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Government Public Policy of Mexico and Entrepreneurship What can Mexican Government do for Enhancing Entrepreneurship in Mexico?

By José G & Vargas-Hernández
Administrative Sciences Universidad of Guadalajara

Abstract - The literature existing on entrepreneurship implicitly assumes that entrepreneurship and government and economic growth are positively related with each other and there is a positive correlation among them. However, few studies, whether theoretical or empirical, analyze such relation in an explicit manner. This paper aims to study the entrepreneurship notion and the barriers of entrepreneurship and mainly the role of government in enhancing entrepreneurship in the society.

Keywords : Entrepreneurship, Government, Small and Medium Enterprises (SMEs).

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Abstract - The literature existing on entrepreneurship implicitly assumes that entrepreneurship and government and economic growth are positively related with each other and there is a positive correlation among them. However, few studies, whether theoretical or empirical, analyze such relation in an explicit manner. This paper aims to study the entrepreneurship notion and the barriers of entrepreneurship and mainly the role of government in enhancing entrepreneurship in the society.

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I. Introduction

Consider the developed countries; one sees so much wealth, so much beauty, high ways that are landscaped, and so many extra ordinary developments. This is something people see everywhere in developed economies. However, this is something not seen in most other places. There are about six billion people in the world. One billion people come from developed countries like North America, Western Europe, Japan , and perhaps four other Asian ''tiger s.'' But the majority of people are not in that situation. The other five billion come from what is typically called the developing world, or the Third World, and the former Soviet Union countries.

Until a few years ago, most of these countries were really following other systems rather than the capitalist system. That has all changed since the fall of the Berlin W all. Even Deng Xiaoping in 1978 started marching in a different direction in China when he said, ''It doesn't matter what color a cat is, as long as it catches mice.'' In the developing world, we've all begun to change, we've all been trying to get our macroeconomic systems in place, we've all been making sure that we have fiscal balance, and we've all been making surethat wedon't issue toomuch currency. We are all trying to get our account balances in order, especially since the fall of the Berlin Wall (De Soto, 2006). Entrepreneurship is a factor that can change the economic equations of any country. And can engage lots of people as employee or self employed.

Entrepreneurship is of primary interest for organization studies because it does not take the existence of organizations for granted but allows for the study and explanation of how organizations come into existence, either as individual new firms or as new industries, and to emphasize that organizations always need to develop new products and services and to innovate in order to perpetuate their existence. This paper first studies the entrepreneurship notion and the importance of entrepreneurship in the society, also example of entrepreneurship in the society and Entrepreneurship barriers in the Society, Government Role in Developing Education and training for entrepreneurship, SMEs Conditions in Mexico, Saudi, Switzerland and also Government's role in entrepreneurship and Subsection Parts of Government Should Do for Enhancing Entrepreneurship come in details.

II. Definition of Entrepreneurship

Bob Reiss, successful entrepreneur and author of *Low-Risk, High-Reward: Starting and Growing Your Small Business With Minimal Risk*, says: "Entrepreneurship is the recognition and pursuit of opportunity without regard to the resources you currently control, with confidence that you can succeed, with the flexibility to change course as necessary, and with the will to rebound from setbacks"(Hupalo, 2007).

A key factor in Reiss's definition is that entrepreneurs undertake opportunities regardless of the resources the entrepreneur currently controls. I've known many people who say they'd love to start a business, but they just don't have the money to get started. Neither did many of history's greatest entrepreneurs like Michael Dell, who started his computer company in his college dorm room or Lillian Vernon, who started her mail-order business when she was a housewife looking for extra

Author's α σ : Research Professor Member of the National System of Researchers. Department of Marketing and International Business Graduate Center of Economic and Administrative Sciences Universidad of Guadalajara. Peripherals Building 799 North G-306 Zapopan C.P. 45 100, Mexico. E-mails : josevargas@cucea.udg.mx, jgvh0811@yahoo.com, jvargas2006@gmail.com
Author σ : M.B.A;Ph.D.

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income. These successful entrepreneurs didn't start rich and successful. They ended rich and successful.

Entrepreneurs find ways to acquire the resources they need to achieve their goals. One of those resources is capital. "Entrepreneurial" is often associated with venturesome or creative. They should be creative in acquiring the resources they need to build and grow their business. They think outside the box and they'll improve their chances of acquiring what they need to succeed (Hupalo, 2007).

Linda Pinson, author of much of the SBA's material about writing a business plan and creator of business plan software (business-plan.com) says: "I have always thought of an entrepreneur as a person who starts a business to follow a vision, to make money, and to be the master of his/her own soul (both financially and spiritually). Inherent in the venture is the risk of what the future may bring. Therefore, I believe that an essential key to success is that the entrepreneur also be an "educated" risk taker.... "

The concept of entrepreneurship has a wide range of meanings. On the one extreme an entrepreneur is a person of very high aptitude who pioneers change, possessing characteristics found in only a very small fraction of the population. On the other extreme of definitions, anyone who wants to work for himself or herself is considered to be an entrepreneur (Hupalo, 2007).

Another definition of entrepreneurship is the assumption of risk and responsibility in designing and implementing a business strategy or starting a business (Investor words, 2006).

Also according to business dictionary, entrepreneurship is the capacity and willingness to undertake conception, organization, and management of a productive venture with all attendant risks, while seeking profit as a reward. In economics, entrepreneurship is regarded as a factor of production together with land, labor, natural resources, and capital. Entrepreneurial spirit is characterized by innovation and risk-taking, and an essential component of a nation's ability to succeed in an ever changing and more competitive global marketplace (business dictionary, 2009).

III. Entrepreneurship

Within the field of entrepreneurship studies, it is debated whether the creation of new combinations requires the creation of a new organization or if it is also made possible through innovation in existing organization. William Gartner sees entrepreneurship as the study of the creation of organizations or so-called new venture creation. He conceives entrepreneurship as organizational emergence and hence shifts the focus from the individual entrepreneur to the more complex process of how organizations are created through the interplay of four perspectives: characteristics of the individuals who start the venture, the organization that they create, the environment surrounding the new venture, and the process by which the new venture is started. Historically, entrepreneurship has been reduced to characteristics of the entrepreneurs, trying to identify personality features and cognitive abilities to distinguish entrepreneurs from other people, such as managers. However, there is no empirical support that can identify such discriminating personality characteristics or cognitive styles. Gartner therefore suggests studying the behaviors and activities that lead to the creation of a new organization (Steyaert, 2007)..

Shane and Venkataraman refocus entrepreneurship beyond the creation of new organizations as they emphasize opportunity recognition and exploitation and as they leave it open whether opportunities are exploited through creating a new venture or through changing an existing organization. Entrepreneurship is seen as an activity that involves the discovery, evaluation, and exploitation of opportunities to introduce new goods, services, and ways of organizing, as well as new markets, processes, and raw materials through organizing efforts that previously had not existed. Simultaneously, the focus on individuals and their actions is reintroduced as entrepreneurship becomes explained through the nexus of enterprising individuals and valuable opportunities (Steyaert, 2007).

IV. A Glance to Entrepreneurship in Mexico

Mexico's economy is one of the most open in the world and, has the largest number of free trade agreements. Mexico has built a network of free trade agreements with 32 countries and the most important of these agreements are with the world's largest markets, such as NAFTA, the agreement with the European Union, an agreement with Japan, and other agreements with South and Central America. This has put Mexico in ninth place in the world in terms of the size of its economy, and seventh place in terms of the size of the balance of trade. This sustained progress has built an atmosphere of competition, conducive to innovation and undergoing constant improvement. This sustained progress (of the last two years) has allowed for better planned regulations that enables more assured long-term planning (Mexican Entrepreneurship, 2009).

Entrepreneurship abounds in Mexico but is concentrated among low risk, low value added endeavors that require minimum investments of capital. Due to economic realities, people are relatively unable to leave existing employment to pursue high-value ventures. Due to the dearth of risk capital, they select opportunities that can be tested quickly and have relatively high success probabilities and modest up-side potential with quick positive cash flow. Also, non-

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transparent business practices in these ventures make them unattractive to risk-averse investors. Also, the lack of high quality, timely information on markets, demographics, competitors, prices and costs hampers the growth of entrepreneurs. The quality of financial systems, venture capital, education and legal system needed to support entrepreneurship lack in Mexico. The Government permits and licenses needed to start a company are a major hurdle to most entrepreneurs in Mexico (Mexican Entrepreneurship, 2009).

V. Entrepreneurship Challenges in Mexico

According to Febre and Smith, 2003, entrepreneurship challenges comes as below:

1. Entrepreneurship abounds in Mexico but is concentrated among low-risk, low value- added endeavors that require minimum investments of capital.
2. The challenge in Mexico is to motivate and enable people to pursue higher value- added entrepreneurship.
3. The high-value-added high-growth economic sectors that attract entrepreneurial effort in Mexico are likely to be different than they are in the U.S.
4. Entrepreneurial opportunities and resources with which to pursue new venture opportunities are different in Mexico than in the U.S.
5. Because few people in Mexico have significant personal savings, most are compelled to find re-employment quickly, and may be forced into positions that do not fully exploit their capabilities. This problem is aggravated in Mexico by the fact that most families are one-earner families
6. People in Mexico are relatively unable to leave existing employment to pursue high-value-added entrepreneurial ventures.
7. Because they often lack significant retirement savings, face uncertain and volatile employment markets, and lack liquidity, prospective entrepreneurs in Mexico tend to select opportunities that can be tested quickly and that have relatively high success probabilities and only modest up-side potential.
8. The dearth of risk capital in Mexico discourages entrepreneurial effort and shifts the focus of entrepreneurial effort toward low-risk ventures that can be cash flow- positive quickly.
9. The dearth of risk capital in Mexico reduces incentives of entrepreneurs to build and document performance track records and provide the transparency that is demanded by providers of risk capital.
10. Opportunities to evade taxes and other regulations in Mexico motivate entrepreneurs to adopt non-transparent business practices, making them unattractive to risk-capital investors.
11. Opportunities for investing risk capital in established businesses exist mainly among medium and large enterprises and some segment of small and micro businesses.
12. Entrepreneurial efforts in Mexico are impeded by lack of highly disaggregated high-quality, timely information on markets, demographics, competitors, prices, and costs.
13. Mexico's information disadvantage in high-technology innovation is one reason that successful research and development efforts are rarely commercialized.
14. Lack of education relevant to entrepreneurship is an important cause of business failure in Mexico.
15. The high levels of time and expense that are required to legally initiate a business discourage prospective entrepreneurs in Mexico (Fabre & Smith, 2003, p.3).

