire were employed as the major techniques for primary data collection. 120 questionnaires were distributed to get the information from Group companies, public limited companies, small and medium sized companies and non-profit making organizations across the different organizations. In addition, information was also obtained from books, magazines, journals, research works and even from the internet.

DATA ANALYSIS

Data collected were analyzed using both the qualitative and quantitative methods. The analytical tools used in analyzing the data collected for the study include descriptive statistics, chi- square and analysis of variance (ANOVA). The descriptive statistics used were tables, percentages. Chi-square and analysis of variance (ANOVA were used to test the hypothesis formulated through STATA 10 version. The formulae for chi-square used is

$$X^2 = \sum^{k}\left(\frac{Oi-ei}{ei}\right)$$

Where i=1, Oi = observed frequency, ei= expected frequency.
The degree of freedom= (r-1) (k-1)

Table 1- Distribution of responses on the International Financial Reporting Standard adoption on Accounting and Auditing practices in Nigeria

S/N	QUESTIONS	SA	A	N	D	SD	TOTAL
1	Easy preparation of financial statement	10 (8.33)	21 (17.50)	04 (3.33)	35 (29.17)	50 (41.67)	120 (100)
2	Quality of the financial statement report	21 16.67	74 (62.50)	08 (6.67)	12 (10.00)	05 (4.17)	120 (100)
3	Easy access to offshore capital	20 (16.67)	60 (50.00)	09 (7.50)	24 (20.00)	07 (5.83)	120 (100)
4	Easy comparability of financial statements of two or more companies' worldwide	69 (57.50)	32 (26.67)	00 (00)	06 (5.00)	13 (10.83)	120 (100)
5	Effect on Competition in the Accounting Market	08 (6.67)	82 (68.33)	05 (4.17)	09 (7.50)	16 (13.33)	120 (100)
6	Administrative cost of accessing the capital markets is reduced for companies globally	29 (24.17)	61 (50.83)	14 (11.67)	04 (3.33)	12 (10.00)	120 (100)
7	Companies trade their shares and securities on stock exchanges worldwide with minimal cost	52 (43.33)	49 (40.83)	00 (00)	05 (4.17)	14 (11.67)	120 (100)
8	Minimizing reporting costs as a result of common reporting systems and consistency in statutory reporting.	33 (27.50)	58 (48.33)	03 (2.50)	08 (6.67)	18 (15.00)	120 (100)
9	Reduction in earnings management cost	13 (10.83)	72 (60.00)	20 (16.67)	10 (8.33)	05 (4.17)	120 (100)

Note: - The bracket figures indicate the percentage and figures without bracket indicate frequency.
Source: - author's field survey (2013).

From table 1 above, 8.33% of the respondents strongly agreed that adoption of IFRS brings along easy preparation of financial statement, 17.50% agreed, 3.33% were indifferent, 29.17% disagreed, and 50% strongly disagreed. This indicates that adoption of IFRS brings complexity in financial statements preparation. This is as a result of more disclosures that are required in financial statements that are IFRS compliant. Furthermore, 16.67% of the respondents strongly agreed that IFRS leads to improved quality of the financial statement report, 62.50% agreed, 6.67% were indifferent while 10% disagreed and 4.17% strongly disagreed. The implication of this is that adoption of IFRS improves the quality of financial statement report format.

In addition, 16.67% of the respondents strongly agreed that adoption of IFRS provide easy access to offshore capital, 50% agreed, 7.50% were indifferent, 20. % disagreed, and 5.83% strongly disagreed. The implication of this result is that adoption of IFRS provides easy access to off shore capital due to easy assessment of financial report across borders.

The result showed that 57.50% of the respondents strongly agreed that there is easy comparability of financial statements between companies worldwide, 26.67% agreed, 5 % disagreed, and 10.83% strongly disagreed. The implication of this result is that easy comparability of financial statements of two or more companies across borders is possible with IFRS adoption Compliance with these standards provide the necessary impetus to compare and contrast companies in different continents of the world which makes them more valuable for decision making by management.

The result further showed that 6.67% of the respondents strongly agreed that adoption of IFRS brings positive effect on Competition in the Accounting Market, 68.33% agreed, 4.17% were indifferent, 7.50% disagreed and 13.33% strongly disagreed. With this result, IFRS adoption encourages positive competition in the accounting market.

In addition, 24.17% of the respondents strongly agreed that adoption of IFRS reduces the administrative cost of accessing the capital markets for companies globally, 50.83% agreed, 11.67% were indifferent, 3.33% disagreed and 10.00% strongly disagreed. This implies that the respondents were of the opinion that adoption of IFRS has the tendency to reduce administrative cost of companies' access to offshore capital.

The result indicated that 43.33% of the respondents strongly agreed that with the adoption of IFRS, companies trade their shares and securities on stock exchanges worldwide with reduced cost, 40.83% agreed, 4.17% disagreed and 11.67% strongly disagreed. The implication of this result is that adoption of IFRS enhances company's profitability as a result of the reduced cost of share trading.

From the result in table 1 above, 27.50% of the respondents strongly agreed that adoption of IFRS minimize reporting costs as a result of common reporting systems and consistency in statutory reporting, 48.33% agreed, 2.50% were indifferent, 6.67% disagreed, and 15% strongly disagreed. This indicates that with adoption of IFRS in organisation, reporting costs are minimized as a result of common reporting systems and consistency in statutory reporting.
Finally, 10.83% of the respondents strongly agreed that adoption of IFRS and strong enforcement reduce earnings management cost, 60% agreed, 16.67% were indifferent, 8.33% disagreed, and 4.17% strongly disagreed. The implication of this result is that adoption of IFRS and its strong enforcement reduces earnings management cost.

Test of Hypotheses

Hypothesis 1

Table 2- Analysis of the significant relationship between adoption of IFRS and financial statement report format.

S/N	Relationship	Pearson chi-square	Pr (value)	Remark
1	Q1 vs Q2	174.8517	0.000	Significant
2	Q1 vs Q3	202.0476	0.000	Significant
3	Q1 vs Q4	184.8606	0.000	Significant
4	Q1 vs Q5	292.5371	0.000	Significant
5	Q2 vs Q3	159.7717	0.000	Significant
6	Q2 vs Q4	153.1123	0.000	Significant
7	Q2 vs Q5	196.9316	0.000	Significant
8	Q3 vs Q4	263.0491	0.000	Significant
9	Q3 vs Q5	267.8038	0.000	Significant
1 0	Q4 vs Q5	264.6257	0.000	Significant

Source: Computations and output of STATA 10 based on author's field survey (2013).

Decision : From table 2, minimum pearson chi-square calculated(x^2 – cal) is 153.1123 and the maximum pearson chi-square calculated is 292.5371. Chi – square tabulated (x^2 – tab) is 37.566 at 0.01 level of significance. Since (x^2 – cal) are greater than (x^2 – tab) which makes all the figures to be highly significant with probability of Pr(value) equal to 0.000. collectively, the null hypothesis is rejected. Therefore the alternative hypothesis is accepted. Hence, there is significant relationship between adoption of IFRS and financial statement report format.

Table 3-Relationship between Adoption of IFRS and Financial statement report format by ANOVA

Source	SS	Df	MS	F	Prob > F
Between groups	153.088333	4	38.2720833	95.88	0.0000
Within groups	45.9033333	115	.39915942		
Total	**198.991667**	**119**	**1.67219888**	Number of obs = 155	
Bartlett's test for equal variances:		**chi2(1) = 2.3546**		**Prob>chi2 = 0.125**	

Source : ANOVA using STATA 10

To further confirm the significant relationship between adoption of IFRS and financial statement report format by the outcome of Chi-square stated above, the analysis of variance (ANOVA) was also employed. The Table 3 above showed the relationship between adoption of IFRS and financial statement report format using single factor ANOVA. Analysis of the data showed that, since calculated F value of (95.88) is greater than critical F value (tabulated value) which is 4.35, the null hypothesis is rejected while the alternative hypothesis is accepted, hence there is significant relationship between adoption of IFRS and financial statement report format.

Hypothesis 2

Decision: From table 4 on next page, minimum pearson chi-square calculated(x^2 – cal) is 156.6509 and the maximum pearson chi-square calculated is 265.9511. Chi – square tabulated (x^2 – tab) is 30.578 at 0.01 level of significance. Since (x^2 – cal) are greater than (x^2 – tab) which makes all the figures to be highly significant with probability of Pr(value) equal to 0.000. collectively, the null hypothesis is rejected while the alternative hypothesis is accepted.Hence, there is significant relationship between adoption of IFRS and cost reduction.

Table 4- Analysis of Significance of relationship between Adoption of IFRS on cost management.

S/N	Relationship	Pearson chi-square	Pr (value)	Remark
1	Q6 vs Q7	156.6509	0.000	Significant
2	Q6 vs Q8	158.7082	0.000	Significant
3	Q6 vs Q9	168.9216	0.000	Significant
4	Q7 vs Q8	193.3854	0.000	Significant
5	Q7 vs Q9	265.9511	0.000	Significant
6	Q8 vs Q9	197.9000	0.000	Significant

Source: Computations and output of STATA 10 based on author's field survey (2013).

Table 5-Relationship between Adoption of IFRS and Cost management by ANOVA

<table>
<tr><th>Source</th><th>SS</th><th>Df</th><th>MS</th><th>F</th><th>Prob > F</th></tr>
<tr><td>Between groups</td><td>82.264124</td><td>4</td><td>20.566031</td><td rowspan="2">112.43</td><td rowspan="2">0.0000</td></tr>
<tr><td>Within groups</td><td>21.035876</td><td>115</td><td>.182920661</td></tr>
<tr><td>Total</td><td>103.3</td><td>119</td><td>.868067227</td><td colspan="2">Number of obs = 155</td></tr>
<tr><td colspan="2">Bartlett's test for equal variances:</td><td colspan="2">chi2(1) = 20.9244</td><td colspan="2">Prob>chi2 = 0.000</td></tr>
</table>

Source : ANOVA using STATA 10

To authenticate the relationship between adoption of IFRS and cost reduction by the outcome of Chi-square stated above, the analysis of variance (ANOVA) was also employed. The Table 5 above showed the relationship between adoption of IFRS and cost reduction. For analysis, single factor ANOVA was used to test the relationship between adoption of IFRS and cost reduction. Analysis of the data shows that, since calculated F value (112.43) is greater than critical F value (tabulated value) which is 4.54, the null hypothesis is rejected while alternative hypothesis is accepted, hence there is significant relationship between adoption of IFRS and cost reduction.

SUMMARY AND CONCLUSION

This study empirically analyses the effect of international financial reporting standard (IFRS) adoption on accounting practices in Nigeria. Findings showed that there is a strong positive relationship between the adoption of IFRS and financial statement report format.

The empirical findings shows that adoption of IFRS affects performance of business organisation efficiently and effectively. Findings also showed that there is a strong positive relationship between the adoption of IFRS and cost reduction. This indicates that the adoption of IFRS reduce earnings management cost, saves companies the expense of preparing more than one set of accounts for different national jurisdictions. IFRS also reduces the cost of preparing different version of financial statements where an organization is a group of companies or multi-national. According to the study, the big accounting firms also benefit in their efforts to expand the global market for their services. Application of International Financial Reporting Standards has helped developing countries like Nigeria gain legitimacy and acknowledgement. In addition, Adoption of and compliance with these standards provide the ability to compare and contrast companies on different continents of the world. In conclusion, adoption of IFRS would enhance financial performance and proper accounting records. Accounting records keeping increase the chances of the business operating profitably and provide information for proper assessment of company performance. IFRS also help in improving business efficiency and productivity. Adoption of IFRS assists in resource allocation and performance planning in organisation. Resource allocation does not depend only on record keeping but also involves appraising the viability of the business to be undertaken through capital rationing to effectively allocate the resources. Firms that adopt IFRS show evidence of higher accounting quality in the post-adoption period than the pre-adoption period. This conclusion strengthened the view of Meeks and Swann (2009).

Policy Recommendations

Based on the findings of this study, the following recommendations are hereby suggested

- International Financial reporting standard practice in both public and private sector in Nigeria has not been actively implemented, therefore, IFRS practice in Nigeria should cut across the public and private sector to bring uniformity in accounting practice regarding annual preparation of financial reports to the owner of companies and other interested parties.
- For accounting information and policies to be relevant and communication effective, it must be timely. The need for effective policies is strengthened because a decision's use of accounting data may change overtime as a result of his changing perception concerning the relevance of the data.
- The owners and managers of organisation should be made to embrace the adoption of IFRS practices in accordance with the roadmap for implementation for effective financial performance in their business. The financial reporting council, as a main control and regulatory authority for IFRS compliance in Nigeria should be strengthened and be made independent. The government should develop an efficient approach to integrate IFRS considerations into all potential business transformation initiatives in Nigeria.