According to The Global Entrepreneurship Monitor (GEM)[1] report (GEM, 2002) about Mexico in 2002 finds that 18% of Mexicans are involved in entrepreneur activities, the highest number of any of the 29 countries covered in the study of International Research Study in 2002. They rank second worldwide in "opportunity' entrepreneurship and fourth in "necessity" entrepreneurship. Also according to the latest GEM in 2009 the figure below shows the Economies (Efficiency Driven and Innovation Driven Economies) in Mexico.

[1]GEM; is a not-for-profit academic research consortium that has as its goal making high quality information on global entrepreneurial activity readily available to as wide an audience as possible and also the largest single study of entrepreneurial activity in the world. Which is initiated in 1999 with 10 countries and in 2009 conducted research in 54 countries

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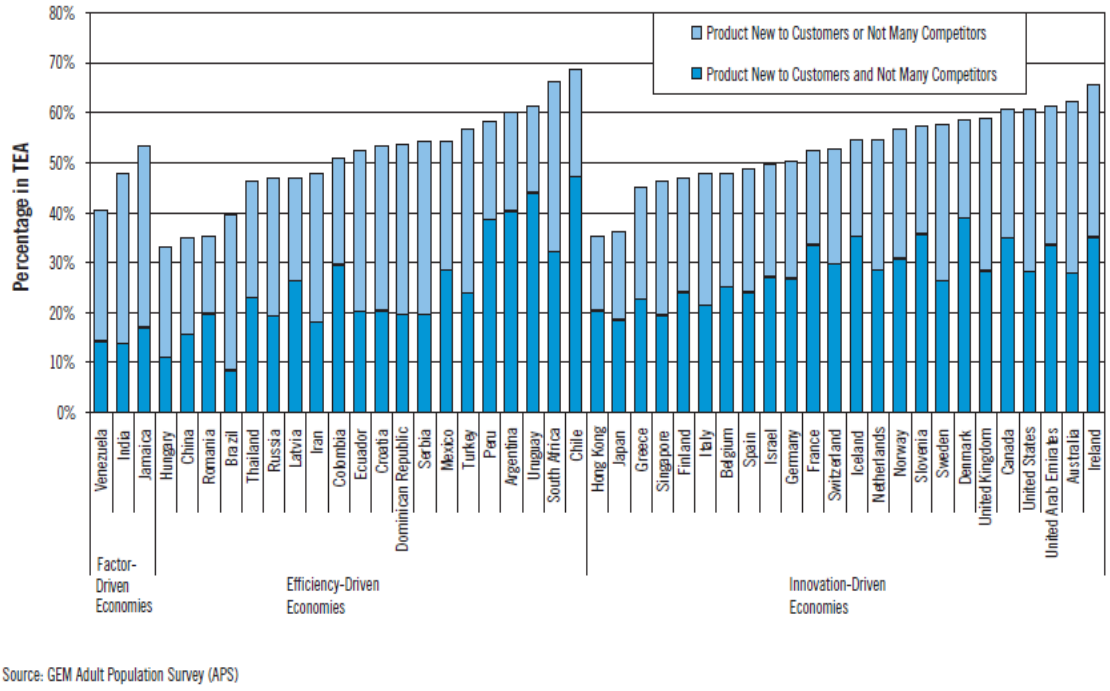
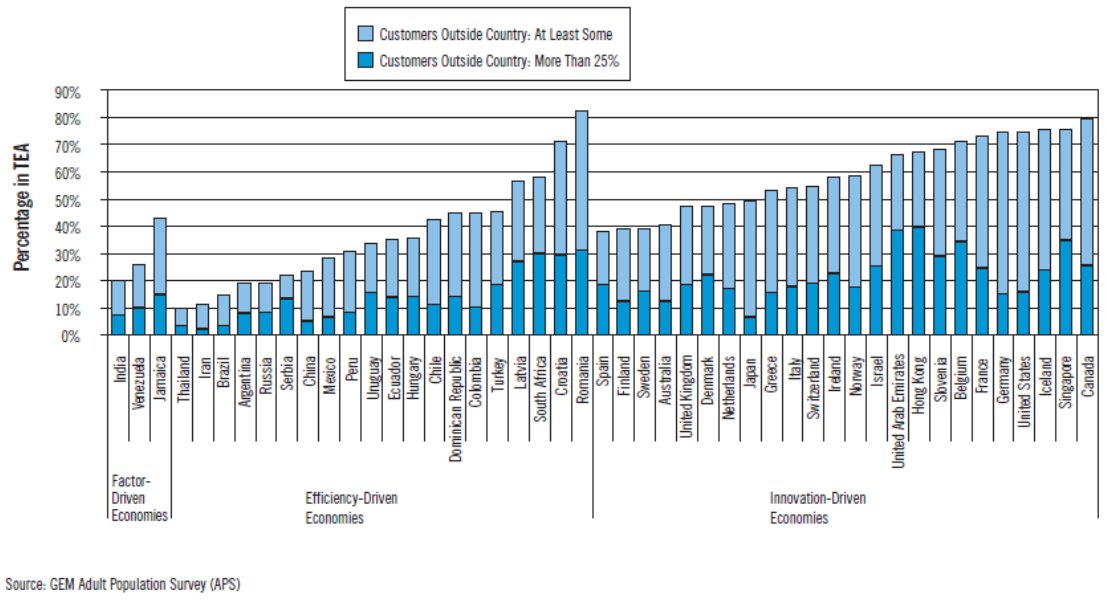
Figure 1 : Percentage of Early-Stage Entrepreneurial Activity with New Products or New Markets, 2004-2009



Source : GEM, 2009, p.29.

About the other entrepreneurship information for Mexico, the important information which can be considered very important is the percentage of early-stage entrepreneurs with international Orientation. Figure below shows entrepreneurship in international Orientation during 2004-2009.

Figure 2 : Percentage of Early-Stage Entrepreneurs with International Orientation, 2004-2009



Source : GEM, 2009, p.30

The above figure shows that the economy of Mexico is Efficiency-Driven and its scale is increasing. And this information can be important for understanding international orientation of entrepreneurship in Mexico.

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VI. Government Role in Developing Education and Training For Entrepreneurship

In order to nurture entrepreneurial spirit from an early age, there will be a need to impart Knowledge about business, particularly at secondary and university levels, to encourage Entrepreneurial initiatives by youngsters and to develop training programs for small enterprises.

a) Cheaper and faster start-up

Company start-ups will become cheaper and faster, particularly through the use of online registration.

b) Better legislation and regulation

There will be a reduction in the negative impact of national bankruptcy laws and new regulations on small enterprises. It will be made easier for small enterprises to use administrative documents and they will not have to apply certain regulatory obligations.

c) Availability of skills

Training institutions will deliver skills adapted to the needs of small enterprises and will provide lifelong training and consultancy (Šunje, 2006).

d) Improving online access

Public administrations will be urged to develop online services for their dealings with enterprises.

e) Getting more out of the single market

The Member States and the European Commission will complete the single market so that enterprises can derive the maximum benefit from it. At the same time, national and Community competition rules will have to be vigorously applied (Šunje, 2006).

f) Taxation and financial matters

Tax systems will need to make life easier for enterprises. Access to finance (risk capital, structural funds) will need to be improved (Šunje, 2006).

g) Strengthening the technological capacity of small enterprises

Efforts will be made to promote new technologies, implement the Community patent and facilitate access to research programs which are more focused on commercial applications. Inter-firm cooperation and cooperation with higher education institutions and research centers will be encouraged (Šunje, 2006).

h) Successful e-business models and top-class small business support

Enterprises will be encouraged to adopt best practices. Business support services will be developed (Šunje, 2006).

i) Develop stronger, more effective representation of SMEs' interests at Union and national level

Solutions aimed at representing small enterprises within the Member States and the European Union will be reviewed. National and Community policies will be better coordinated and evaluations will be carried out with a view to improving the performance of small enterprises.

An annual report on the implementation of the Charter will appear in the spring of each year (Šunje, 2006).

VII. Government's Role in Entrepreneurship

It is obvious that, encouraging entrepreneurship is an absolutely essential role of any government concerned with the future economic health of their country. It is no surprise to see a strong correlation between economic growth and the ease of doing business in a country. This is not a statement about political systems. It has been seen that non-democratic governments are sometimes even more successful at understanding the power of capitalism; look at Singapore and what is happening in China, Vietnam, etc.

With the mobility of people and ideas today, countries need to compete for commerce. Why would anyone choose to set up a business in Brazil where it takes 18 bureaucratic steps and 152 days to get the company officially registered if they had the option to incorporate in Canada where it takes only 1 step and is completed in 1 day? Why set up a company in France when you will be financially punished to the point of bankruptcy if you need to fire someone? Why doing business in the Middle East is really difficult. Of course not all ideas and people are as mobile as others. Even so, bureaucracy, corruption, labor laws, etc. are all inhibiting entrepreneurship and thus standards of living across the globe.

In the interest of their domestic economies, politicians must take an active role in making the reforms needed to help fuel entrepreneurship (The Good Entrepreneur, 2008).