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Archive of Business Research – Vol.2, No2
Publication Date: April 30, 2014
DOI: 10.14738/abr.22.173
Sahbaz et al., (2014). Development of a six sigma infrastructure for cataract surgery in patients with pseudoexfoliation syndrome. *Archives of Business Research, 2*(2), 15-23

Development of a Six Sigma Infrastructure for Cataract Surgery in Patients with Pseudoexfoliation Syndrome

Ibrahim Şahbaz
Department of Opticianry, Üsküdar University, Istanbul, Turkey

Mehmet Tolga Taner
Department of Healthcare Management, Faculty of Health Sciences,Üsküdar University, Istanbul, Turkey

Gamze Kağan
Department of Occupational Health and Safety, Üsküdar University, Istanbul, Turkey

Hüseyin Sanışoğlu
Haydarpaşa Numune Education and Research Hospital, Department of Ophthalmology, Istanbul, Turkey

Ebubekir Durmuş
Haydarpaşa Numune Education and Research Hospital, Department of Ophthalmology, Istanbul, Turkey

Meltem Tunca
Haydarpaşa Numune Education and Research Hospital, Department of Ophthalmology, Istanbul, Turkey

Engin Erbaş
Institute of Health Sciences, Üsküdar University, Istanbul, Turkey

Sabahat Beyza Kağan
Department of Healthcare Management, Faculty of Health Sciences,Üsküdar University, Istanbul, Turkey

Mehmet Kemal Kağan
Siyami Ersek Chest, Heart and Vascular Surgery Education and Research Hospital, Istanbul, Turkey;

Hazar Enginyurt
Department of Business Administration, Adnan Menderes University, Aydin, Turkey

ABSTRACT

The aim of this study is to show how an eye clinic of a Turkish public hospital initiated Six Sigma principles to reduce the number of complications encountered during and after cataract surgeries in patients with pseudoexfoliation (PEX) syndrome. Data were collected for three years. To analyse the process, main tools of Six Sigma's Define-Measure-Analyze-Improve-Control (DMAIC) improvement cycle such as SIPOC table, Fishbone Diagram and, Failure, Mode and Effect Analysis were implemented. Sources and root causes of ten types of complications were identified and reported. Experience of the refractive surgeon, patient's anatomy, cooperation of patient during the surgery, sterilization and hygiene, attention of assistant surgeon, calibration of equipment and quality/chemical composition of intraocular material were identified to be Critical-to-Quality (CTQ) factors for a successful surgery. The most frequently occurring complication was found to be posterior capsule rupture. The overall process sigma level for 3 years was measured to be 3.703. The surgical team concluded that all complications should be significantly reduced by taking the necessary preventative measures.

Keywords: Six Sigma, Ophthalmology, Cataract surgery, Pseudoexfoliation syndrome, Complications.

INTRODUCTION

Pseudoexfoliation (PEX) is an age-related illness characterized by production and progressive deposition of protein like abnormal fibrillar extracellular material in the anterior segment of the eye and conjunctiva [1]. It can briefly be defined as the deposit of white grayish PEX material on the anterior lens capsule and/ or near the pupillary margin [1]. Studies have shown that local production and deposition of PEX fibers may lead to characteristic changes of the corneal endothelium, trabecular meshwork, iris, lens, ciliary body, zonules and structures of blood-aqueous barrier [2]. These changes in the tissues of the anterior eye segment make cataract surgery potentially challenging and thus ophthalmic surgeons must be cautious of possible intraoperative and postoperative problems in managing the patient with PEX syndrome.

The awareness of the significance of PEX has increased considerably during the last ten years [2]. Studies have shown that PEX is associated with open angle glaucoma and poor pupillary dilatation [3, 4]. It has been determined that it is also a risk factor not only for the development of open-angle glaucoma, but also for angle-closure glaucoma, lens subluxation, retinal detachment, blood-aqueous barrier impairment and is correlated with an increasing number of cataract formation incidence [2]. It should be noted that cataract surgery in eyes with PEX has higher incidence of intraoperative complications like posterior capsular rupture, zonular dialysis, vitreous loss, hyphaema, residual lens matter and intraocular bleeding [5-11]. In addition, secondary cataract can be considered as another potential complication of cataract surgery in patients with PEX [12]. Postoperatively, patients have a greater risk for developing an immediate elevation of intraocular pressure and inflammation [13, 1]. Posterior capsular opacification and intraocular lens decentration are also common in patients with PEX postoperatively [14, 15, 1].

The use of Six Sigma, as a quality improvement method, can be employed in order to eliminate complications encountered during and after many ophthalmic surgeries [16]. Originally initiated by Motorola, Honeywell and General Electric [17], Six Sigma is a powerful performance improvement tool that is changing the face of modern healthcare delivery today [18]. Although it was initially introduced in manufacturing processes, Six Sigma is being implemented in diagnostic imaging processes [19-21], emergency room [22], paramedic backup [23], laboratory [24], cataract surgery [25], radiology [26], surgical site infections [27], IntraLase surgery [28], LASIK surgery [29], strabismus surgery [30], intravitreal injections [31], phacoemulsification cataract surgery [32] and stent insertion [33] as a cost-effective way to improve quality, performance and productivity [18].

A Six Sigma process produces 3.4 defective parts per million opportunities (DPMO) [34]. Being a method that eliminates errors, Six Sigma makes use of a structured methodology called DMAIC to find the main causes behind problems and to reach near perfect processes [35]. DMAIC is useful to analyse and modify complicated time-sensitive healthcare processes involving multiple specialists and treatment areas by identifying and removing root causes of errors or complications and thus minimizing healthcare process variability [34, 18].

In this study, a Six Sigma infrastructure was developed for a public eye centre in order to improve the outcomes of their cataract surgery in patients with PEX sydrome. In addition, sigma level of each type of complication are calculated and reported.

METHOD

Application of Six Sigma's DMAIC for Cataract Surgery in patients with PEX syndrome

When the eye care centre decided that Six Sigma was the best way to achieve their goals, a surgical team was assembled and trained in the methodology. Committed and consistent leadership to overcome the complications was assured by this team. They firstly generated a SIPOC (Supplier, Input, Process, Output and Customer) Table for the process (Table 1). To achieve the performance objective, the surgical team first determined by brainstorming the CTQ factors, i.e. the factors that may have an influence on the objective.

The surgical team determined the metrics to measure existing process. The metrics to be chosen for a Six Sigma study were:

1. Total number of surgeries performed in the eye care centre,
2. Number of complications.

Table 1. SIPOC Table for Cataract Surgery for Patients with PEX syndrome

SUPPLIER	INPUT	PROCESS	OUTPUT	CUSTOMER
Ophthalmic surgeon	Intraocular lens	Ocular examination	High visual acuity	Patient
Nurse	Viscoelastic materials, Miostat, Adrenaline, BSS, Trypane blue, Intracameral lidocaine, Intracameral cefuroxime	Biometric measurements		
Assistant surgeon	Phacoemulsification equipment	Evaluation by ophthalmic surgeon		
Biomedical technician	Surgical instruments	Medical consultation and systematic examination of patient at Internal Medicine Department		
	Topical Anaesthesia or Sub-tenone	Preparation of the patient		
		Surgery		
		Discharge		

Data were collected for a period of three years. In this period, surgeries were performed on 151 patients. Complications had been noted as they occurred. The surgical team identified ten types of complications and classified them as when (i.e. intraoperatively and/or postoperatively), and how soon they occur, i.e. acute, sub-acute and/or chronic (Table 4). Then, sources (Table 3) and root-causes (Table 4) of these complications are tabulated by type.

Table 2. Complications Experienced (January 2011 – December 2013)

	Complication	Intra-Operative	Post-Operative	Acute	Sub-Acute	Chronic
Type I	Posterior capsule rupture	X		X		
Type II	Zonular dialysis	X		X		
Type III	Iris retraction hooks	X		X		
Type IV	Glaucoma	X	X	X	X	X
Type V	Iridodialysis	X		X		
Type VI	IOL disclocation	X	X	X	X	X
Type VII	Retained cortex material	X	X	X		
Type VIII	Pupillar membrane		X	X	X	
Type IX	Pupillary irregularity		X	X		
Type X	Iris sphincter tears	X		X		

ANALYSIS

The surgical team analysed the occurrence frequency of each complication and related them with the root-causes. (Table 4 and Table 5). The analysis revealed that Type I, II and III were the three most frequently occurring complications in the cataract surgeries performed on patients with PEX syndrome (Table 5). Then, they classified the CTQs as "vital few factors" and "trivial many factors" according to how frequent they caused the complications. The "vital few" factors, i.e. the factors that had the most impact on the success of surgery were determined to be the experience of the ophthalmic surgeon, patient's anatomy and cooperation of patient during the surgery. The other factors, i.e. sterilization and hygiene, attention of assistant surgeon, calibration of equipment and quality/chemical composition of intraocular material were the "trivial many".

To measure the current sigma level of a complication, surgical team calculated the current DPMO and sigma levels for each complication type (Table 5). For this, two distinct datasets are required:

A = Total number of cataract surgeries performed.
B = Total number of complications occurred.

$$DPMO = B \times 1{,}000{,}000/A$$

Normal distribution underlies Six Sigma's statistical assumptions. An empirically-based 1.5 sigma shift is introduced into the calculation. A higher sigma level indicates a lower rate of complications and a more efficient process [16].

Table 3. Sources of Complications

	Ophthalmic Surgeon	Nurse	Assistant Surgeon	Patient	Equipment	Materials
Type I	X		X	X	X	
Type II	X			X		
Type III				X		
Type IV	X			X		X
Type V	X			X		
Type VI	X			X		
Type VII	X			X		
Type VIII	X	X		X		X
Type IX	X					
Type X	X			X		

Table 4. Root-causes of Complications

	Experience of Ophthalmic Surgeon	Sterilization and Hygiene	Attention of Assistant Surgeon	Cooperation of Patient	Patient's Anatomy	Calibration of Equipment	Quality/ Chemical Composition of Intraocular Material
Type I	X		X	X	X	X	
Type II	X			X	X		

Type III	X				X		
Type IV	X				X		X
Type V	X			X	X		
Type VI	X				X		
Type VII	X				X		
Type VIII	X	X					X
Type IX	X			X	X		
Type X	X				X		

Table 5. Cumulative Frequency, DPMO and Sigma Levels

	Count	Frequency (%)	DPMO	Sigma Level
Type I	17	11.258	112583	2.71
Type II	4	2.649	26490	3.44
Type III	4	2.649	26490	3.44
Type IV	3	1.986	19868	3.56
Type V	1	6.623	6623	3.98
Type VI	1	6.623	6623	3.98
Type VII	1	6.623	6623	3.98
Type VIII	1	6.623	6623	3.98
Type IX	1	6.623	6623	3.98
Type X	1	6.623	6623	3.98

The highest sigma level was obtained for Type V, VI, VII, VIII, IX and X. The lowest sigma level was found to belong to Type I. Having sigma levels lower than 4.00; all complications needed to be significantly reduced.

The process sigma level, calculated from the arithmetic average of sigma levels of ten complications, was found to be 3.703.

Table 6. Severity Scores

Severity Score	4	3	2	1
Severity of Complication	Permanent harm	Temporary harm	Bias	No harm

DISCUSSION

Risk assessment of the surgery was achieved by the Failure Mode and Effect Analysis (FMEA). Utilization of the FMEA involved break down the process into individual steps: potential failure modes (i.e. complications), severity score, probability score, hazard score, criticality and detection, so that the surgery team could look at key drivers in the process based on the past experience.

Occurrence trends and consequences of complications over a 3-year period had been monitored and recorded. Surgical team prioritized the complications according to how serious their consequences were (i.e. severity score), how frequently they occurred (i.e. probability score) and how easily they could be detected. Hazard analysis was employed in order to identify failure modes and their causes and effects. The surgery team determined the severity of each complication and assigned scores for them. The severity of each complication was scored from 1 to 4 (Table 6).

Table 7. FMEA Table

Complication Type	Hazard Analysis			Decision Tree Analysis	
	Severity Score	Probability Score	Hazard Score	Critical?	Detectable?
Type I	4	0.1125	0.4500	Yes	Yes
Type II	3	0.0264	0.0792	Yes	Yes
Type III	1	0.0264	0.0264	No	Yes
Type IV	2	0.0198	0.0396	Yes	Yes
Type V	3	0.0066	0.0198	Yes	Yes
Type VI	4	0.0066	0.0264	Yes	Yes
Type VII	1	0.0066	0.0066	No	Yes
Type VIII	1	0.0066	0.0066	No	Yes
Type IX	2	0.0066	0.0132	No	Yes
Type X	2	0.0066	0.0132	No	Yes

For each complication type, the hazard score was calculated by multiplying the severity score with the probability score. Consequently, an FMEA table was drawn (Table 7). Among the complications, Type I yielded the highest hazard score. Type III and Type VI were almost equally hazardous complications and so were Type IX and Type X. According to FMEA, Type VII and VIII were the least hazardous complications by yielding likewise the same hazard scores.

Corrective Action Plan

PEX syndrome presents challenges that need careful preoperative planning and intraoperative care to ensure safe surgery and a successful postoperative outcome. Thus, the surgical team developed preventive measures for each type of complication in order to bring the overall surgery process under control (See the Appendix). By brainstorming on the mechanisms underlying the complications, they implemented the following corrective action plan to reduce and/or eliminate other complications.

CONCLUSION

In this study, authors found that ten types of complications were encountered in the eye care centre while performing cataract surgeries in patients with PEX syndrome. The analysis showed that these complications had equally occurred both intraoperatively and postoperatively. Postoperative complications were almost always related to events that had occurred during surgery. The process sigma level of the overall process (i.e. cataract surgeries made in 3-years) was measured to be 3.703.

It is found that experience of ophthalmic surgeons, patient's anatomy and materials are the vital few CTQ factors that have the most impact on the success of surgeries. Many complications were related to the learning curve associated with the equipment use. These complication rates were reduced as ophthalmic surgeons gained experience and was trained on how to identify, minimize or eliminate the sources and root-causes of the complications. Sterilization of the operating room, equipment and instruments as well as the regular maintenance and calibration of the equipment are also essential.

To conclude, the risks associated with cataract surgery in the PEX eyes can be minimized by taking the necessary preventative measures with appropriate preoperative, intraoperative and postoperative care.

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APPENDIX

Preventative Measure(s) per Complication Type

	Preventative Measure (s)
Type I	- Train the ophthalmic surgeons. - Preoperatively carefully examine patients. - Provide regular maintenance and calibration of the phacoemulsification equipment. - Be more careful for small pupils and hard nuclei. - Do not use high parametric values. - Take preventative measures to provide good and sufficient mydriasis.
Type II	- Train the ophthalmic surgeons. - Preoperatively carefully examine patients. - Use minimum power during the surgery both manually and by the phacoemulsification equipment. - Take preventative measures to provide good and sufficient mydriasis. - Carefully inspect the anatomy of the capsule and zonules.
Type III	-Make sure to use small pupils that do not have sufficient mydriasis.
Type IV	- Make sure that there is no viscoelastic substance left in the site and it is viscoelastically clean. - Carefully remove the OVD at the time of surgery, control of intraocular bleeding, and the use of intraoperative and postoperative antiglaucomatous agents. - Postoperatively administer pilocarpine gel; topical beta blockers; apraclonidine; and topical, intravenous, or oral carbonic anhydrase inhibitors - Be careful of chronic IOP elevation that may be caused by corticosteroid use, retained lens (particularly nuclear) material, chronic inflammation, peripheral anterior synechiae formation, endophthalmitis, and ciliary block. The correct diagnosis of the underlying cause is required to provide the appropriate therapy.
Type V	- Train the ophthalmic surgeons. - Preoperatively carefully examine patients. - Use minimum power during the surgery both manually and by the equipment.
Type VI	- Use a lens with high optics for patients with IOL disclocation. -In early stages, perform capsulotomy by YAG laser
Type VII	- Do not to be aggressive nor attempt to vacuum clean. - Make sure that the surgeon remains concentrated and be attentive to details throughout the surgery. - Do not try to clear the very last bit of cortex remaining.
Type VIII	- Make sure that there is minimum intervention to iris. - Use heparin-coated special IOLs postoperatively to inhibit fibrin reaction.
Type IX	- Sufficiently clean the vitreous in the anterior chamber by anterior vitrectomy.
Type X	-Be careful during hydrodissection and phacoemulsification of the lens nucleus and introduction of mechanical stretching devices to pull on the sphincter margin.

Archives of Business Research – Vol.2, No.2
Publication Date: April 30, 2014
DOI: 10.14738/abr.22.174
Aygun, M., Ic, S., & Sayim, M. (2014). The impact of debt structure on firm investments: Empirical evidence from turkey, *Archives of Business Research, 2*(2), 24-30

The Impact of Debt Structure on Firm Investments: Empirical Evidence from Turkey

Mehmet Aygun
Yüzüncü Yıl University
Faculty of Economics and Administrative Sciences, Van, Turkey

Suleyman IC
Ondokuz Mayis University
Faculty of Economics and Administrative Science, Samsun, Turkey

Mustafa Sayim
Alliant International University, San Diego, CA, USA
msayim2@alliant.edu

ABSTRACT

The purpose of this study is to examine the impact of corporate debt structure on firm investments in Turkey. The regression and correlation analysis reveal a significant positive effect between corporate debt structure and firm investments. This effect is relatively strong for companies with high growth opportunities compare to companies with low growth opportunities. Consistent with the existent literature these findings provide support that a higher level of long-term debt in total debt structure reduces investments for firms with high growth opportunities. These effects need, therefore, to be incorporated in debt structure for Turkish firms to support their assets with proper financing sources.

Keywords: Debt maturity, investment, capital structure, leverage

INTRODUCTION

One of the challenging issues in corporate finance, academics and practitioners trying to find out an answer is how a firm's debt level in its capital structure effects on its investments decisions [1]. It is important because capital structure choices debt level and equity level affect a firm's Return on Equity (ROE) and its financial risk. Miller and Modigliani (MM) [2] in their most influential financial article provided evidence that a firm's values is unaffected by its capital structure decisions in perfect capital markets. If their assumptions are correct, a firm's capital structure decision is irrelevant. Although some of their assumptions might be unrealistic, their conclusion irrelevancy is very crucial. Because, their work of MM irrelevancy was recognized the beginning of modern capital structure research and later studies have focused on relaxing some of MM assumptions in order to developed a more realistic capital structure theories [3].

A capital structure decision has a significant effect on firm's investments. In addition, a firm's debt maturity structure decision is important for its sustainability. Because this decision may have an impact on firm's cost of capital, capital budgeting and financial risk.

In previous studies on debt maturity structure are focused on the factors impacting debt maturity structures. A partial list of those studies include Brick and Ravid [4], Barclay and Smith [5], Kim et al. [6], Stohs and Mauer [7], Guedes and Osler [8], Chen et al. [9], Goswami [10], Scherr and Hulburt [11], Elyasiani et al. [12], Ozkan [13], Barclay et al. [14], Jun and Jen [15], Johnson [16], Antoniou et al., [17], Korner [18] and Majumdar [19].

Although a number of studies have been conducted on firm's debt level and its investments, they reveal the mixed results. In other words, the impact between firm's debt level and on its investment might be negatively or positively significant. Some of the studies found out a negative effect are Lang et al. [20], Aivazian et al. [21], Ahn et al. [22], Odit and Chittoo [23] and Franck and Huyghebaert [24]. On the other hand, Cleary [25] and Marchica & Mura [26] show a positive significant effect. Therefore, the results of those studies are not necessarily applicable to different countries; each country must be studied to determine the impact of debt maturity structure on a firm investment. This paper adds to the growing literature the impact of debt maturity structure on firm investment in emerging markets namely Turkey.

The regression and correlation analysis reveal a significant positive effect between corporate debt structure and firm investments on Turkish firms. This effect is relatively strong for companies with high growth opportunities compare to companies with low growth opportunities. Consistent with the existent literature these findings provide support that a higher level of long-term debt in total debt structure reduces investments for firms with high growth opportunities.

The results of this study have practical implications for Turkish firms. The firms need to incorporate these effects in their debt maturity structure to support their operations with proper financing sources.

The rest of the paper is organized as follows. Section 2 presents literature review, Section 3 discusses the model and methodology, Section 4 presents data, Section 5 reports the results, and finally Section 6 concludes the research.

LITERATURE REVIEW

In the last couple of decades, the choices between debt and equity in financing a firm operation have been extensively examined in finance literature. However, there are limited number of studies on the impact of debt maturity structure and firm investment in emerging markets [27]. In other words, whether debt maturity structure has effect on investments is still in question. Myers [28] investigates the relationship between debt maturity structure and a firm with a growth option. He shows that a firm with higher growth opportunity affects its debt maturity structure choice due to underinvestment problems. When a firm has a profitable investment opportunity, benefits generated by the projects will go not only to shareholders also to debt holders partially. This may lower the incentive to implement such projects and create underinvestment problem. Therefore, to solve this problem, firms with higher future growth opportunity can issues short-term debt [28].

Another study conducted by Barclay and Smith [5] examines determinants of financial leverage and debt maturity. They use a sample of firms compromising 39,949 firm-year observations of 5,545 listed industrial firms for period of 1974 to 1992. Their findings show strong support for the contracting-cost hypothesis. Firms with low growth options tend to have more long-term debt in their capital structure. They document that the relationship between debt maturity and leverage is a negatively significant. In addition, the market to the book value ratio is a statistically significant determinant of debt maturity. Guedes and Opler [8], Scherr and Hulburt

[11], Barclay et al. [14], Antoniou et al. [7] also find strong support that this ratio has a significant impact on debt maturity.
Stohs and Mauer [7] investigate determinants of debt maturity structure using a measure of weighted average debt maturity. They find that an inverse relationship between debt maturity and a firm's effective tax rate. However, debt structure maturity is directly related to the firm asset maturity. The findings show strong support for the prediction of a nonmonotonic relation between debt maturity and bond rating and liquidity risk. However, they find out that the market to book value ratio is not a significant determinant of debt maturity.

Korner [18] examines the determinants of the corporate debt maturity structure of Czech firms. He shows that long-term debt increases with company size, leverage and asset maturity. However, the impact of growth options, collateralizable assets, corporate tax rate, and company level volatility is statistically insignificant. Another study conducted by Ozkan [13] examines also the determinants of corporate debt maturity structure on UK firms. He provides evidence consistent with the hypothesis that firms with more growth opportunities in their investment decisions tend to use more short-term financing. In addition, the findings provide strong support for the maturity-matching hypothesis that firms match debt maturities with asset maturities. They seem to place great emphasis on maturity matching.

The most of these earlier studies focus on the factors that determine debt maturity choice in capital structure. However, recent studies examine the impact of debt maturity on a firm investment. Aivazian et al. [1] investigate the effect of debt maturity structure and a firm investment on US firms for the period of 1982 to 2002. They show that the debt maturity structure has a significant effect on firm investments decisions. By controlling for the effect of financial leverage, they provide evidence that a firm with a higher level of long-term debt in its capital structure significantly reduces investment for firms with high growth prospects. The results also show that leverage level is significantly negatively related to a firm investment.

DATA AND METHODOLOGY

The sample period for this study extends from 1992 to 2007. The study uses a dataset of 135 Turkish firms publicly listed on the Istanbul Stock Exchange (ISE) in Turkey. Due to the different asset's structures, firms in financial sectors are excluded.
The study employs an approach for the impact of debt structure on a firm investment in Turkey that is similar to the methodology used by Aivazian et al. [21]. The model measuring the debt maturity structure impact is as in the following equation:

$$INVEST_{it}=\alpha+\beta_1(MAT_{it-1})+\beta_2(LEVER_{it-1})+\beta_3(CF_{it})+\beta_4(TOBIN'S\ Q_{it-1})+\varepsilon_{it} \qquad (1)$$

Where $INVEST_{it}$ is the firm investment, the ratio of firm's net capital expenditures to its net fixed assets at the beginning of the year, MAT_{it-1} is the debt maturity of firm i in period t-1, calculated as percentage of the firm's total debt to its total assets. $LEVER_{it}$ is the firm's financial leverage of firm i in period t-1. CF_{it} is cash flow, measured as ratio of net income and depreciation to total assets. *TOBIN'S Q* in year t, measured as the market value of the firm's total assets divided by the firm's book value of total assets. ε_{it} is the random error term, α is constant, β_1, β_2, β_3 and β_4 are the parameters to be estimated.

In addition, following Aivazian et al. [21] study, this research separates firms into two groups: high and low growth prospects and examines the impact of debt maturity on the two types of firms. TOBIN'S Q is used to measure growth prospects. High and low growth firm prospects are identified and the median Tobin's Q is calculated. If the firm's Tobin's Q is below the median Tobin's Q, this firm is classified as a low growth prospect. On the other hand, if the firm's Tobin's Q is above the median Tobin's Q, this firm is identified as a high growth opportunity.