VIII. What Should Government do for Enhancing Society's Entrepreneurship

a) Education and Training

Education is a deciding factor in shaping the life, furthering the values people wish to preserve and maintaining the success of the economy. Access to education and training are keys to fostering an entrepreneurial spirit. Professional and lifestyle choices are strongly influenced by socialization processes in which schooling plays an important role. It should be

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note that for women, entrepreneurship and start-up companies to remain constantly innovative, independent and creative thinking should be supported (Entrepreneurship,2006).

i. *Subsection Parts of Government Should Do for Enhancing Entrepreneurship*:

1. Draw up educational curricula for all levels of schooling that offer equal opportunities for boys and girls in selected fields of study, particularly in the technology field and in entrepreneurship.
2. Encourage the private and public sectors to establish mentor programs for citizens to introduce them to the intricacies and challenges of starting and running a business, to equip them with the skills to solve problems, and to play an ongoing advisory role.
3. Encourage and support financial literacy programs.
4. Ensure that all receive education in a language that can be applied to international business.
5. Consider reserving a certain percentage of E-MBA program enrolment.

b) Social Recognition

Stringent social traditions and cultural values routinely impede opportunities for entrepreneurship. Moreover, in many countries, women bear the double burden of professional and household responsibilities, which often constitute a barrier to women's entrepreneurship and affect their business performance

i. *Subsection Parts of Government Should Do for Enhancing Entrepreneurship:*

1. Create a healthy environment in which citizen's creativity, risk-taking and economic independence is valued and encouraged.
2. Provide women equal access to occupations traditionally held by males.
3. Establish incentive mechanisms to encourage people to put their business ideas into practice by ensuring that they receive benefits including childcare assistance, healthcare, and legal protections.
4. Host events and competitions that support innovative ideas and business plans, creating incentives for women to execute their entrepreneurial visions.
5. Recognize the invaluable contributions that women-owned businesses provide in the form of business and services to their local economies such as by providing tax incentives, procurement opportunities and sponsorship of local-level campaigns promoting women's entrepreneurship.
6. Access to Technology Advancements in technology, particularly in information and communication technologies (ICTs.); have introduced new opportunities that fundamentally alter the way business is conducted globally. However, in many economies women face serious obstacles in accessing new ICTs due to inequalities in education and training often resulting in a gender imbalance within different industries.

ii. *Subsection Parts of Government Should Do for Enhancing entrepreneurship:*

1. Support access to Internet technology for entrepreneurs.
2. Provide access and encourage entrepreneurs to use Information and Communications Technologies to improve technical skills and knowledge.
3. Foster the utilization of on-line training programs for entrepreneurs.
4. Endorse entrepreneurs' optimal use of the Internet to harness e-commerce possibilities while reducing sales, marketing and purchasing expenses.
5. Promote online databases and portals to gather and share entrepreneurs' knowledge and expertise with others.

Access to the Market Vital to the growth of entrepreneurship and start-up companies is entrepreneurs" access to the market. This access can be obtained by leveraging the collective power of consumers. In order to do this, however, women must be able to identify what their respective markets are, who makes up their customer base and to then create demand for their products and services. Without equal opportunity to access both national and international markets, businesses will not be able to sustain continued expansion and competitiveness.

iii. *Subsection Parts of Government Should Do for Enhancing entrepreneurship*:

1. Identify potential strategic alliances between government, business and academia and enhance and support entrepreneurship.
2. Ensure that women-owned businesses have equal access to bidding for government contracts and establish government goals for women businesses in the award of these contracts.
3. Promote tradeshows for entrepreneurs as a means to gain broader access to the marketplace.

Financial Support Obtaining funding remains a major challenge to women entrepreneurs who hope to start their own businesses. This challenge results from a lack of awareness of financing possibilities and gender discrimination on the part of financial intermediaries and institutions. It is particularly important to consider the availability of private sources of funding and additional services when assessing the appropriate role of government in the provision of debt and equity capital.

iv. *Subsection Parts of Government Should Do for Enhancing entrepreneurship*:

1. Integrate technical and money management skill requirements into financial assistance programs.

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2. Establish government policies and programs, and support organizations, that offer funding and other resources for women-owned, small and medium and micro-enterprises.
3. Encourage entrepreneurs to build their business credit histories to better position themselves for loan opportunities.

c) Policy and Legal

Infrastructure In this era of globalization, alignment must exist between those tasked with policy formulation and the subordinate agencies and departments charged with the day-to-day execution of that policy. Legal mechanisms must also be in place to enforce policies that discourage gender discrimination and that protect women entrepreneurs' abilities to establish and grow their businesses. *Subsection Parts of Government Should Do for Enhancing*

d) Entrepreneurship:

1. Ensure that there is policy tailored for micro-enterprises and the self-employed.
2. Establish and strengthen non-governmental organizations (NGOs) and non-profit organizations (NPOs) that serve as intermediaries between business and government.
3. Establish and maintain a statistics database on women-owned businesses that includes a record of their past performance in order to measure women's contributions to economic

i. *Practical Suggestions for Mexican Government for enhancing Entrepreneurship*

According to Febre and Smith, 2003, there are a lot to do for a Mexico to do for enhancing entrepreneurship but the most practical ones comes below:

1. Mexico government should be refocused more on high value-added growth opportunities of existing SMEs and less on encouraging formation of new start-up businesses.
2. Efforts to foster entrepreneurship of high-value-added start-ups should be refocused more on non-high-technology opportunities and less on high-technology innovations.
3. Publicly supported efforts to foster high-technology innovation should be refocused, at an early stage, on potential for commercialization of the innovation, offset by inability of the private sector to act without public support.
4. Government entities in Mexico need to continue to support creation of risk capital funds, but can have greater impact on private investment in risk capital by improving and focusing their investment discipline.
5. Efforts to foster entrepreneurship in Mexico should include attention to enhancing and fostering development of new exit opportunities for early-stage investors in entrepreneurial ventures.
6. Efforts to foster entrepreneurship in Mexico should include developing more effective ways for individual investors in Mexico to participate in risk capital investing.
7. Education is an important input to developing Mexico's entrepreneurial culture. Universities and other educational institutions need to be encouraged through self- interest to develop relevant educational opportunities and to pursue research that is valuable to entrepreneurship and risk capital investing.
8. Efforts to foster the entrepreneurial culture of Mexico should include assessment of the kinds of advisory services that are critical to new venture success and should determine the areas where private service providers can be relied on and the areas where public support is necessary to bring about the availability of essential advisory services.
9. Efforts to foster the entrepreneurial culture of Mexico should include a comprehensive review of the infrastructure (broadly defined) that enables and supports entrepreneurial activity and risk capital investment. Where feasible, elements of the infrastructure should be introduced or modified to be more supportive or less obstructive (Fabre & Smith, 2003, p.3).

IX. Conclusions

Because Mexican formed SMEs are good enough to exist so Efforts to foster entrepreneurship should be planed.

As entrepreneurship is not solely seen as connected to economic progress but is more and more related to society, other studies have examined how entrepreneurship affects practices of living and everyday life. New organizations—through the new entrepreneurial products and services and the new combinations they produce—have a strong impact on how people's lives take form and how major aspects of society become transformed. From the automobile to the mobile phone, from the pencil to the personal computer, each of these new devices has had enormous implications for how transport, communication, writing, and work have been produced and practiced (Steyaert, 2007). During the process of entrepreneurship the role of government is really vital so the governors should apply such strategies that can foster entrepreneurship ability and talents among people in the society to lead in economic development of the society.

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Financial Reporting Risk Assessment and Audit Pricing

By Halil Paino
Universiti Teknologi MARA Pahang, Malaysia

Abstract - Financial statement fraud cases misled users such as investors and creditors. Therefore, the main objective of this study is to identify the association between five ratios of financial reporting risks to predict fraud. Consequently, this study also investigates the impacts of fraud detection on audit fee. Thus, sample of 10 of fraudulent companies and sample of 40 non fraudulent companies are being identified to achieve the objective. Stepwise logistic regression was being employed. The results clearly indicate that changes in sales, receivables and allowance for doubtful debts have significant effect of fraud detection. However, fraud detection gives no or little impact on audit fees.

GJMBR-A Classification : FOR Code :150102 JEL Code : M41, M42

FINANCIAL REPORTING RISK ASSESSMENT AND AUDIT PRICING

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Financial Reporting Risk Assessment and Audit Pricing

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Abstract - Financial statement fraud cases misled users such as investors and creditors. Therefore, the main objective of this study is to identify the association between five ratios of financial reporting risks to predict fraud. Consequently, this study also investigates the impacts of fraud detection on audit fee. Thus, sample of 10 of fraudulent companies and sample of 40 non fraudulent companies are being identified to achieve the objective. Stepwise logistic regression was being employed. The results clearly indicate that changes in sales, receivables and allowance for doubtful debts have significant effect of fraud detection. However, fraud detection gives no or little impact on audit fees.

I. Introduction

An epidemic of white-collar crimes in the last few years in Malaysia has often induced questions on the role of an auditor in detecting financial abnormality that leads to financial statements fraud. According to Gomes (2010), the ignorance towards auditors' role is one of the main reasons why fraud exists and it continues to grow. Thus, auditor should provide a comprehensive risk assessment which includes designing audit procedures that would assist in detecting fraud and errors that are material to the financial statements. However, despite these efforts, results have shown that auditor still fails to detect corporate irregularities that led to financial statement fraud.

In a survey made by KPMG in 2009 on financial statement fraud, the result shows that only 8% (out of 31% fraudulent financial statement cases) were detected by external auditors. As auditors plays an important role to provide reliable opinion especially in the cases of fraudulent financial statement, a strong and effective audit framework needs to be established. To do this, a detailed preparation by the auditor that encompasses comprehensive audit procedures and thorough risk assessment is essential in order to enable them to detect fraud. This task however could be very time consuming as upon any abnormalities found, additional audit testing is required in order to collect audit evidence. This translates to additional extensive audit procedure that would attract more cost to the auditor and subsequently, a higher audit fee.

Malaysia Institute of Accountants (MIA) provides a guideline on charging fees to client. The fees are dependent on audit skills and knowledge required; and time occupied for such work. However, some auditors believe that audit fees in Malaysia are comparatively low against other countries in the region (Teck and Azam, 2008). In relation to the issue, this paper serves to investigate whether there is a relationship between audit fees and financial reporting risks and fraud.

This paper aims to provide Audit Committee a new proposal on audit fee derivation that integrates financial reporting risk as fraud detection mechanism. Failure to standardize audit pricing would lead to price war between the auditing firms in Malaysia which consequently results to poor audit quality. This would severely impact auditor reputation as they would be blamed for the client's fraud.

II. Research Questions &Objectives

A statistic states that a reduction in value of share price can attain approximately 500 to 1,000 times to the amount of the fraud (Gomes, 2010). In relation to KPMG Malaysia fraud survey in 2009, 61% of respondents believed that the fraudulent attempt for Malaysian business is set to increase over the next two years, which is substantially higher as compared to 44% in 2004 survey. Thus, audit committees are expected to assess more on financial reporting risk as one of the audit framework in fraud detection to maintain audit quality. Audit quality is highly critical to gain public confidence in audited financial statements.