EMPIRICAL RESULTS

Table 1 summarizes the descriptive statistics of variables used in this research. The mean of net investment to fixed assets is 8.77 percent with a standard deviation of 25.81 percent. This indicates a high variation in the investment rate of Turkish firms. The mean of debt maturity is 25.8 percent. In other words, the weight of long-term debt in total debt is 25.8 percent. The average leverage level is 48.42 percent with a standard deviation of 20.24 percent. The sample average TOBIN's Q is 2.4191, which indicates Turkish firms have strong growth opportunities for the sample period.

Table 1: Descriptive Statistics

Variables	Mean	Minimum	Maximum	Standard Deviation
INVEST	.0877	-.06	.80	.09968
MAT	.2581	.00	.92	.18239
LEVER	.4842	.01	.98	.20240
CF	.1225	-.38	.85	.12384
TOBIN'S Q	2.4191	.00	44.97	2.5605

N=2031
Notes: Variables are a firm investment (INVEST), debt maturity (MAT), a firm leverage (LEVER), cash flows (CF) and TOBIN's Q.

Table 2 reports the correlations coefficient among the variables in this study: firm investment, debt maturity, firm leverage, cash flow and Tobin's Q. The findings in Table 3 reveal that a firm investment (INVEST) significantly positively related to debt maturity (MAT) at the 1 percent. Besides, a firm investment (INVEST) also significantly positively related to cash flow (CF) and Tobin's Q at the 1 percent. However, there is a negative significant relationship between among cash flow (CF), maturity (MAT) and leverage (LEVER) at the 1 percent statistically. The relationship between debt and TOBIN's Q is a statistically positive at the 1 percent. On the other hand, maturity significantly negatively related to TOBIN's Q.

Table 2: Correlation Matrix of Variables

	INVEST	MAT	LEVER	CF	TOBIN'S Q
INVEST	1.00				
MAT	.165**	1.00			
LEVER	.008	-.012	1.00		
CF	.227**	-.059**	-.344**	1.00	
TOBIN'S Q	.081**	-.033	.267**	.090**	1.00

N=2031
Notes: Variables are a firm investment (INVEST), debt maturity (MAT), a firm leverage (LEVER), cash flows (CF) and TOBIN's Q.
**, *Significant at 1 and 5 percent levels, respectively.

The results of regression equation are presented in Table III. Column 2 in Table III shows the estimators for the full sample. Inconsistent with the findings of Aivazian et al. [1] the results reveal that debt maturity structure (MAT) has a positive impact on investment (INVEST) at the 1 percent significance level. The results also show that there is a positive significant relationship between debt maturity structure (MAT) and financial leverage (LEVER) at the 1 percent. These results may indicate that the firms use external short-term and long-term funds to finance their investments. TOBIN's Q, which measures growth opportunity, is significantly positively related to firm investments (INVEST). Consistent with findings of previous studies [1] cash flow (CF) is significantly positively related to investments (INVEST).

Debt maturity structure might have a different effect on investment for firms with a high or a low growth opportunity. A firm with a high growth opportunity can be more subject an underinvestment problem compared to a firm with low growth opportunity [28]. The results of this impact are reported in Column 3 and 4 in Table III. As it can be seen, coefficients of variables except TOBIN's Q for a firm with a low growth prospect are positive and significant at the 1 percent for both firms with a high and a low growth opportunity. In addition, one can see the impact of debt maturity structure on investment is higher for firms with a high growth opportunity in Table III. These results are inconsistent with Aviazian et al [1] show that debt maturity structure is significantly positively related to investments of Turkish firms. However, the findings consistent with results of previous studies [20, 21] the coefficient of cash flow (CF) is significant and positive for both types of firm prospects. TOBIN's Q, which measures growth opportunity, has a significant positive effect on firm investment with a high growth opportunity but the effect is insignificant for a firm with a low growth opportunity.

Table 3: Results of Regression Analysis

$$INVEST_{it}=\alpha+\beta_1(MAT_{it-1})+\beta_2(LEVER_{it-1})+\beta_3(CF_{it})+\beta_4(TOBIN'S\ Q_{it-1})+\varepsilon_{it}$$

Dependent Variable: INVEST

	All Sample	**Growth Opportunities**	
		Low	**High**
Constant	0.010	0.014	0.015
	(1.356)	(0.725)	(1.568)
MAT	0.183***	0.107***	0.208***
	(8.626)	(2.341)	(8.640)
LEVER	0.091***	0.159***	0.062***
	(3.836)	(3.430)	(2.237)
CF	0.265***	0.167***	0,268***
	(11.519)	(3.537)	(9.935)
TOBIN'S Q	0.039*	-0.022	0.043*
	(1.762)	(-0,490)	(1.708)
R^2	0.097	0.045	0.092
F Statistic	52.717***	6.559***	43.085***
Observations	2031	471	1560

Notes: Variables are a firm investment (INVEST), debt maturity (MAT), a firm leverage (LEVER), cash flows (CF) and TOBIN's Q. Z-statistics are provided in the parenthesis below to the coefficient estimates.
***, **, * Significant at 1, 5and 10 percent levels, respectively.

CONCLUSION

The study examines the impact of corporate debt structure on firm investments in Turkey. Following Aivazian et al. [21] the regression and correlation analysis reveal a significant positive effect between corporate debt structure and firm investments. This research separates firms into two groups: high and low growth prospects and examines the impact of debt maturity on the two types of firms. The effect of debt maturity is relatively strong for companies with high growth opportunities compare to companies with low growth opportunities. Consistent with the existent literature [22, 1, 21] findings provide support that a higher level of long-term debt in total debt structure reduces investments for firms with high growth opportunities. These effects need, therefore, to be incorporated in debt structure for Turkish firms to support their assets with proper financing sources.

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Archives of Business Research – Vol.2, No.2
Publication Date: April 30, 2014
DOI: 10.14738/abr.22.184
Ezzi, S. W. (2014). A theoretical Model for Internet banking: beyond perceived usefulness and ease of use, *Archives of Business Research, 2*(2), 31-46

A Theoretical Model for Internet Banking: Beyond Perceived Usefulness and Ease of Use

Shaza W. Ezzi
King Abdulaziz University, Jeddah, Saudi Arabia
Shazaezzi466@gmail.com

ABSTRACT

As with other types of electronic banking like ATM's, telephone banking, and electronic funds transfer, Internet banking like has evolved from consumers' needs to have greater access to banking services beyond most banks teller-staffed, normal operating hours. Additionally, Internet banking has grown rapidly from the recent and dramatic increases in e-commerce. Internet banking (IB) continues to dominate the landscape of electronic banking as consumers continue to use IB to complete routine banking transactions in addition to conducting on-line sales and purchasing. This study presents a theoretical model designed to help researchers and practitioners better understand the acceptance and adoption of Internet Banking. The proposed model may be particularly useful in developing nations where consumers are reluctant to use Internet Banking even when the services are available. However, a review of several studies that have investigated consumers' acceptance of Internet banking services from a variety of perspectives have not reached a clear consensus of the factors that contribute to overall consumer acceptance and adoption. Following the seminal information systems research of Davis, Bagozzi and Warshaw's [1] Technology Acceptance Model, the purpose in this paper is to introduce a theoretical model for understanding the acceptance and adoption of Internet banking services. Following an extensive review of the literature, the proposed Internet Banking Model is specified and introduced. The paper concludes with discussions of the managerial implications and avenues for future research.

Keywords: Internet banking, technology acceptance model (TAM), consumer behavior

INTRODUCTION

Spawned by the rapid development of Internet commerce, consumers' needs for Internet banking solutions have grown in recent years. The banking and financial sectors have adapted to meet these consumer needs by encouraging customers to use an array of electronic banking services. Consumers' banking needs have changed completely over the past three decades [2]. Thirty years ago, when a consumer needed money for purchases or to transact banking, he/she visited a secure deposit institution (bank) during weekday "banking hours," probably stood in line for a while, and had a human teller facilitate the transactions. But by the late1970's, banks launched networks of automated teller machines (ATM's) across their countries of operation, and around the globe [3; 4]. This was followed by telephone banking, cable television banking in the 1980s, and the progress of personal computer (PC) banking in the late 1990s [5; 6]. Visiting the local branch bank for routine business became the exception for many consumers, and some banks actually discouraged costly face-to-face interaction with bank tellers.

Though it first appeared in the 1980's, the growth of on-line banking did not make major inroads in financial centers across the globe until the late the 1990's and beyond when access to Internet browsers became more widespread [7]. The increase in Internet and electronic commerce has stimulated the banking and e-business sectors to encourage customers to make purchases and conduct on-line banking [8; 9]. In the late 1990s, when electronic commerce (the buying and selling of goods and services through Internet browsers) began a rapid growth in volume and the number of transactions increased geometrically the use of Internet banking (IB) grew to meet the needs of both businesses and consumers alike [10; 11]. IB has created new ways of handling banking transactions for e-commerce related transactions especially facilitating the growth of online shopping [12]. The changes are driven in large part due to the aspect of virtual time (real time) where buyers and sellers conduct huge increases in Internet commerce unimpeded by typical brick and mortar operating hour constraints. As such, IB services grew from the necessity to satisfy consumers' real time purchasing wants and commercial entities striving to meet consumer needs.

However, a recent review of some academic and professional literature indicates a pattern of somewhat confusing usage with respect to many topical synonyms: on-line banking: electronic banking, Internet banking, e-banking, and PC banking. Electronic banking is the use of electronic means (e.g. ATM's, bank cards, Internet banking, telephone banking, and point-of-sale terminals) to transfer funds or complete financial transactions directly from one account to another, rather than by check or cash [13]. Ayadi [14] suggests that within the academic literature, and as used in this paper, electronic banking is an umbrella concept defined by distant, real-time access to banking services using any electronic means — Internet banking, on-line banking, PC banking and even using ATM's. A true precursor to Internet banking, PC banking describes banking between a computer user and an internal banking network. Internet banking (IB), a true synonym of on-line banking, is a term used to describe distant banking conducted using an Internet-based browser.

IB is best viewed as a self-service delivery channel that allows bank customers to access financial services and information necessary to complete routine, as well as some non-routine banking needs in the convenience of real time through web browser technology [15-17]. The self-service nature of IB could translate to lower-average transactions costs and provide real-time accessibility when compared to fixed-hours, normal teller-supported banking services. In managerial terms, Internet banking has the ability to support banks' mission of increasing services and building customer satisfaction through providing *virtual time* products and services, while realising the potential of reduced operating and administrative costs [18; 19]. Today consumers in most of the developed countries of North and South America, Europe, Australia, and in many parts of Asia can transact customer banking needs via PCs, and mobile devices such as hand-held tablets and Smart-phones.

Though banks offering IB service provide their customers many benefits, such as the convenience to execute banking transactions 24 hours a day or to save time, [16; 20] large groups of consumers who still refuse to use Internet banking services [21; 16; 11]. Consumer's use of IB requires acceptance of the technology [5; 22], which can be complicated because it involves changing behavior patterns. In addition, Internet technology in general and IB services in particular present technological learning challenges that could be difficult for some especially in developing countries where consumers may also be economically challenged [23]. Understanding the predicators of consumer's attitudes toward and adoption of Internet banking is paramount. Research arguments suggest that attitudes have a strong, direct and positive effect on consumers' feelings about and intentions to actually use new technologies or systems [see 24- 26]. Further, though this kind of research has been conducted rather extensively in developed countries, there remains a lack of understanding about consumers' behavior toward the adoption and intention to use IB services in developing countries [27].

Moreover, from a managerial point understanding the reasons for customers' resistance to accept the technology and adopt IB service could be useful for bank managers who are charged with formulating strategies aimed at increasing online banking use. The preceding research seems to indicate the need for a model to test hypotheses and answer research questions relative to consumers' attitudes toward and preferences for adopting IB services. The purpose of the current paper is to present a model for understanding consumers' acceptance and adoption of Internet banking services.

REVIEW OF THE LITERATURE

Brief History of Electronic Banking

Automated banking:

In 1939, Turkish-born, Luther Simjian patented the first automatic teller machine (ATM) the Bankmatic or Bankograph. However it was not until 1960 that 20 of Simjian's ATMs were introduced in New York, USA for what is now Citicorp. The venture was not commercially successful as Simjian wrote "The only people using the machines were prostitutes and gamblers who wanted to avoid face-to-face dealings with bank tellers." [Automated Teller Machines, 28, p.1]. Further, Simjian explained there were not enough of them [ATMs] to make the machines a worthwhile investment for the bank [29]. However, many researchers suggest that James Goodfellow (patent 1966) of Scotland holds the earliest commercially successful introduction for a modern ATM using a photostatic process with radioactive inked vouchers [29]. In 1969, John D White, an engineer with Docutel, is often credited with installing the first free-standing, magnetic-card reader ATM at Chemical Bank of New York [3; 4]. In 1978, during 5 days of a blizzard of snow that paralyzed New York City, Citi Bank saw a huge payoff on its $100 million ATM investment a year earlier, using the famous ad campaign slogan "The Citi Never Sleeps" [30].

- In recent years ATM installations have seen particularly rapid growth. For the period 1983 to 1995 ATM growth was 9.3 percent per year but the annual growth rate accelerated to 15.5 percent from 1996 to 2002. The rate of acceleration was due largely to the placement of ATMs in non-bank locations. Off-premise ATMs which accounted for about 26 percent in 1994, now account for 60 percent of total U.S. ATMs [4].

- By the early 2000's hundreds of thousands of ATM's were in operation worldwide signaling that the transition from fixed-hours banking at physical locations with live tellers to automated teller machines capable of a variety of banking uses was completed. However, ATM's were only the beginning of automated banking; the next revolution in banking would be driven by electronic commerce.

From ATM's to Smart Phone applications:

While ATM's answered the needs for "real time" 24/7 banking services like cash withdrawals, making deposits, and to some degree processing bill payments, a new level of commerce was emerging that would forever change to landscape of automated banking.

- English entrepreneur Michael Aldrich invented online shopping in 1979 using modified TV technology with a simple menu-driven human–computer interface that represented a new, universally-applicable, participative communication medium - the first since the invention of the telephone (Aldrich, 1982). During the 1980's, Aldrich designed, manufactured, sold, and maintained and supported many online shopping systems, using videotex technology [31]. The videotex systems that were installed mostly by large corporations in the UK also provided voice response and handprint processing. Videotex technology pre-dated the IBM PC, and Microsoft MS-DOS, and the Internet and the World Wide Web [32]. Later called e-commerce, Aldrich's definition of the new mass communications medium was fundamentally different from the traditional in that it was "participative" (interactive and many-to-many), making the videotex technology a precursor to social networking on the Internet 25 years later [33]. Aldrich launched videotex technology as Redifon's Office Revolution, which allowed consumers and suppliers through on-line corporate systems to complete business transactions electronically in real-time [32]. However, the first World Wide Web server and browser, created by Tim Berners-Lee in 1990, did not open for commercial and consumer use until 1991 [34]. Thereafter, a subsequent flurry of technological Internet-based browser innovations emerged in 1994: the opening of an online pizza shop by Pizza Hut [32], Netscape's SSL v2 encryption standard for secure data transfer, and Intershop's first online shopping system, and the advent of online banking. Amazon.com launched its online shopping site in 1995 and eBay was also introduced in 1995 [34].

- From the late 1990's up to the present there has been a tremendous growth rate of on-line consumer commerce. Measured in terms of gross merchandise volume (GMV), Amazon and E-bay racked up 2013 sales volumes of 87.8 and 67.7 $billion, respectively. However, Chinese Internet giant Alibaba had 2013 GMV of 171 $billion, topping both US firms [35]. Thus, the concept of Internet banking has grown to fill the needs of consumers worldwide as they fulfill desires to conduct on-line commerce. As on-line consumer commerce has grown so has the level of technology to support increased sales and purchase activity, and access to banking operations to complete transactions. Today, users of on-line purchasing routinely use Smart phones and tablets in addition to PC's and laptop computers [36; 37]. Across the globe, as the rate of e-Business commerce transactions continues to escalate phenomenally, this continued growth is driving the need for mobile banking channels at a rapid rate. [38]. Additionally, the ubiquitous use of Smart phones and tablets has made consumers more familiar with mobile applications for banking services. The use of mobile banking is progressing from simple functionality like account balances and ATM locators to completing banking transactions like bill payments and account transfers. Mobile banking continues to gather momentum across the globe in developed countries, and developing countries due to the rising use of mobile technologies, e.g. tablets and Smart phones, and the constantly improving supply of mobile banking applications from banks, particularly in North America, Europe, and Australasia. [39] Channel strategy leaders at B2B and B2C firms are at the forefront of developing mobile technologies, where 94% of e-Business managers surveyed are either responsible for or involved in the planning of a mobile strategy [38]. Clearly the above trends coupled with increasing ATM operations costs, fewer transactions per ATM and the increased global Internet access, financial institution managers are faced with developing new offerings to meet consumers' needs in new markets for Internet-based services such as Internet banking.

Internet Banking

As stated earlier, electronic banking emerged from two main sources: consumers' desires to have greater banking access; and huge growth in various forms of electronic commerce — conducting banking and business transactions through electronic networks, without using written checks and other paper instruments. Internet banking, a form of electronic banking, focuses on providing banking products and services through web-based on-line browsers and bank portals. IB represents the newest and most rapidly growing banking technology in countries with developed economies. Many researchers have investigated the phenomenon of IB technology in these countries— such as USA, Canada, [40-42], Europe, United Kingdom, Finland [43-49], Australia [50-52]. However, IB is in its enfant stage in countries with developing economies like Nigeria [53; 54]; Malaysia (55-57]; Egypt [58; 59]; Jordan [19]; in Gulf countries such as Oman [60]; UAE [61; 62]; Bahrain [63]; and Saudi Arabia [64-66].

Findings of some previous research in the developing nations has revealed that the success of electronic banking in general and Internet banking in particular may hinge not only on the amount or availability of banking services or government support but also by customers' acceptance of Internet technology [66; 25; 67]. Potential IB users may not use the system even when available, due to poor perceptions of IB and/or their levels of trust and confidence in using technology to solve their banking needs [68; 66]. In addition, users' of IB services need to have Internet access and necessary hardware — a PC or tablet or Smart phone. Further, computer self-efficacy is important model factor because low self-efficacy might hinder adoption of IB in economically disadvantaged areas of developing countries where computer skills and access to the Internet are suboptimal [55; 69].

Based on the previous discussion, and adopting from the well-researched Technology Acceptance Model [e.g. 1; 70; 15; 16; 64; 59; and ETAL], the purpose of this paper is to introduce a new model to provide a fuller understanding of the factors influencing the acceptance of Internet banking among individual users. This necessarily means expanding the model to include a greater number of factors in order to test hypotheses and answer research questions about consumers' perceptions, attitudes toward, and their intentions to use Internet banking services. The new model may be especially useful in evaluating consumers' preferences in developing countries, where IB services are still considered innovations. Thus, the objectives of this research can be summarized in the following 2 statements:

- To identify the key factors from extant research that may be influential in affecting the consumers' decisions to accept IB technology and adopt (use) IB services.
- To propose a research model, which includes identified factors that can be used to test and analyze hypotheses about customers' attitudes and behavioral intentions toward using IB services.

THE NEW MODEL: CONSUMER INTERNET BANKING MODEL (CIBM)

Technology Acceptance Model (TAM)

First introduced by Davis, Bagozzi and Warshaw [1], the technology acceptance model (TAM) was soon after tested by Davis [70]. Davis' [70] purpose was to explain the effect of how users' perceptions of system characteristics influence acceptance of information systems (IS) applications. TAM has roots and was adapted from the Theory of Reasoned Action (TRA) [71] to the field of IS. TAM suggests, 'Intention to use IS' is determined by 'Perceived Usefulness' of the system which influences 'Attitude.' 'Perceived usefulness' is suggested to be directly impacted by 'perceived ease of use.' 'Attitude' has been defined by Davis [72, p. 476] as "the degree of evaluative affect that an individual associates with using the target system in his/her job." In discussing TAM, Davis [70] clarified that an individual's attitude is a kind of perceived behavioral control, where a high degree of perceived control will influence behavior intention, resulting actual behavior [73].

Perceived Usefulness

TAM is for the most part based on two user perceptions — 'Perceived usefulness' (PU) and 'Perceived ease of use' (PEOU). In constructing one's attitude toward a certain type of information system(s) both perceptions are deemed relevant. A positive 'attitude' directly affects an individual's intention to use the information system(s) (IS), adoption. Thus, 'Attitude' toward using IS is the fundamental predictor of the user's acceptance behavior — intention to use. Davis [70 p. 320] defined PU as "the degree to which a person believes that using a particular system would enhance his/her job performance". Accordingly, PU is a major factor that affects attitude toward acceptance of IS. For example, Yusoff, Muhammad, Pasah and Robert [74] found a positive relationship between students' usage of a new e-library and their perceived usefulness of the system. When applied to similar information systems, this finding could suggest that when students feel that a particular information system (IS) is perceived as useful, their resulting level of usage will be higher. In addition, Suki & Suki [75] examined the relationships between perceived usefulness (PU) and subscribers' attitudes toward and intentions to use 3G mobile services in Malaysia. These researchers found PU to have a positive effect on attitude toward and behavior intention to use 3G mobile services.

Perceived Ease of Use

Unlike PU, which is a measure of value, PEOU measures "perceived ease of use," where Davis [70, p.320] states "the degree to which a person believes that using a particular system would be free of effort". Thus, IS an application that is perceived to be easier to use than another is more likely to be accepted by users, as it will positively influence 'attitude' and subsequently 'intention to use.'

Many studies [e.g. 76-80] have demonstrated the validity of the TAM across a wide range of IS settings. The factors contributing to the acceptance and adoption (intent to use) IS are likely to vary across levels of technology, target users, and type of IS context [81]. TAM, with the previously discussed two main factors (PU and PEOU) which are considered to be fundamental to determining the acceptance (attitude toward) and adoption (intent to use) of types of IS may not fully explain the consumers' behaviour to adopt IB. The reason for this is because IB services are quite different than IS, and the characteristics of potential adopters are likely to vary more. IB enables customers from widely different backgrounds to perform banking transactions and financial activities in virtual space (real-time). Therefore, this study will present a new model (see Figure 1, CIBM) based on the original TAM model of [1] but adapted to reflect additional characteristics which may influence attitudes toward and adoption of IB services.

Consumer Internet Banking Model (CIBM) Factors

Perceived Privacy and Security

As with many applications where consumers are required to divulge personal information such as social security numbers, bank account numbers, account information like balances, and identifying transactions people of all walks of life tend to be concerned for their privacy and security. Researchers investigating Internet banking (IB) services have consciously noted the importance perceived privacy and security [82; 67; 83-85; 52; 86]. Individuals fear providing sensitive information such as financial details on the Internet, as a result of security and privacy defects and distrust of dealing less scrupulous service providers [51]. With respect to the attitude toward and adoption of IB many experts have acknowledged consumers' concerns regarding security, privacy, and trust [e.g. 87; 16; 7; 88-90]. However, in some instances users who have become experienced in the safeguards employed by many banks and commercial intuitions often cite feelings of security in conducting transactions on the Web as a major factor that reduces their concerns about the effective use of the Internet for making online purchases and other transactions [91].

Given the of paramount importance of security and privacy of paramount importance and because of paramount importance these factors may vary from person to person, using the factors of 'Perceived security' and 'Perceived privacy,' this study will use these factors to determine how variation in these perceptions may influence individuals' attitudes toward and intentions to use IB services.

Trust

While IB services have been available for some time in the developed nations, the concept is relatively new as a banking delivery service in the developing countries [5; 92]. Trust, which can emanate from factors like perceived privacy and security, is another major factor in terms of electronic channels that may influence consumers' attitudes toward and intentions to engage in banking and financial services provided over the Internet.

Mayer et al., [93] and McKnight and Chervany [94] defined trust as the customers' confidence in quality and reliability of the services offered by an organization. Additionally, lack of trust has been recognized as one of the major obstacles to the adoption and use of IB [95; 21; 96; 67]. This means trust is needed more when customers process more sensitive personal information including financial information. Therefore, the establishment of trust and confidence plays a major role when providing financial services. Suh and Hn [81] found trust to have almost the same impact on attitude as 'perceived usefulness' (PU), which they found in their research to be the strongest variable of attitude prediction. The findings of Suh and Hn study showed that trust to be a very significant determinant of 'Intention to Use' IB in South Korea. Eriksson, Kerem, and Nilsson [24] made a similar conclusion while studying the meaning of trust with Estonian private customers. In addition, Reid and Levy [97] suggested that trust is a significant factor impacting both 'perceived usefulness' and 'perceived ease-of-use' of IB in Jamaica. Thus, 'Trust,' 'Perceived Security' and 'Perceived Privacy' are proposed as key factors in the new model of IB usage as presented in the current study.