The pioneer researcher on the determinants of audit fee suggests that, auditors will charge clients a premium to compensate themselves for the increase in client risk. Accordingly, other recent researchers such as Choi et al. (2008) and Messier et al. (2008) empirically proved that audit fee increases in line with the company's risk. Thus, the issue here is whether low audit fees acts as the main factor of increasing financial reporting fraud cases in Malaysia. For example, by referring to the case of Transmile Group Bhd in year 2005 and 2006 where the audit fees charged by Deloitte KassimChan were RM73,000 and RM150,000 as compared to their revenues RM356,379,000 and RM655,831,000 respectively. Whereas in 2007 when KPMG took over the audit assignments, the audit fees increased to RM280,000, while the revenue dropped to RM616,227,000. In fact, Transmile Group Bhd was caught overstating its revenue by RM622 million during

Author : PhD. Wan MardyatulMiza Wan Tahir. Accounting Research Institute, UniversitiTeknologi MARA Pahang, Malaysia.
E-mail : halil@pahang.uitm.edu.my

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the years (The Star, 2007). This is clearly an evident that low audit fees charged to a company would result to "hidden" fraudulent case despite that they fall into the high risk category.

Therefore, this paper intends to investigate the relationship between fraud, financial reporting risk and audit fee. Thus, the research questions are:

1. Does financial reporting risk has an association to predict fraud?
2. Do financial reporting risk and audit fee predict fraud better than financial reporting risk by itself?

The objectives of this paper are as follow:

1. To investigate whether the co-relation between financial reporting risks and audit fee would assist in fraud prediction.
2. To develop model on the relationship between financial reporting risks, fraud detection and audit fee.

III. Literature Review

Malaysian fraud cases such as United U-Li Corporation Bhd, Transmile Group Bhd and Megan Media Holdings Bhd has becoming corporate polemic. However, fraud detection by auditors is a relatively rare circumstance (Harold et. al, 2010). Auditors need to be provided with clear defined procedures in auditing to help them to detect fraud. Indeed, it is expected that high financial reporting risk would leads to fraud.

a) Financial Reporting Risk and Fraud

Sun and Liu (2011) suggest that clients' high risk can force auditors to perform more effectively. Therefore, financial reporting risk should be incorporated in audit procedure and audit testing to identify "red flags" signals that lead to possibilities of fraudulent activity. In fact, there is requirement by The Malaysian Approved Standards on Auditing, AI 240 on "Fraud and Error" (MIA, 1997) and AI 400 on "Risk Assessments and Internal Control" (MIA, 1997) for the auditor to assess the risk of fraud and error during the audit of financial statements. As such, audit procedures are designed by integrating fraud risk indicators to obtain reasonable assurance that material misstatements arising from fraud and error are detected.

Risk assessments are critical because it forms as the basis of judgments in the audit process to support the overall audit opinion (Schultz et. al., 2010). Nahariah (2009) identified that risk level influences the external auditors' judgments in fraud detection because in a high risk environment, external auditors are more conscious of the possibility of fraud occurring. One of the reasons for that wary, auditor has a tendency to be sued for financial statement fraud. According to Bonner et. al.(1998), the most common type of financial reporting frauds litigation cases on auditors occur from fictitious transactions. Thus, it is time consuming to perform audit testing and audit fee charged foresee to reflect on fraudulent companies.

b) Audit Fee and Fraud

Mande and Sona (2011), found that lengthy interaction between clients and their auditors reflects high audit risk factors. However, one of the issues relates by this circumstance, audit cost is increasing in consistent with the amount of time consumed to perform substantive testing to detect material misstatement (Stanley, 2011). In fact, auditors are blamed for the higher fees charged. This will cause increasing pressure for auditors to reduce the fees as well as the related cost to conduct the audit. However, Charles et al. (2010) provides empirical evidence that audit fees will surge in response to increases in risk to detect fraud. Malaysia Institute of Accountants (MIA) provides guideline on charging fees to client. This includes duration of the assignment which will be reflected on the fees charged. Empirical evidence, for example, Hay et al. (2006), suggests that higher audit fees are associated with high risk clients. As such, audit fees expected to have an impact towards fraudulent financial statement.

IV. Research Method

a) Selection of Variables

This paper uses financial ratios and trend analysis to evaluate financial reporting risk. The selection of variables is based on empirical literature on financial statement fraud. The most common technique in the cases of fraudulent financial statement is through inflation of revenue. Consistent with Perols and Lougee (2010) research, they have found some evidence that firms are more likely to be committing fraud by overstating revenue. Methods used includes by manipulating documents and producing false report (Corner, 1988). As such, this will incurred additional account receivables of unearned sales. In addition, Beaseley (1999) found that half of fraud detected involved in understating allowance for doubtful debts. The manipulation of loopholes in accounting standards of allowance for doubtful debts are due to it is subject to judgment of estimating uncollectible debt. This type of financial statement fraud scheme relate to wrong execution of accounting principles and method for provision and measurement (Razaee, 2002). Thus, this paper includes sales, account receivables and allowance for doubtful debts variables to compute ratio of financial reporting risks.

The first ratio considering test of account receivables to sales (REC/SAL) as the ratio being applied by prior researchers such as Fanning and Cogger (1998) and Spathis (2002). The second ratio to assess risk of fraud as adopt by Green and Choi (1997) by measure allowance for doubtful debt to account receivables (AFDD/REC). Trend analysis of sales,

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account receivables and allowance for doubtful debts also widely use for fraud detection mechanism. This method being applied by Lin et al. (2003), where the ratio computed by identified the changes in the year of fraud committed and the preceding year. Finally, in order to identify the association between fraud and audit fee, the ratio of audit fee to sales (AuditFee/SAL) being applied. It is based on assumption that the work for audit testing on financial reporting risk will increase in relation to size of sales.

b) Sample and data

The sample for this study consists of companiesisted on the Bursa Malaysia that are representing by fraudulent and non-fraudulent. The list of fraudulent companies is obtained from the Malaysian Securities Commission (SC) website (www.sc.com). The record shows that there are twelve companies identified as committing fraud in its financial statement. However, GP Ocean Bhd and Ganad Corporation Bhd are excluded from the analysis due to unavailability of data, although they were discovered to commit such fraud in 2006 and 1997 respectively.

Below are the lists of the fraudulent companies and their characteristics:

Table 1 : Composition of the Sample of Fraudulent Companies

No	Companies	Industry	Size (Total Asset) RM (million)	Year of Reported Fraud
1.	Tat Sang Holdings Bhd	Manufacturing; Trading	124	2000
2.	Polymate Holdings Bhd	Property developer	364	2003
3.	United U-Li Corporation Bhd	Manufacturing	119	2004
4.	Goh Ban HuatBhd	Properties	282	2004
5.	NasionCom Holdings Bhd	Voice and Data services	263	2005
6.	Transmile Group Bhd	Air Transportation services	2,044	2005
7.	Welli Multi Corporation Bhd	Management services	247	2005
8.	Megan Media Holdings Bhd	Manufacturing	1,398	2006
9.	MEMS Technology Bhd	Product development	158	2007
10.	Satang Holdings Bhd	Consumer Product	82	2007

The fraudulent companies are then matched with nine non-fraudulent companies in the year of fraud, based on its industry and size (measured by total assets) using the same sampling method adopted by Lin et. al, (2003). This resulted to samples of 10 fraudulent companies and 40 non-fraudulent companies, which makes a final combined sample of 50 companies. The target of the sampling method is to find out which financial reporting risks factors has significant influence in fraud detection.

Financial data for the variables were taken from its annual reports. The statistical method of logistic regression analysis is selected to achieve the objectives of this study. Indeed, this method was used by Spathis (2002) in almost similar study.

a) Model development

The development of a conceptual framework was estimated using the financial ratios that relates to financial reporting risk factors. The model is presented as follows:

$$\text{Fraud} = b_0 + b_1(\text{REC/SAL}) + b_2(\text{AFDD/REC}) + b_3(\text{ChangeSAL}) + b_4(\text{ChangeREC}) + b_5(\text{ChangeAFDD}) + e$$

Where;
Fraud = 1 if Fraud discovered, 0 otherwise.
REC/SAL = Receivables/Sales
AFDD/REC= Allowance for doubtful debt/Receivables
ChangeSAL = Changes of sales from preceding year/Sales of preceding year
ChangeREC = Changes of receivables from preceding year/Receivables of preceding year
ChangeAFDD = Changes of allowance of doubtful debt from preceding year/allowance of doubtful debt of preceding year

For Model 2; the variable AuditFeeSAL was added into the Model 1 above. The audit fee was included to investigate the association of Fraud and audit fee.

Therefore, Model 2 presented as:

$$\text{Fraud} = b0 + b1(\text{REC/SAL}) + b2(\text{AFDD/REC}) + b3(\text{ChangeSAL}) + b4(\text{ChangeREC}) + b5(\text{ChangeAFDD}) + \text{AuditFeeSAL} + e$$

Where;
Fraud = 1 if Fraud discovered, 0 otherwise.
REC/SAL = Receivables/Sales
AFDD/REC=Allowance for doubtful debt/Receivables
ChangeSAL=Changes of sales from preceding year/Sales of preceding year
ChangeREC= Changes of receivables from preceding year/Receivables of preceding year

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V. Results and Discussions

a) *Univariate testing*

The univariate test was performed to identify any association between financial reporting risks ratios and audit fee in fraud detection. Table 2 indicates the mean, standard deviation and t-tests of variables for non-fraudulent companies and fraudulent companies.

Table 2 : Test difference in the Means

Variables	Mean		Standard Deviation		t-test	Sig. (two-tailed)
	Non-Fraud	Fraud	Non-Fraud	Fraud		
REC/SAL	0.2341	0.4262	0.1566	0.2683	2.222	0.051
AFDD/REC	0.0412	0.0645	0.1008	0.1645	0.645	0.520
ChangeSAL	0.0169	0.0332	0.1377	0.6685	0.645	0.535
ChangeREC	0.2155	0.4733	0.2752	0.3746	2.706	0.000
ChangeAFDD	0.1389	-0.4503	0.4107	1.0467	-1.765	0.110
AuditFeeSAL	0.0007	0.0009	0.0004	0.0009	0.399	0.698

By referring to large difference of means value of the variables, with high statistical significance ($p<0.000$), it may indicate the ratio able to detect fraud. Thus, only ChangeREC was shown as statistically significant. This explains that significant increase of account receivables from prior year may indicate high possibility of fraud. From the mean value, it shows that ChangeREC, ChangeSAL and REC/SAL of fraudulent companies are slightly higher than non fraudulent companies. This might implies, falsifying invoices to increase revenue, resulting in significant increase in account receivables of fraudulent companies. As such, fraudulent companies have higher allowance for doubtful debts relating to account receivables as compared to non fraudulent companies shown by AFDD/REC ratio. However, by referring to ChangeAFDD of fraudulent companies, it shows that allowance for doubtful debt decrease from prior year. This mightexplain that, one of the motives of thesefraudulent companies is to show high profit during that particular year. Thus, decreasing in allowance for doubtful debt will reduce the expenses, consequently, resulting higher profit of the companies. This is clearly reflected in the results ($t=-1.765$, $p<0.110$) that the fraudulent company's ability to manipulate treatment on non-cash item on financial reporting to achieve their goals. Finally, on average, audit fee charged relative to sales of fraudulent companies is higher than non fraudulent companies. This might indicate auditor consumed more time for risk assessment on these companies thus shown on the fee charged.

b) *Multivariate Testing*

In order to secure a model to identify whether there is association between financial reporting risks variables, audit fees and fraud, multivariate testing need to be performed. Thus, Model 1with 5 variables, excluding audit fee presented below:

Table 3 : Stepwise Logistic Regression (Model 1)

Independent variables Model 1 (Without Audit Fee)	Unstandardized coefficient (B)	S.E.	Sig.
ChangeSAL	4.740	1.849	0.010
ChangeREC	5.231	1.994	0.009
ChangeAFDD	-2.908	1.445	0.044
Constant	1.327	0.492	0.007
X^2	18.981		0.000
N	100		
Correctly predicted:			
Non Fraud	100%		
Fraud	30%		
Overall	93%		

Table 3 represent stepwise logistic regression result without audit fee. From the result, 100 percent of non fraud prediction was correct, while, 30 percent of fraud prediction was correct. Overall percent of correct prediction of proposed model is 93 percent. The relationship ofdependentvariables (fraud and non-fraud) and independent variables is statistically significant by referring to $x2=18.981$ ($p=0.000$).

Three financial reporting risk variables of trend analysis found significantly entered the model. The analysis representing by ChangeSAL ($b=4.740$, $p<0.010$) and ChangeREC ($b=5.231$, $p<0.009$) have positive effect. Thus, the result indicate that, a significant changes in sales and account receivables from preceding year would indicate, this company probable classified into fraudulent companies. On the other hand,

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variables of ChangeAFDD (b=-2.908, p<0.044) has significant negative effect. This mean that, changes of allowance for doubtful debt from preceding year implies that the company's probability being classified to non fraudulent companies.

The next step is Model 2 being tested using stepwise logistic regression by incorporate variable AuditfeeSAL. However, the result show that the AuditfeeSAL variable excluded from the equation. This indicates, audit fee to sales is not significant enough to predict fraud. As such, the result is not presented in this paper. Although Model 2 has no significant result, the important of Model 2 prediction will be discussed in next section.

VI. Conclusions

The objective of this paper is to identify the association of financial reporting risk, fraud and audit fee and hence, to develop a model of fraud detection. Thus, a sample consists of fraudulent and non fraudulent companies being identified. Five financial reporting risks ratio is observed from literature that believed as factors associate with fraud. As such, Model 1 shown that changes in sales, account receivables and allowance for doubtful debts have entered the model. The percentage of accuracy of the model is 93 percent. The results of this model indicate that trend analysis is important method for financial reporting fraud detection. This suggests auditors to perform audit risk assessment based on trend analysis in detecting fraud. This discussion addressed the first research question. However, Model 2 explained that audit fee is not entered into equation of the model. This result has been proven the issue of audit pricing in Malaysia. Although, on average, fraudulent companies audit fee is slightly higher than non fraudulent companies. This Model 2 addressed the second research question.

The limitations of this paper includes the sample of fraudulent companies consist of ten companies. All those companies discovered from cases in Malaysia. Thus, in future research, sampling can be acquired from Asia region financial statement fraud cases. The other alternative analysis methods, other than stepwise logistic regression, might give different result. The audit fee variable is based on assumption that the fees charged based on size of sales. As such, the changes of denominator will result different value of ratio. Noted that, basis of audit fee charge include on time allocation and skill of auditor. Thus, future research may anticipate these limitations for improvement.

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Wages and Employs for Non-Farm Agricultural Activities: One Livelihood Strategy in Nicaragua

By Carlos Alberto Zuniga González & José Luis Jaramillo Villanueva
National Autonomous University of Nicaragua

Abstract - This article analyzes the indexes for nonfarm agricultural activities, which combine agricultural activities with both employment and wage. They were made with panel data of Living Measurement Standard Survey (1993, 1998, 2001 and 2005) and they were processed with econometric model as parametric technique (Binary dependent variable model).

The indexes trend was explained by a combining between nonfarm and farming agricultural activities. In summary, as soon as the economic public policy makers apply preventive measure in the labour market, while the indexes for nonfarm agricultural activities are growing up. In fact, the small farmers use the first, second and third nonfarm employ as livelihood strategy for reducing the restrictive public policy. (Unemployment).

Keywords : Nonfarm agricultural activities, Parametric Technique, Unemployment, livelihood strategy.

GJMBR Classification : JEL Code : J43, J64, J78

WAGES AND EMPLOYS FOR NON-FARM AGRICULTURAL ACTIVITIES ONE LIVELIHOOD STRATEGY IN NICARAGUA

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Keywords : Nonfarm agricultural activities, Parametric Technique, Unemployment, livelihood strategy.

I. Introduction

Nicaragua is a prominent agricultural country, such as the 28.1 % of the GDP, the 15.9 % of the total exports, and the 42.6 % of the national employment is given by agricultural sector. The mean features of small farmers are: a) They represent the 80 % as of total farmers, while they are owner of 24 % as of total land; b) They are 80 % men and 20 % are women, c) They have only 0.02 % a basic education; d) They have 46 % title deed, 16 % without title deed, 13 % in process of legalization, and the rest other form of possession (NIID, III CENAGRO: 2001). The importance of this study is focused in explain why does Nicaragua being an agricultural country then the workers were looking for other alternatives on nonfarm agricultural activities. This problem was reflected by the migration to town, or other neighbor Central American countries and the rural household need to generate wage and employ when the public policy measure was applied.

The study used the binary dependent variable model to measure the agricultural activities and nonfarm agricultural activities when the public policies were applied over the 1993-2005 period.

The paper is structured as follows. The next section reviews the empirical studies conducted for the community of agricultural economists. Methodology is presented in Section 3, results of research are showed in section 4, and conclusion and discussion is showed in section 5.

II. Empirical Studies: RNFE and RNFW[1]

In the reviews of empirical studies we find that some studies were based in the concept of rural, non-farm agricultural, non-farm income, and non-farm employment. Others authors explain the relation between rural employ and non-farm income, the mitigation process of rural poverty, of transformation farming and livestock sector, and transformation modern rural sector. Even they discussed the trend both employ and non-farm income. They also discussed the kind difference both employ and income non-farm.

The concept ¨non-farm agricultural¨ was generated by rural farmers in secondary and tertiarysectors where RNFE and RNFW was employed and income indexed (Berdegué et al., 2000), other authors define it as derive of rural area which define the rural non-agricultural economy (RNFAE): activities and incomes. The RNAE is often defined as including all economic activities in rural areas except agriculture, livestock, hunting and fishing (Lanjouw and Lanjouw, 1997). More over ¨Non- Farm¨ is defined as being all those diverse activities associated with waged work or self-employment in work that is not agriculture but located in rural areas (David and Pearce, 2000). During period 1950 the 54 per cent was busy in agricultural activities from the rural sector of Latin America, however in 1990 only 25 per cent was in it (Milicevic, 2000). This was explained by both ruralurbanmigrations and framework change in rural labour market.

The past investigations in some countries show that RINFA is a high and increase ratio of the total rural poor household in last decade (Berdegué et al., 2000). It is a strategies livelihood[2]. The both RNFE and RNFW are part of it.

On the other hand, analysis of rural regions of the EU can point to issues of importance for the transitions economies. Outside Central Europe this studies in this field are now being undertaken, since it is recognized that in the longer term the development of the rural non-farm sector is critical factor in providing ruralemployment and income (Bleahuand Janowski,

Author α : National Autonomous University of Nicaragua, León. Livestock Campus: AgroecologyDepartment.Technology and Sciences Faculty.
E-mail.czuniga@unanleon.edu.ni,czunigagonzales@gmail.com
Author σ : Colegio de Postgraduados, Campus Puebla-México.
E-mail : jjaramil301@yahoo.es

[1] RNFE, rural non-farm employs; RNFW, Rural non-farm wage, please see the table 2 for other definitions.

[2] The concept of livelihood used in this paper is that given by Ellis (1999, p.6): " A livelihood comprises incomes in cash

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and in kind; the social relations and institutions that facilitate or constrain individual or family standards of living; and access to social and public services that contribute to the well-being of the individual or family." 2001; Breischopf and Schreider, 1999; Deichmann and Henderson, 2000; Chaplin, 2000; Sarris et al., 1999).

In countries such as Romania, where agriculture is acting as a buffer against unemploymentand hidden unemployment is widespread and increasing (Da vis and Pearce, 2000), so RNAE is important for poverty reduction.

a) Binary dependent variable model

In this class of models, authors discuss estimation methods for several qualitative and limited dependent variables models. Some software provides estimation routines for binary or ordered (probit, logit, gompit) censored or truncated (Tobit, etc.), and integer valued (count data) models.

Standard introductory discussion for the models presented in this section may be found in Greene(1997), Johnston and DiNardo (1997), and Maddala (1983). Wooldridge (1996) provides an excellent reference for quasi-likelihood methods and count models.

In this class of models, the dependent variable, y may take on only two values-y might be a dummy variable representing the occurrence of an event, or a choice between two alternatives. For example, you may be interested in modeling the employment status of each individual in your sample (whether employed or not). The individuals differ in age, educational attainment, race, marital status, and other observable characteristics, which can be denote as x. The goal is to quantify the relationship between the individual characteristic and the probability of being employed.

III. Methodology[3]

This model was used because the study is focused in the employment behavior. I was interested in modeling the employment status of each Working Economic Population (more than 10 year and less than 60 year).