Computer Self Efficacy

Self-Efficacy theory (SET) proposed by Bandura [98] is based on cognitive learning theory, and used to explain psychological changes achieved by different treatments. In the SET model, Bandura distinguished between two main concepts related to the self-efficacy — efficacy expectations and response outcome expectations. According to Bandura [98, p. 193] efficacy expectation is "the conviction that one can successfully execute the behavior required to produce the outcome." Further, Bandura [98, p. 193] described outcome expectancy as a "person's estimate that a given behavior will lead to certain outcomes." From the SET perspective, self-efficacy is the most important precondition for behavioral change — people would change their behaviour based on their confidence in their ability to perform that behavior, and the behaviour leading to a successful outcome.

In addition, Garlin and McGuiggan [99] argued that self-efficacy is more applicable to predict consumer behavior toward products or services that involve complex decision-making. For example, the use of new technology or a new product, instances where successful consumption would require skillful performance. In relation to the adoption of new technology, many studies found that computer self-efficacy has a strong influence on the behavioral intention to use Internet banking system that has been considered as new technology especially in developing countries [91; 100].

Lin [101] found that customer's desires to have the necessary skills and computer knowledge of the Internet channel, convenience, experience, perceived accessibility and self-efficacy are key factors that influence online consumer behavior. With respect to the importance of computer skills (self-efficacy), Chung and Paynter [102] found that lack of prior skill using Internet banking inhibited consumer adoption and usage. The findings showed that consumers who did not use the Internet channel did not feel a need to use it. Additionally, Karjaluoto, Mattila, and Pento [49] and Lassar, Manolis, and Lassar [41], found that prior computer experience; prior technology experience, personal banking experience, user reference group, and computer attitudes can form consumer self-efficacy and strongly affect 'Attitude' and 'Intention to use' IB. These researchers' findings indicated that the intensity of Internet usage positively influences individuals' adoption of IB. This suggests that the more experienced in using computers and the Internet, the more likely consumers are to use IB.

While examining the impact of 'Computer Self Efficacy' on the behavioral intentions, Ariff, Min, Zakuan and Ishak [55] found high computer self-efficacy to be a positive factor in determining individuals' intentions to use the IB system. Other studies have also demonstrated that 'Computer Self-Efficacy' has strong influence on use of IB systems through their effect on 'perceived ease of use' and 'perceived usefulness' (e.g. 103-105]. Luarn and Lin [106] found that 'perceived ease of use' moderated perceived self-efficacy through observing both direct and indirect effects on intentions to adopt and use IB.

Responsiveness

Responsiveness, which is a measure of feedback time and accuracy of response, was identified as another factor influential to consumer's attitude and intention to use online services [107-110]. Responsiveness relates to the speed and effectiveness of the bank's web portal to provide information necessary for the customer to complete transactions in a timely manner. In other words, fast transaction completion and quick response to complaints have been described as responsiveness to serving customers' needs [111]. 'Responsiveness' is another factor in addition to the 'Self-Efficacy' that is related to cognitive learning theory which suggests that human behavior is based on how humans think about certain activities, events or other mental stimuli. The mental processes include a variety of activities ranging from gathering information, learning about the information, and on to problem solving using the information [112]. The point is that humans make choices that seem to make the most sense to them. Thus, much of decision making can be viewed as cognitive learning in that such decisions essentially involve finding courses of action to solve a myriad of consumption problems [112]. Accordingly, if a customer intended to use IB system and was unable to complete the transaction due to not being provided with a fast reliable response, he/she will perceive the effectiveness negatively, and this could be reason enough to reject further use of IB services. Further, responsiveness could be related to 'perceived usefulness' (PU) as customers who find the workings of Internet banking services to be responsive to processing their needs quickly and resolving their issues timely and efficiently are likely to see value in IB, or 'perceived usefulness' in on-line banking systems as well. Thus, in the CIBM (see Figure 1) a link between 'responsiveness' and 'perceived usefulness' is depicted.

In order to promote customers' positive perceptions of self-efficacy for using IB, bank managers should encourage customers to use the IB technology by providing friendly websites. Additionally, providing quick responses to customers' requests and frequently asked questions, and offering personalized assistance as needed to complete transactions in a timely manner would do much to enhance customers' self-efficacy, and lead potentially to positive IB service experiences. Because of the relationship between 'responsiveness' and 'perceived usefulness,' a factor which influences both 'attitude' toward and 'intention to use' IB services, 'responsiveness' is added as an important factor to the CIBM, see Figure 1.

Demographics

In much of the consumer behaviour research from various disciplines, including banking, the effects of customer demographic characteristics — such as age, level of education level, gender and income level have investigated. With respect to research examining consumers' attitudes toward different banking technologies and individual adoption of new technology, some studies have investigated the effects of the customers' demographic characteristics such as age, education level, gender, and income level [e.g. 27; 113; 16; 66]. Alashban and Burney [112], for example, in their study about customer adoption of tele-banking technology in Saudi Arabia, found that, the level of income and education of Saudi consumer play a vital role in their adoption and usage of tele-banking technology. Similarly, Al-Somali, Gholami and Clegg [66] found that the level of education has a significant influence on Saudi consumers to use online banking. Age was found as an important factor that influence the usage of IB, Akinci, Aksoy, and Atilgan [114] found that mid-aged Turkey consumers are more likely than younger or older consumers to use Internet banking. In relation to the gender differences, Lichtenstin and Williamson [51] found that Male perceptions of IB convenience is associated with high levels of accessibility and Internet self-efficacy, while for women, 24/7 home access may be important. Based on this background, this study also will consider 'Age', 'Education', 'Gender', and 'Income' to have influence on the consumer attitude toward the intention to use the IB service. Thus, in the present study which is investigating consumers' attitudes toward different, sometimes new services, and how individuals adopt new technologies demographic factors may offer some explanations.

From the discussion above and based on the review of the literature surrounding the factors which could predict consumers' attitudes toward and their intentions to use IB services, the current study introduces a new model adapted in part from the TAM [1], the Consumer Internet Banking Model (CIBM) shown in Figure 1. This new model suggests 'Computer self-efficacy' will have a direct influence on the 'Perceived Ease of Use' factor. Also, that 'Trust', 'Perceived Privacy', 'Perceived Security' and 'Responsiveness' will influence consumers' attitudes toward IB services. Further, that 'Responsiveness' will also influence consumers' 'Perceived Usefulness.' In addition, the demographic factors, 'Age', 'Education', 'Gender' and 'Income' are expected to influence consumers' 'attitudes', which in turn influences their 'intentions to use' IB services. The following figure presents the proposed Consumer Internet Banking Model (CIBM)

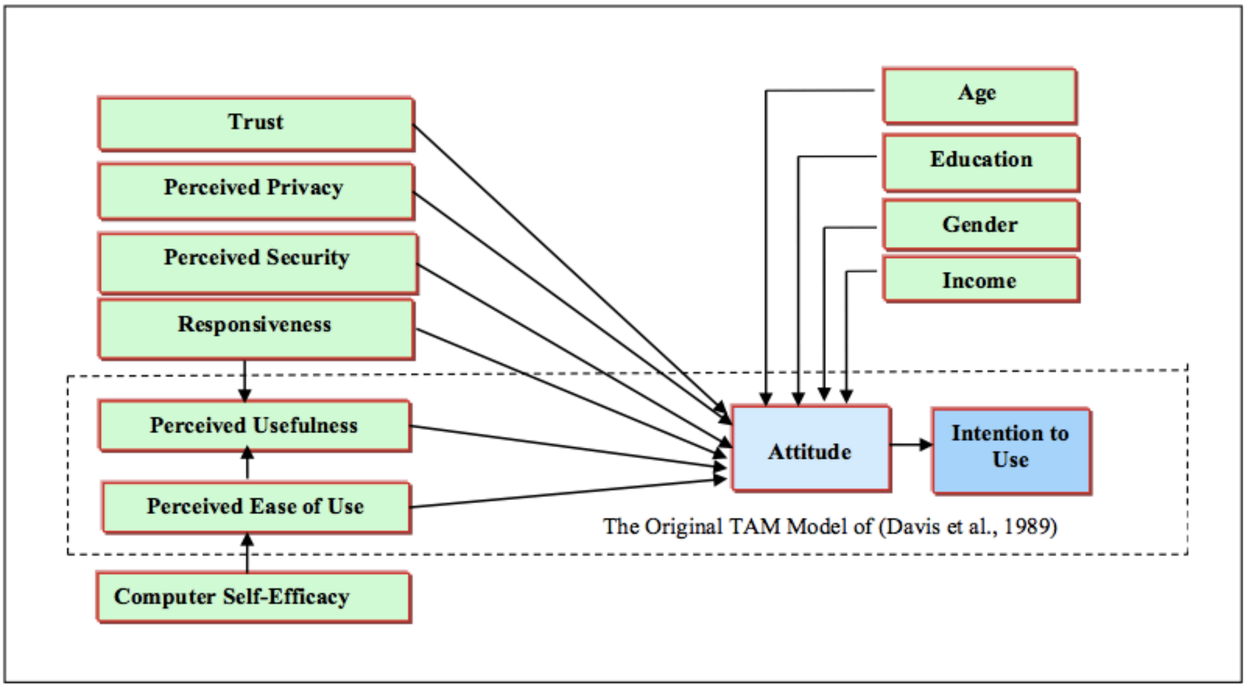

Figure 1: Consumer Internet Banking Model (CIBM)

MANAGERIAL IMPLICATIONS AND FUTURE RESEARCH

Managerial Implications

The goal of this paper was to review the extant literature to identify factors that can be used to test customers' attitudes toward and intentions to use Internet banking (IB) services. In the process a new research model is proposed which may help researchers and others predict how consumers' decide to adopt IB. In order to stay abreast of the recent market changes in the banking industry, banks must compete with others to attract customers; realizing customers are looking for the best banking services available. Rising trends in E-commerce should assure a steady flow of customers who will demand access to Internet and mobile banking services. Increasing the number of satisfied the IB users, is one way for bank managers to succeed. To attract and maintain customers, banks will have to invest in technologies and make key improvements that further the goals of mobile and Internet banking. Some changes will come in terms of hardware and software designed to improve channel accessibility. The hardware could involve banks increasing the effectiveness of on-line portals. In addition, banks and other business institutions will need to develop consumer-friendly software applications that customize mobile banking service channels stressing ease of use and perceived usefulness. Other improvements will be needed in the form of communications to assuage consumers who are reluctant to use IB services due to a lack of trust and because of suboptimal perceptions relative to privacy and security. While the prevalence of the use of mobile technology will certainly fuel the growth in E-commerce, and drive the need for mobile applications for Internet banking, consumers will have options from which to pick IB service providers. Thus, it is incumbent upon bank managers to bundle their firm's Internet and mobile banking services in ways to maximize addressing consumer wants and needs. Thus, understanding the key factors that influence consumers' attitudes toward and intentions to use IB systems is essential. This may be especially challenging for bank managers in the developing countries, where Internet and mobile banking services are still considered new innovations.

Future Research

As introduced in the present study, Consumer Internet Banking Model (CIBM) lays open many areas for research centered on understanding the behavioral motivations for consumers to adopt Internet banking services. Because of the personal importance of financial issues and disclosure, future research should investigate how trust, privacy and security factors affect consumers' attitudes toward and intentions to use IB services. Additionally, studies in the developing countries could focus on these factors influence computer self-efficacy and perceived responsiveness, factors which could be determinants of ease of use and perceived usefulness. Further, researchers could investigate contrasts of the CIBM factors in terms of developed versus developing nations. On a more regional scale, some researchers could explore differences between populations of consumers in similar regions of developed or developing countries. Future research will be needed in order to test hypotheses based on the factors identified in the CIBM with respect to specific issues regarding the acceptance of and intention to use the e-banking services overall and Internet banking in particular. Also, in future studies, the CIBM could be used to analyze consumer comparisons between different banking services, such as user preferences for Internet banking versus mobile banking. In summary, the framework of the Consumer Internet Banking Model (CIBM) presented has opened the research landscape to a wide range of opportunities.