In the binary dependent variable y model, the dependent variable, may take on only two values 0-1 y might be a dummy variable representing the occurrence of an event (in our case is employment), or a choice between two alternatives: employ in agricultural activities or employ in nonfarm agricultural activities. Suppose that we model the probability of observing a value of one as:

$$\Pr(y_i = 1 / x_i, \beta) = 1 - F(-x_i' \beta) \qquad (1)$$

where F is a continuous, strictly increasing function that takes a real value and returns a valueranging from zero to one. The choice of the function F determines the type of binary model. Itfollows that:

$$\Pr(y_i = 0 / x_i, \beta) = F(-x_i' \beta) \qquad (2)$$

Given such a specification, we can estimate the parameters of this model using the method of maximum likelihood. The likelihood function is given by:

$$l(\beta) = \sum_{i=0}^{n} y_i \log(1 - F(-x_i' \beta)) + (1 - y_i)\log(F(-x_i' \beta) \qquad (3)$$

The first order conditions for this likelihood are nonlinear so that obtaining parameter estimates requires an iterative solution. I use Eviews 5.1 that by default, it uses a second derivative method for iteration and computation of the covariance matrix of the parameter estimates. There are two alternative interpretations of this specification that are of interest. First, the binary model is often motivated as a latent variables specification. Suppose that there is an unobserved latent variable.

$$y_i^* = x_i' \beta + \mu_i \qquad (4)$$

whereis a random disturbance. Then the observed dependent variable is determined by whether∗ exceeds a threshold value:

$$y_i = \begin{cases} 1 & if \quad y_i^* > 0 \\ 0 & if \quad y_i^* \leq 0 \end{cases} \qquad (5)$$

In this case, the threshold is set to zero, but the choice of a threshold value is irrelevant, so long as a constant term is included in . Then:

$$\Pr(y_i = 1 / x_i, \beta) = \Pr(y_i^* > 0) = \Pr(x_i' \beta + \mu_i > 0) = 1 - F_\mu(-x_i' \beta) \qquad (6)$$

where ' is the cumulative distribution function of μ. Common models include probit (standardnormal), logit, (logistic), and gompit (extreme value) specification for the F function. In principle, the coding of the two numerical values of y is not critical since each of the binary responses only represents an event. Nevertheless, Eviews require that I code y as zero-one variable. This restriction yields a number of advantages. For one, coding the variable in this fashion implies that y = 1.

[3] See table No 1 that show exchange ratios, annual inflation, farm sample and description variable.

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$$E\left(\frac{y_i}{x_i},\beta\right) = 1 \cdot \Pr(y_i = 1/x_i,\beta) + 0 \cdot \Pr\left(y_i = \frac{0}{x_i},\beta\right) \qquad (7)$$
$$= \Pr\left(y_i = \frac{1}{x_i},\beta\right)$$

This convention provides us with a second interpretation of the binary specification as a conditional mean specification. It follows that we can write the binary model as a regression model:

$$y_i = (1 - F(-x_i,\beta) + \epsilon_i \qquad (8)$$

where ϵ_i is a residual representing the deviation of the binary y_i from its conditional mean. Then:

$$E(\epsilon_i/\, x_i,\beta) \quad = 0 \qquad (9)$$
$$Var(\epsilon_i/x_i,\beta\,) = 0 \quad F\left(-x_i^{'}\ \ \beta\right)\left(1 - F\left(-x_i^{'}\beta\right)\right).$$

As Eviews requires code dependent variable, it is coding as a zero-one. One if the farm employs working economic population in agricultural activities, zero if the farm no employs it. In the other hand, there are two groups for coding independent variable. The first group is for wage and the second is for employ. The first it is coding as salary index, the calculation for is as follows:

$$x_i \ = \sum_{k=1}^{n} \alpha_k * I_k \qquad (10)$$

Where, x_i is the monthly real wage index of each farm; α_k is the weightier of either farm or nonfarm agricultural activity "K" and finally I_k is the simple index for the farm activity "K".

The weightier by each farm activity is getting of divide it between the total farm wages in a year. It is as follow:

$$\alpha_k \ = \frac{WAGE(k)}{TOTALWAGE} \qquad (11)$$

Where, α_k is the participation of each farm activity in the total earnings; ;<=)(>) is the income of each farm activity "K"; and ?@?<A;<=) is the total wage.

The simple index of each farm activity "K" is gotten to divide the average salary between farm activities in a month during a current period and the average annual of even it in the base year (Central Bank of Nicaragua, 1994).

The data source is the household survey named Living Standard Measurement Survey (LSMS[4]) of the National Institute of Information and Development (NIID). Hence, I make the both six wage and six employ indicators (See table 1 and 2).

To estimate a binary dependent variable model, I choose third method: Probit, Logit and Gompit. For Probit:

$$\Pr(y_i = 1|x_i,\beta) = 1 - \emptyset\left(-x_i^{'}\beta\right) = \emptyset\left(x_i^{'}\beta\right) \ (12)$$

where$\emptyset$ is the cumulative distribution function of the standard normal distribution.

For Log it:

$$\Pr\,(y_1 = 1|x_i,\beta) = 1 - (e^{-x_i^{'}\beta/}\,(1 + e^{-x_i^{'}\beta}\,)) \qquad (13)$$
$$= e^{-x_i^{'}\beta/}\,(1 + e^{-x_i^{'}\beta}\,)$$

where is based upon the cumulative distribution function for the logistic distribution.

for Gompit

$$\Pr(y_i = 1|x_i,\beta) = 1 - \left(1 - \exp\left(-e^{x_i^{'}\beta}\,\right)\right) \qquad (14)$$
$$= \exp\left(-e^{x_i^{'}\beta}\,\right)$$

[4] Living Standards Measurement Survey (LSMS), is widely recognized as a leader in introducing and improving integrated household surveys in developing countries. The LSMS has been an important effort of the World Bank Development Research Group (DECRG) for more than 20 years (World Bank, 2006)

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which is based upon the CDF for the Type-1 extreme value distribution is skewed.

Table 1: Exchange rate, Annual inflation and farm sample

LSMS Years	Exchange rate C$x US	Annual Inflation (%)	Farm sample
1993	6.35	19.5	11,121
1998	11.1938	18.5	11,610
2001	13.8408	4.7	19,755
2005	17.1455	9.58	19,325

Table 2 : Coding variables of binary dependent variable model

Code	Variable	Description
WEP	y_i	Working economic population (more than 10 year and less than 60 year)
RMEA	x_1	Rural mean employ in farm agricultural activity
RMENFA	x_2	Rural mean employ in nonfarm agricultural activity
RMWAI	x_3	Rural mean wage index in farm agricultural activity
RMWNFAI	x_4	Rural mean wage index in nonfarm agricultural activity
RSEA	x_5	Rural second employ in farm agricultural activity
RSENFA	x_6	Rural second employ in nonfarm agricultural activity
RSWAI	x_7	Rural second wage index in farm agricultural activity
RSWNFAI	x_8	Rural second wage index in nonfarm agricultural activity
RTEA	x_9	Rural third employ in farm agricultural activity
RTENFA	x_{10}	Rural third employ in nonfarm agricultural activity
RTWAI	x_{11}	Rural third wage index in farm agricultural activity
RTNFAI	x_{12}	Rural third wage index in nonfarm agricultural activity

IV. Results[5]

The aim in this paper was the employment and wage status study over 1993-2005 periods, when the minimal salary was applied on the rural sector.

a) Employment

The stability of the work force scored important changes on your structure, over the period 1990-1994. It was resulting of the army reduction, conciliation plan of the country, sector public reduction through application conversion occupational plan, labour mobilization plan, and privatization enterprise process of the area people ownership. (Central Bank of Nicaragua: 1994-93)

With the discussion above mentioned, one livelihood strategies was used in Nicaragua as second and third employ in nonfarm agricultural activities, over 1993 to 2005 period,. They were RSENFAI, RTENFAI as an index of it, in contrast RMENFAI was higher than RMEA in 1993; therefore it was lower than RMEA during 1998 to 2005. The working population was employed on mean rural agricultural activity, however RSENFA (-0.78 probit, -1.62 logit and -1.59 gompit) was negative for 1993, until 2005 it reachs 1.14 probit, 1.99 logit and 2.02 gompit. So, the third nonfarm agricultural activity (RTENFA) appears as livelihood strategy. It has an increase trend. For 1993 to 2005 the ratios of them are: probit 1.08, logit 0.66, gompit0.58. (See Table No 3 and 4). A possible explication to these ratios may be the economic policy made for the government. For example: during 1998, Nicaragua had an incident as consequence of hurricane Mitch, for the next year, as a result increase the public investment in infrastructure to manage reconstruction of bridge, highway, school, center health, and household destroyed by Agricultural, construction and trade sectors were that more contribution in generation employs (82 per cent in 1999) (Central Bank of Nicaragua: 1999).

Employ showed unfavouravlebehaviour in 2001. It was caused by: a) slowing down of theactivity economic, it was reflected by fall of the GDP grown of 2.5 points less than past year, b) supply increase of labour force, and c) employ informal increased that absorbed part of unemployment hand work due to decrease activity formal sector. (Central Bank of Nicaragua: 2001)

In 2005, the generation of employ shows upper dynamism than activity economic. 107,800were the new position work, and the increase ratio was 5.5 per cent, regarding to November 2004. (Central Bank of Nicaragua: 2005)

b) Salary

The indexes for wage show a varied behavi our. The wage in nonfarm agricultural activitieshad a great weight in 1993. Therefore RMWNFAI, RSWNFAI, RTWNFAI had highest index. In fact, for 1990 the wage(s) policy was focused in deregulation of labour market, consequently it was allowance eliminated, efficiency and productivity worker gave. Hence, it was freezed wage policy and reduction public sector until

[5] See table No 3 and No 4, Fig 1-4

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1994 (Central Bank of Nicaragua: 1994). In contrast, the wage in agricultural activities is highlighted as RMWAI, RSWAI in 1998, although the RTWNFAI was exception.

For 2001, RSWNFAI was unique index in nonfarm agricultural activities. Now that during 2001, paradoxically real wage to experience a recovery of 7.8 per cent, in contrast slowing down of activity economic and the low average productivity of input work factor. Your increase is mean due by low inflation that kept up this year. The business about the minimum legal wage was made in February of this year, as result modest increase of 12 per cent in each and every one of sector economics, but the livestock and crop sector was the exception, where wages increase 22.2 per cent. This sector shows a basket cover of 47.7 per cent, if we use as reference urban basket, however it increases 112 per cent, if we use the cost basket rural. (Central Bank of Nicaragua: 2001)

For 2005, only RSWAI is an index representative of agricultural activities. However, RMWNFAI and RTWNFAI are significant of nonfarm agricultural activities. In 2005 the average national wage shows an increase of 15.5 per cent (8.8 percent in November 2004). The minimum legal wage was agreement in mayo 2005, as result increase of 16.5 per cent in construction and financial activity, and 15 per cent in rest activities. Even the commission tripartite check the rule of the coffee, so they agreement minimum legal wage to 26.6 per cent (7.9 per cent in 2004). (Central Bank of Nicaragua: 2005).

V. Conclusions and Discussion

The results evidence that employment in nonfarm agricultural activities were one livelihood strategy for rural household, where the mean employment in nonfarm agricultural activity was significant over 1993; the second employ was significant in agricultural nonfarm activity over 2005. The coefficients seem steady and significant for probit, logit and gompit estimation.

Regarding the wages indexes the situation is similar. The mean, second and third wage were innonfarm agricultural activities and they had a great weigh over the period studied. The indexes are similar for logit, probit and gompit estimation.

The results were consistent with the public policy data when they had reduced the employ and wage for rural sector, the economic population increase your respective employ and wage in second and third nonfarm agricultural activities, as show the table 2 results.

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Table 3 : Coefficients estimates of employ and wage in farm and nonfarm agricultural activities, 1993-2005.

Variables/Years	1993			1998			2001			2005		
(x_i)	Probit	Logit	Gompit	Probit	Logit	Gompit	Probit	Logi	Gompit	Probit	Logit	Gompit
RMEA	1.470089	2.572856	2.601692	1.401132	2.417625	245989	0.893810	1.472855	1.559175	1.338052	2.329083	2.371879
RMENFA	1.590444	2.830206	2.851500	1.270763	2.094005	2.060985	0.689232	1.128349	1.252336	0.493499	0.907164	0.911871
RMWAI	-1.716324	-2.920215	-2.548186	965001.2	2060463.	1785737.	137.7747	325.2256	325.2384	-2.471437	-3902101	-3.066340
RMWNFAI	170.1269	389.2862	383.9317	522.1413	1319.606	1286.728	120.2782	215.4956	199.7701	896.1124	2501936	2482.696
RSEA	-0.061770	-0.154385	-0.284389	-0.157594	-0.299777	-0.285047	0.297087	0.569033	0.562859	0.315907	0693121	0.680798
RSENFA	-0.784211	-1.620323	-1.591615	0.122382	0.244378	0.251436	0.053983	0.064857	0.064110	1.135830	1998564	2.026668
RSWAI	2.359666	5.244134	5.256745	162.2619	347.2373	346.6919	2.934938	5.730237	6.308347	2.586968	5.8383 55	6.038833
RSWNFAI	5.528641	8.441955	6.526376	97.08692	218.1989	212.7193	6.250066	13.27814	13.31218	-0.241149	-0374830	-0.344859
RTEA	0.155647	0.363882	0.503238	-0.102967	-0.171747	0.220778	0.614111	1.062746	1.130650	0.926361	1.8507 69	1.918796
RTENFA	0.509797	1.216886	1.318508	-0.104218	-0.169276	0.164376	0.520787	0.923015	1.041407	1.063946	2.019247	2.076700
RTWAI	0.308129	0.565867	0.352063	27.55524	86.88574	168.0323	47.11100	104.3217	104.1752	0.000799	0.0036 48	0.003356
RTWNFAI	2.621199	3.339305	14.50571	12343.91	47555.44	50129.27	-11.56483	-17.89829	-10.92828	509.4517	1140.684	1115.716

Source : Panel data from LSMS of 1993, 1998, 2001 and 2005.

Table 4 : Technical coefficients.

Coefficients	1993			1998			2001			2005		
	Probit	Logit	Gompit	Probit	Logit	Gompit	Probit	Logit	Gompit	Probit	Logit	Gompit
Mean dependent variable	0.616298	0.616298	0.616298	0.591239	0.591239	0.591239	0.647978	0.647978	0.647978	0.692419	0.692419	0.692419
Akaike info criterion	1.122964	1.122749	1.164596	1.152923	1.152452	1.174950	1.186226	1.185690	1.246194	0.994323	0.992295	1.042500
Schwarz criterion	1.130861	1.130646	1.172493	1.161239	1.160858	1.183356	1.194352	1.193816	1.254320	0.999210	0-997181	1.0447386
Hannan-Quinn criterion	1.125623	1.125408	1.167255	1.155764	1.155293	1.177791	1.188967	1.188431	1.248935	0.995925	0.993896	1.044101
Obs with Dep=0	4266	4266	4266	4227	4227	4227	3786	3786	3786	5944	5944	5944
Obs with Dep=1	6852	6852	6852	6114	6114	6114	6969	6969	6969	13381	13381	13381
Total obs	11118	11118	11118	10341	10341	10341	10755	10755	10755	19325	19325	19325

Source : Panel data from LSMS of 1993, 1998, 2001 and 2005.

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Figure 1 : Employ indexes 1993-2005.

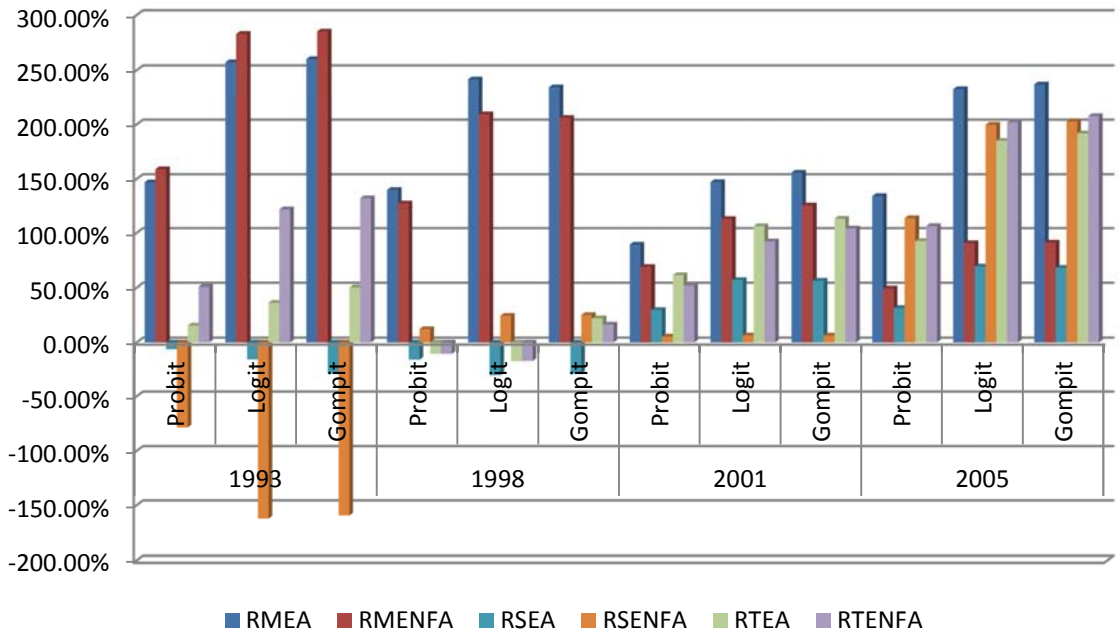
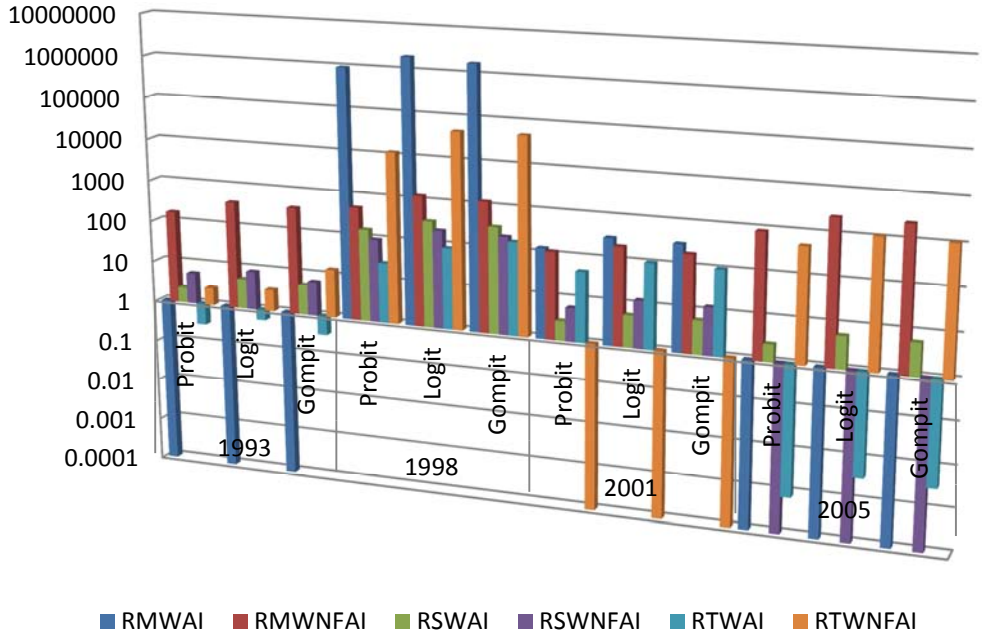


Figure 2 : Real wage indexes 1993-2005.