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Archives of Business Research – Vol.2, No.2
Publication Date: April 30, 2014
DOI: 10.14738/abr.22.54
Zouaoui, R., Desbordes, M. and Dekhil, F. (2014). The effectiveness of sports sponsorship in term of brand value: A case of a soccer match in Tunisia, *Archives of Business Research, 2*(2), 47-57

The Effectiveness of Sports Sponsorship in Term Of Brand Value: A Case of A Soccer Match in Tunisia

Rim Zouaoui
PHD and researcher of Sports Management
Faculty of Sciences, Orsay- UFR STAPS. Research Unit Sport, (SPOTS)
Faculty of Economics and Management of Tunis (FSEG) - Research unit (ERMA)
rym.zouaoui@gmail.com

Michel Desbordes
Professor of Sport Management
Faculty of Sciences, Orsay- UFR STAPS - Research Unit, (SPOTS)

Fawzi Dekhil
Professor of marketing
Faculty of Economics and Management of Tunis (FSEG) - Research unit (ERMA)

ABSTRACT
Firms are progressively engaging themselves in sponsoring initiatives and reinforcing actions to attract their targets. This paper proposes to unravel how sports sponsoring is concretely implemented by Tunisian firms by examining its impact on consumer behavior especially brand value. Our study empirically uses a questionnaire administered to 389 attendees of the Tunisia/Malawi soccer game qualifying for the 2012 Olympic Games. Our results indicate that aspects of brand equity produce value for consumers particularly increasing trust. Also, firms benefit from developing purchasing intention for sports sponsoring brand.

Key words: Sponsoring, brand equity, sports events, purchasing intention.

INTRODUCTION

Different authors gave diverse definitions of sponsorship. Majority of them have some similarities and majority of them place accent on the relationship advantage between an organisation and the sponsored object that sponsorship offers. Mullin, Hardy and Sutton (2007) define a sponsorship as 'the acquisition of rights to affiliate or directly associate with a product or event for the purpose of deriving benefits related to that affiliation or association. The sponsor then uses this relationship to achieve its promotional objectives or to facilitate and support its broader marketing objectives'. Shank regards it as ''investing in a sports entity (athlete, league, team or event) to support the overall organisational objectives, marketing and promotional strategies'' (Shank 2009).

We can say that sponsorship is an investment, in cash or in kind, in return for access to exploitable business potential associated with an event. Little research has addressed consumer responses to sponsorship from attitudinal and emotional perspectives. According to Yue , Des & Kishore (2014) 'Sponsorship is often used to create an emotional bond with consumers, improve brand image and awareness and create competitive advantage'.

Sponsorship also has become a popular way for firms to promote their brands. It is one of the fastest-growing communication tools (Witcher et al, 1991). More companies choose to sponsor sports events and pay tens of millions of dollars because soccer games for instance help reach an important part of the target population.

Sponsorship in Tunisia is currently taking a new turn, as some companies are engaging in sponsoring more sports activities. Sport is the primary focus of Tunisian sponsorship. This activity is a significant marketing investment for sponsoring companies. Since 1996, Tunisian sport has become a real social phenomenon and sports clubs, in particular football/soccer clubs. These latter have established themselves as real economic and business entities. They become professional, draining money through transferring and sponsoring players, and also offering TV rights. This paper studies the effect of sport sponsorship on consumer behavior to brands and thereafter, the value of sponsoring the brand. The results indicate that sport sponsorship has increasingly become an important mechanism among other communication tools. Our quantitative study has been conducted on a sample of 389 people attending a soccer game, using questionnaires.

This study has the advantage of being conducted during a real Tunisian soccer event and of measuring the spontaneous reactions of spectators. Our study indicated that Tunisian brand equity and its dimensions (reputation, fidelity, brand image and situational implication) was affected by the sponsoring brand, producing value for the spectators of the "Tunisia/Malawi" soccer game qualifying for the 2012 Olympic Games. The dimensions positively influenced value of the sponsoring brand, as measured by trust and satisfaction.

To retain customers, Tunisian firms are more and more concerned with the value of their brands. This is mainly because of the considerable and increasing number of competitors over the Tunisian market in addition to the changing behaviour of consumers. To uphold these constraints, each firm tends to establish a "long-term" and tight relationship with their customers and moves from a simple transactional framework to a relational one as part of a relational marketing strategy. It is thanks to brands that firms reach to create this link and develop this affective relationship with customers (Kapferer, 2005). These proposals led us to examine in depth the notion of "brand", in particular major Tunisian sponsoring brands of sports events, by studying its impact on consumer behaviour in view of promoting their values. Tunisian firms understood that through sports sponsoring they can reach their objectives. Whether sponsoring athletes, sports teams or events, the expectations are the same. Firms grew aware that they should increase their value and improve their brand image to increase their profits and gain market share (Tribou, 2004). Sponsoring is a communication tool serving marketing policies and communication strategies as important as it may influence the affective relationship between sponsoring brand and consumers. Function-wise, consumers may be confused, as they are in a direct relationship with the product and the brand. Like most countries, Tunisian sports teams, mainly football, became real economic and business institutions, draining money through transferring players, marketing rights coming from sponsors and media coverage rights, notably TVs.

The question of our research is: **what are the effects of sports sponsorship on the value of a sponsoring Tunisian brand?**

we can divide the problem into sub-questions, the first is: Does sponsorship have any impact on brand value? and the second is: Does sponsorship have recall and persuasion effect on consumers?

Sponsorship of events in particular can be especially effective as a marketing tool, in fact our study opts for a sponsoring brand of a sports event (our field of study), knowing that such events are assumed to be the fastest marketing communication tool, as suggested by Roy and Cornwell (2003). In this paper, we focus on the concept "brand equity" from a consumer perspective, a concept which is similar to brand value according to Czellar and Denis (2002) and whose measurement should take into account the relationship between the product and the brand. Several studies (Srinivasan 1979, Farquhar 1990, Aaker 1991, Kapferer 1998, Keller 1993, Swait et al. 1993, Yoo et al. 2000, Yoo and Donthu 2001) put a focus on two approaches to explain brand equity. One approach relies on the firm dealing with brand equity as a financial and stock market value and another approach which relies on consumers' perception.

Our objective in this paper is to use the second approach which deals with Tunisian consumers' perception of a sponsoring brand value. It was cognitive psychology which considered the notion of value to analyse consumers' cognitive processes. Farquhar (1990) divides the first operationalization of brand equity into two groups. The first includes consumers' perception (brand reputation, brand associations, perceived quality) and the second includes consumer behavior (brand fidelity, willingness to pay a higher price). The essential value of a brand often retains the set of traits that characterize its image (Aaker and Lendrevie, 1994). Associations to the brand take a central position in consumers' imagination and finally in brand equity evaluation. Strong brands trigger images, effects or even "affection" towards the firm. Managing brand image is then a process of conserving firm identity, differentiating itself from competition, giving more sense to a product or guaranteeing a certain quality to a product (Clifton, 2009). Brand image insures better reputation for a firm by making it known by the public. This is what we try to show in our empirical study. First, we will present the theories which inspired our study as well as our research hypotheses. Next, we define our field of study, sampling plan and data collection method. Finally, we proceed to interpreting our results.

Brand equity, Return on Investment: The proposed model

Sponsorship is a two method communally beneficial partnership between an event being sponsored and the sponsor. However, it is rather unclear how the effectiveness of event market activities can be calculated. As mentioned earlier, approach to sports sponsorship can be divided into two studies stream. One is the consumer psychology approach which incorporates effect of sports sponsorship in terms of consumers' awareness, recognition, and behavioural intentions. So, Consumer psychological approach to sports sponsorship has fixed on consumers' cognitive and affective reply. The other approach focuses on grasping the potential contribution of sports sponsorship to positive or negative changes in stock price. The effect of sponsorship on firm value in the stock market can be investigated in financial perspective.

In this study, we will consider the following variables: reputation, fidelity, brand image and impact on consumers' attitude, with this latter being defined as consumers' orientation towards the product or the brand (Engel et al., 1990 cited in Michel, 1997). Moreover, attitudes towards the sponsor are more favourable when consumers are involved (Levin et al., 2001). This assumption allows us to claim that spectators unconditionally follow the event and their favourite teams. Sponsoring events that appeal to their market are likely to shape buying attitudes and help generate a positive reaction. Consequently, we retain the hypothesis of a complete dependence of the three attitudinal components. The hypothesis feeds the models of hierarchy of effects presented by Lavidge and Steiner (1961), from the cognitive (beliefs) to the affective (attitude) then to the connotative (intention). Then, we will examine the impact of reputation, fidelity towards the brand, brand image and the implication of consumers' towards the sponsoring brand. We want to know consumers' reaction to the brand, in a well determined environment which is that of a sports event. Then we formulate the following hypothesis:

H1: Brand equity of a sponsoring brand positively influences Tunisian consumers' attitude during a sports event.

H1-a: Reputation significantly and positively influences consumers' attitude.

H1-b: Fidelity significantly and positively influences consumers' attitude.

H1-c: Brand image significantly and positively influences consumers' attitude.

H1-d: Situational implication significantly and positively influences consumers' attitude.

As for the attitude-purchasing intention link, it has been shown, in Fishben's reasoned action theory (1967), that intention to act remains a behaviour index that is more important than attitude itself. Chanavat et al. (2009) used hierarchy of effects theory in a context of sports sponsoring. These theories endorse the link between attitude (affective) and purchasing intention (connotative). Our study aims at examining this link, hence our hypothesis.

H2: Tunisian consumers' attitude towards the sponsoring brand influences their purchasing intention.

According to some empirical studies, brand equity produces value for consumers. This value has been discussed in cognitive psychology research and studies on consumers' cognitive processes (Keller, 1993, Krishnan, 1996, Changeur and Dano, 1998, Yoo et al, 2000, Yoo and Donthu, 2001). For Aaker (1991), efficiently managing brand equity needs knowing how this value is created. Then, to understand its sources, it is necessary to choose the perception approach needed to measure brand value for consumers (Raggio and Leone, 2006). In this paper, we check whether brand equity components may create satisfaction during the use of a sponsoring brand in a sports event and trust towards the sponsoring brand. Aaker (1994) confirmed this in his brand approach. Accordingly, we adopt that very approach to study a sponsoring brand in a sports event. This led us to formulate our hypothesis

H3: The dimensions (reputation, fidelity, brand image and situational implication) of brand equity create value of a sponsoring brand in Tunisia.

H3-a: Brand equity significantly and positively influences Tunisian consumers' satisfaction during use of a sponsoring brand. We will proceed dimension-wise and see whether each factor significantly and positively influences satisfaction.

H3-b: Brand equity significantly and positively influences Tunisian consumers' trust towards a sponsoring brand (the same procedure like for satisfaction).
Our model then highlights interaction between the following eight variables:

Simple and multiple linear regressions are used to test our hypotheses. We used measurement scales presented by the previous theories. Each of these scales, called also dimensions, consists of 5 point likert scales. To measure *brand reputation*, which is a variable measured by brand recall and recognition as suggested by Keller (1993), we used the items 6, scale developed by Krishnan (1996) and Yoo et *al.*, (2000), (Cronbach alpha 0,979; variance analysis 90,533).

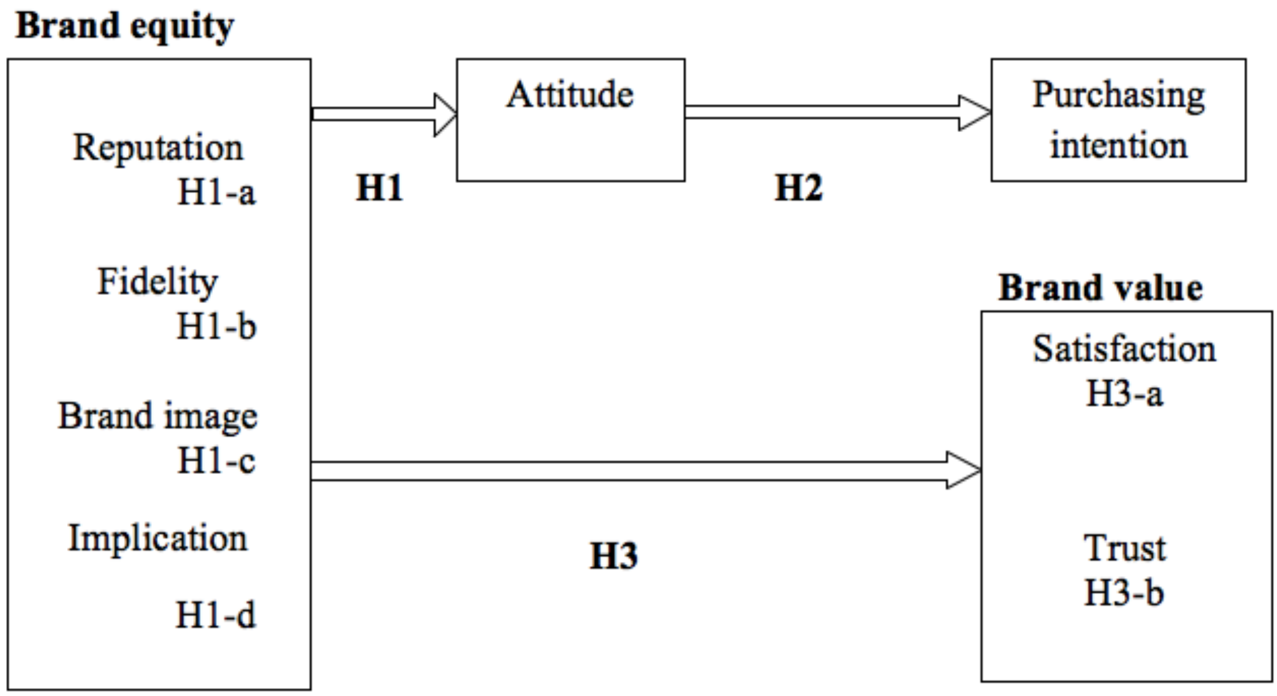

Figure 1- Proposed Model

Brand image is measured by associations to the brand (Keller 1993), which seem to us particularly appropriate to reflect richness of the variable. To measure this variable, we used the items 11 which 3 dimensions: competitiveness, interest charged and hedonism, scale validated by Didellon-Carsana, (1997) (Cronbach alpha 0,921; variance analysis 93,619). To measure *situational implication* we used the Relevance-Interest-Attraction (RIA) items 6, scale validated by Strazzieri (1994), (Cronbach alpha 0,938; variance analysis 77,839). As for *attitude*, we used the items 5, scale of Derbaix and Pecheux (1999), (Cronbach alpha 0,883; variance analysis 68,991). The scale used to measure *purchasing intention* is that of Ajzen (1991) which consists of three items, (Cronbach alpha 0,823; variance analysis 76,070). To precise the scale of fidelity by Yoo and al. (2000) comporting items 8, (Cronbach alpha 0,965; variance analysis 81,804).

Trust is measured by the items 7, scale of Doney and Cannon (1997). Finally, we used the items 4, scale proposed by Dubé and Menon (1998) to measure *satisfaction*.

A questionnaire was administered during a football game between Tunisia/Malawi, qualifying for the 2012 Olympic Games, to a convenience sample of 389 spectators. A team of 15 researchers and one supervisor were involved in the data collection at the Stadium doors, handing a questionnaire to every 5 spectators. The questionnaires were distributed at the beginning of the half-time period and collected before the start of the second half. Five hundred questionnaires were distributed and 389 were returned for a response rate of 77%.The chosen sponsor is mineral water brand "Sabrine". The beverage sector is the most present sector in the Tunisian sports sponsoring, because of a natural relationship between athletes and drinks and because these products are particularly substitutable. We opted for this product because "Sabrine" is the only sponsor of the Olympic team and which belongs to a mass consumption product category.

After administering the questionnaire, we checked the thoroughness and coherence of all administered questionnaires with respondents before moving to the codification phase. Then, for the statistical analysis, we used the SPSS 18.0 software. Finally, we undertook the three stages of scale purification, reliability analysis and regression analysis.

DISCUSSION AND RESULTS

In order to test the six hypotheses, regression analyses were used. As a reminder, Participants rated the items using a five-point Likert scale anchored by Strongly Disagree (1) and Strongly Agree (5). This latter scheme is the most used format to probe opinions (Descriptive Statistics of the Scales)

Table 1: Unidimensionality and Reliability Test

	Reputation	Fidelity	Image	Implication	Attitude	Intention	Trust	Satisfaction
% of variance	90,533	81,804	93,619	77,839	68,991	76,070	*	65,586
Scale reliability	0,979	0,965	0,921	0,938	0,883	0,823		0,518
KMO	0,906	0,769	0,5	0,599	0,613	0,654	0,653	0,707
Bartlett's sphericity test	0,000	0,000	0,000	0,000	0,000	0,000	0.000	0,000

Factor analysis of all measures, except trust, is undertaken on items, extracting one factor which explains a high proportion of variance. Trust has been divided into three components. A Principal Component Analysis (PCA) provided us with a 3-factor solution which explains more than 88,817% of variance. KMO obtained values indicate a psychometric integrity between items. It seems that the items score coefficients greater than 0,5 (acceptance threshold). All dimensions of the scale score good homogeneity estimates as indicated by Cronbach's Alpha reliability index. All of Bartlett's sphericity tests are statistically significant. After having tested and validated the measurement scales of our variables, we proceeded to testing our research hypotheses about the effects of the different independent variables on the dependent variable (testing hypotheses H1, H2 and H3). We use simple and multiple linear regressions to test our 3 hypotheses.

Testing H1:

Brand equity of a sponsoring brand positively influences Tunisian consumers' attitude during a sports event.

In the first analysis; attitude was used as the dependent variable and the four attitudinal constructs (reputation, fidelity, brand image and situational implication) were included as the independent variables.

H1-a: Referring to the sum of squares and mean squares presented by SPSS, the F-statistic is 418,215 is significant at p= 0,000 < 0,0005. The likelihood of obtaining an F of this size at random is inferior to 0,05 %. The F test indicates significance equal to 0,000 which is below the critical threshold. We therefore can generalise the results on our population confirming the obtained factorial structure.

H1-b: R is 0,902 indicating that data is fit to the model. The coefficient of determination R^2 is 0,813, which indicates that the proportion of dependent variance (y) explained by the regression, i.e. attitude in our model. We can conclude that reputation, fidelity, brand image and situational implication explain 81,3% of variance in Tunisian consumers' attitude towards the sponsor "Sabrine".

H1-c: In our model, R^2 is high which explains that the model has a high explanatory power.

H1-d: The Beta coefficient allows us to compare the contribution of each variable as it is a regression coefficient put into a standard scale between -1 et + 1. Reputation variable is the most determining as its Beta value is 0,989 and its variables have a positive effect on attitude.

The t-test should have a value greater than 1,96 to be significant. By observing the outputs of the impact of the independent variables (reputation, fidelity, brand image and situational implication) on the dependent variable (attitude), all variables confirm statistical significance as it is below 5%.

Therefore, through these outputs and interpretation, we can validate H1-a, H1-b, H1-c and H1-d. The model is generally significant.

Testing H2:
Tunisian consumers' attitude towards the sponsoring brand influences their purchasing intention.

Simple Regression Analysis for Purchase Intention as dependent variable to explain the attitude. The coefficient of determination R^2 is 0,752. Then, the model's predictive quality is very good, as 75,2 % of the variance in purchasing intention may be predicted by consumers' attitude. The regression shows that the dimension "attitude" positively and significantly influences purchasing intention as the value of T-student is 34,222. This dimension explains 86,7 % of the variance in purchasing intention, hence H2 is confirmed.

Testing H3: The dimensions (reputation, fidelity, brand image and situational implication) of brand equity create value of a sponsoring brand in Tunisia.

In the third analysis; satisfaction and trust were used as the dependent variable and the elements of brand equity (reputation, fidelity, brand image and situational implication) were included as the independent variables.

H3-a: To test H3-a et H3-b, we proceed by a multiple linear regression. The model is statistically significant as the value of Fisher F is 845,486 and a significance level equal to zero.

H3-b: Coefficient of determination R^2 is 0,729. Therefore, the model's predictive quality is very good as 72,9% of variance in satisfaction may be predicted by the variables of brand equity.

H3-c: The regression analysis shows that the dimensions "reputation" and "fidelity" significantly and positively influence spectators' satisfaction with the sponsoring brand with a significance level below the critical threshold. Only the variable "brand image" is non-significant and therefore could not influence Tunisian consumers' satisfaction with the brand 'Sabrine'. H3-a is partially confirmed. The model is statistically significant as Fisher F = 855,368 with a significance level equal to zero.

H3-d: The model's predictive quality is very good as 89,9% of the variance in trust may be predicted by the variables of brand equity. Whatever the position of the trust dimension, the variables of brand equity significantly influence consumers' trust of the sponsoring brand. H3-b is confirmed. As H3-a is partially confirmed and H3-b is confirmed, we cannot validate H3 in its entirety. It is partially validated. Table 2 below reports a summary of our hypotheses testing.

Table 2: The Results

Hypotheses	Results	
	Accepted	Rejected
H1-a: Reputation significantly and positively influences consumers' attitude.	X	
H1-b: Fidelity significantly and positively influences consumers' attitude.	X	
H1-c: Brand image significantly and positively influences consumers' attitude.	X	
H1-d: Situational implication significantly and positively influences consumers 'attitude.	X	
H1- Brand equity significantly and positively influences consumers' attitude.	X	
H2- Consumers' attitude towards the sponsoring brand influences their purchasing intention.	X	
H3-a: Brand equity significantly and positively influences Tunisian consumers' satisfaction with the sponsoring brand.	Partially	
H3-b: Brand equity significantly and positively influences Tunisian consumers' trust of the sponsoring brand.	X	
H3- The dimensions of brand equity create value of a sponsoring brand in Tunisia.	Partially	

The significant and consistent involvement of sponsorship in predicting all sponsorship outcomes is the most striking finding. This factor has not been widely used as a predictor of sponsorship outcomes (Madrigal, 2001). Consumers who perceive sponsorship as an activity that increases or contributes to the commercialization of sports are less likely to develop positive responses toward the sponsor. As previously discussed, sponsorship has traditionally been seen as a favorable activity for consumers because it involves benefits for society (Meenaghan, 2001).

CONCLUSION

The current study was conducted in the context of a soccer event, which had a qualifying the bests association to Olympic Games in London. The results should be validated by studies conducted in different settings and sports. It appears that sponsorship is an effective form of marketing communication, and one that compares favourably to traditional television advertising.

Considering brand equity, this latter should help brand managers knowing their values in view of taking the strategic decisions on managing sponsoring brands. The present study provide confirmation that reputation, fidelity, brand image and situational implication toward the sport event, about sponsorship have value in sponsoring brand. Our hypotheses are validated. Brand equity significantly and positively influences trust, yet it is not significant on Tunisian consumers' satisfaction with the sponsoring brand "Sabrine". Our paper replicates in part previous conclusions. Sponsorship allows sponsors to benefit from improving evaluation of and beliefs about their brands (which was indicated by the questionnaire on brand reputation, fidelity, brand image and situational implication), provided that the relationship between the sponsor and the event is valued. Moreover, we notice that an increasing number of spectators expressed their willingness to purchase the sponsoring brand. Investing in sponsorship is in great proportion justified. It is important however to notice that sponsorship bears not only on associations with the event but also on all communication and investments used by the firm to increase returns of sponsoring (Cornwell and Maignan, 1998). Therefore, sports sponsorship seems to give supremacy to the sponsoring brand “Sabrine”. According to Harvey (2001), sponsors’ products are perceived as better, which increases purchasing intention and real purchasing decisions. We showed that a sports sponsoring action is able to change attitudes towards the sponsor, mainly because of a cognitive transfer mechanism. Spectators of a sponsored event associate more favourable beliefs to the brand “Sabrine”. Sponsorship is efficient in changing beliefs about the sponsor. Consumers’ attitude is not only useful but it also rests on representations and symbols that the products carry (Desbordes, Ohl and Tribou, 2001). This paper indicates also that evaluation of a Tunisian sponsoring brand, and the same is true for purchasing intentions, change by a sponsorship action. Consumers-based brand equity is multidimensional. This result replicates Aker’s conceptualisation (Aaker, 1994) who presented brand equity as a set of different dimensions. These latter dimensions positively influence value of the sponsoring brand equity for consumers particularly increasing trust. This paper leads us to close that managers need to consider the mechanisms through which consumers can become more involved with events (Yue , Des & Kishore, 2014). Some answers were certainly delivered, yet it suffers from a number of limitations that need further scrutiny. For instance, it was difficult to administer the questionnaire just before the game as spectators were focused on the game. Consequently, out of the 500 scheduled questionnaires, we were able to collect 389. Fortunately, we were able to mobilise young Olympics (15) to help us carry out the administration task (it was not obvious to find such an available number of interviewers in a fragile security period, after few months of the Jasmine Revolution). Finally, future studies could investigate more antecedents of sponsorship outcomes. It has, for example, been suggested that sponsorship knowledge can be an important antecedent of sponsorship outcomes (Roy & Cornwell, 2003). A possible other future implication of this study concerns managers. It can help brand managers devise a measurement tool that allows them to measure sponsoring of their brands in order to improve their positioning and their marketing actions (marketing-mix). We can also carry out a dynamic analysis (before-after event). It could be interesting to accomplish a cross cultural study in another time.

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