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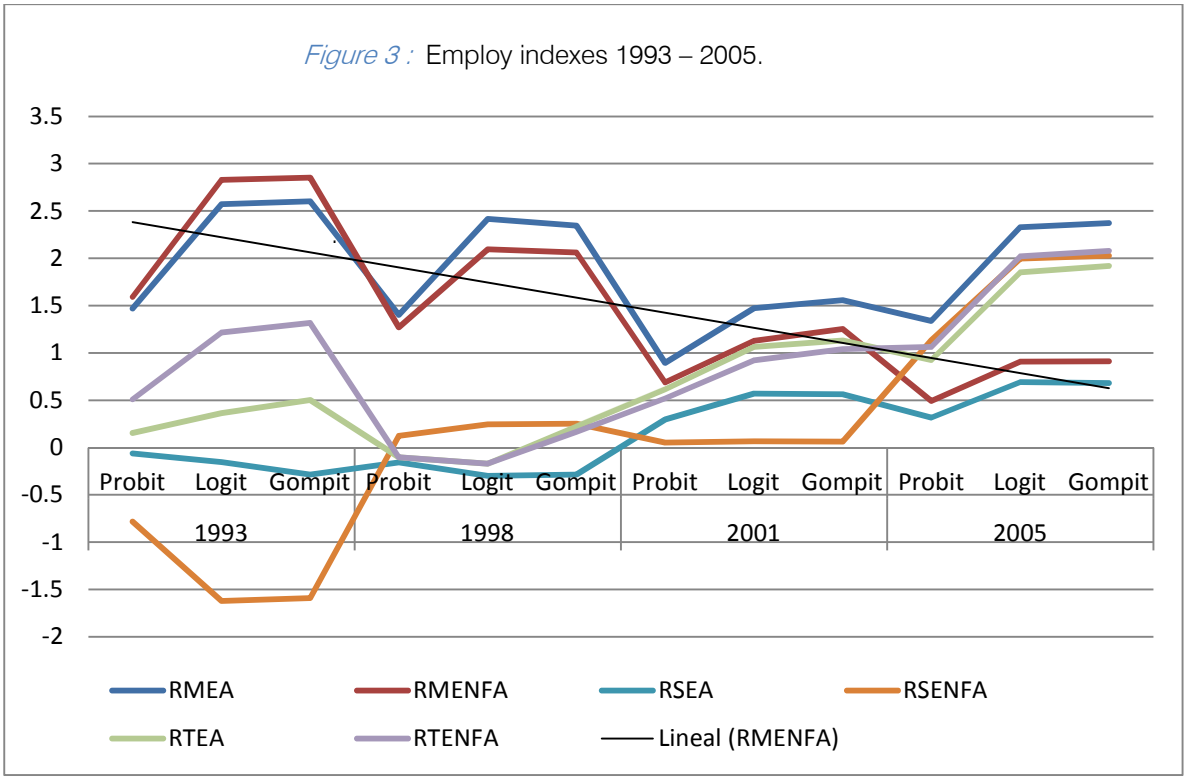

Figure 3 : Employ indexes 1993 – 2005.

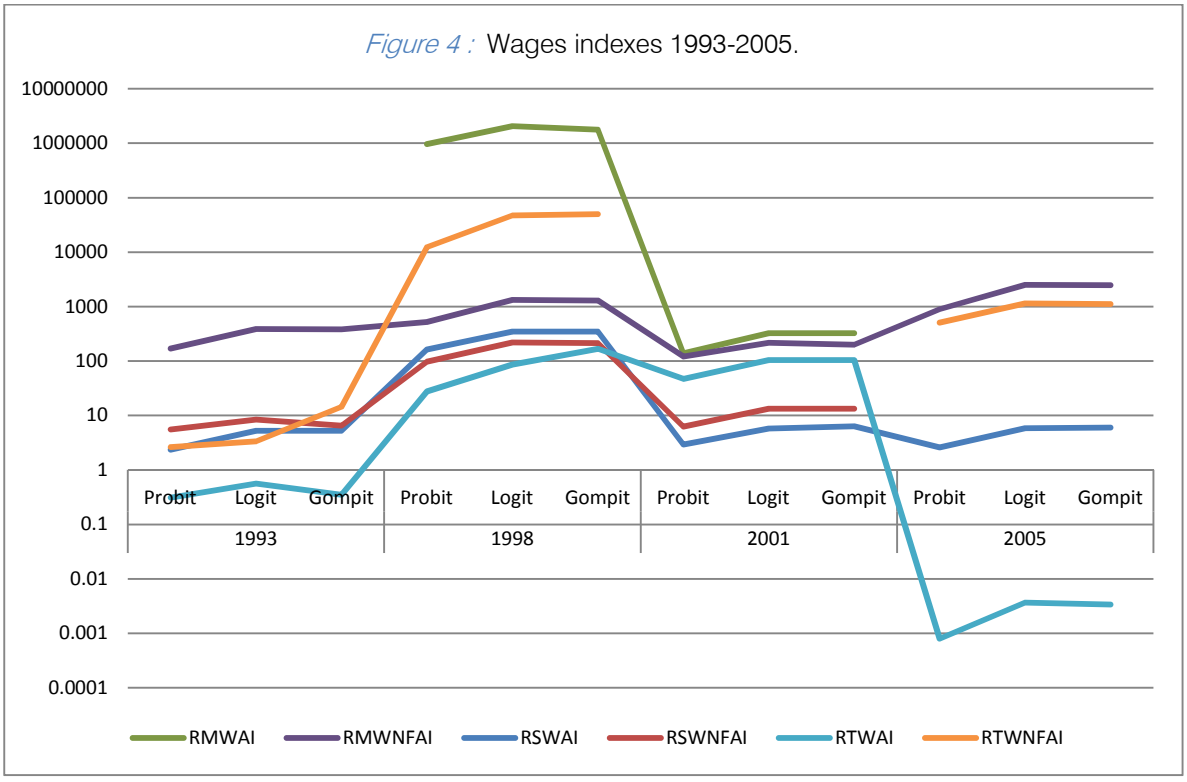

Figure 4 : Wages indexes 1993-2005.

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Factors Influencing The Extent of Brand Loyalty of Toilet Soap Users in Bangladesh: A Case Study on Dhaka City

By Khaled Mahmud & Khonika Gope
University of Dhaka

Abstract - Brand loyalty is determined by several distinct psychological processes of the consumers and entails multivariate measurements. Product features (Fragrance / Skin care / Germ fight features / Colour) is one of the most important factors that affect brand loyalty. The relationship between the availability of the toilet soap and the extent of brand loyalty was also found to be significant. Brand loyalty of toilet soap users in Dhaka city is moderately high. 63% of the consumers are brand loyal. On the contrary only 9% of the consumers are switchers and the rest of the users are loyal among few brands. 100% of softcorebeandloyals and switchers told if the soaps are not available they will choose any other brands without any consideration. 75% of the customers are influenced by the brand name and perceived brand image of the toilet soap. Brand loyalty also depends on the influence of family members. 62.96% of the consumers were found to be influenced by the family members in buying their toilet soap brands. The effect of sales promotion varied among different brand loyal groups. Hardcore brand loyals are very less interested in sales promotion while softcore brand loyals and switchers are very much interested. Interestingly price and advertisements have no significant effect on the extent of brand loyalty.

Keywords : Brand Loyalty, Toilet Soap, Dhaka City, Bangladesh.

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FACTORS INFLUENCING THE EXTENT OF BRAND LOYALTY OF TOILET SOAP USERS IN BANGLADESH A CASE STUDY ON DHAKA CITY

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Factors Influencing The Extent of Brand Loyalty of Toilet Soap Users in Bangladesh: A Case Study on Dhaka City

Khaled Mahmud [α] & Khonika Gope [σ]

Abstract - Brand loyalty is determined by several distinct psychological processes of the consumers and entails multivariate measurements. Product features (Fragrance / Skin care / Germ fight features / Colour) is one of the most important factors that affect brand loyalty. The relationship between the availability of the toilet soap and the extent of brand loyalty was also found to be significant. Brand loyalty of toilet soap users in Dhaka city is moderately high. 63% of the consumers are brand loyal. On the contrary only 9% of the consumers are switchers and the rest of the users are loyal among few brands. 100% of softcorebeandloyals and switchers told if the soaps are not available they will choose any other brands without any consideration. 75% of the customers are influenced by the brand name and perceived brand image of the toilet soap. Brand loyalty also depends on the influence of family members. 62.96% of the consumers were found to be influenced by the family members in buying their toilet soap brands. The effect of sales promotion varied among different brand loyal groups. Hardcore brand loyals are very less interested in sales promotion while softcore brand loyals and switchers are very much interested. Interestingly price and advertisements have no significant effect on the extent of brand loyalty.

Keywords : Brand Loyalty, Toilet Soap, Dhaka City, Bangladesh.

I. Introduction

The success of a firm depends largely on its capability to attract consumers towards its brands. In particular, it is critical for the survival of a company to retain its current customers, and to make them loyal to the brand. To a large extent, the success of most businesses depends on their ability to create and maintain customer loyalty. In the first place, selling to brand loyal customers is far less costly than converting new customers. In addition, brand loyalty provides firms with tremendous competitive weapons. Brand loyal consumers are less price-sensitive. A strong consumer franchise gives manufacturers leverage with retailers. And, loyalty reduces the sensitivity of consumers to marketplace offerings, which gives the firm time to respond to competitive moves. In general, brand loyalty is a reflection of brand equity, which for many businesses is the largest single asset. Brand equity reflects the value added to a product that results from brand knowledge. A loyal customer franchise is the most important source of competitive advantage.

Dhaka, the capital of Bangladesh and the principal city of Dhaka Division is the centre of political, cultural and economic life in Bangladesh. A population of 16.6 million (estimated in 2011) makes it the largest city in Bangladesh. It is the 9th largest city in the world and also 28th among the most densely populated cities in the world. It is also experiencing an increasing influx of people from across the nation, this has reportedly made Dhaka the fastest growing city in the world. The population is growing by an estimated 4.2% per year, one of the highest rates amongst Asian cities. The continuing growth reflects ongoing migration from rural areas to the Dhaka urban region, which accounted for 60% of the city's growth in the 1960s and 1970s. More recently, the city's population has also grown with the expansion of city boundaries, a process that added more than a million people to the city in the 1980s. The city population is composed of people from virtually every region of Bangladesh. In case of fast moving consumer goods, like toilet soap, the average consumption of an inhabitant of Dhaka city is believed to be significantly higher than that of the rest of Bangladesh.

Irrespective of income level and status people use toilet soap. The frequency of toilet soap might vary due to the individual hygiene practice. Many brands of toilet soaps are available in the market of many different prices. People buy toilet soap according to their own capabilities. In the same price range there are also many brands. So, all the time people have to make purchase decision among many brands. At the time of making purchasing decision, people might consider various factors. People might buy same brand repeatedly. They can switch among few brands or they can switch in lots of brands.

This research is meant to find out the brand loyalty level of toilet soap user. The research also tries to find out the factors that affect brand loyalty of toilet soap users in Dhaka City. In this research, by toilet soap, only bath soap is meant.

Author α : Lecturer Institute of Business Administration, University of Dhaka. E-mail : khaled@iba-du.edu
Author σ : Lecturer Institute of Business Administration, University of Dhaka. E-mail : khonika.gope@gmail.com

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In the context of Bangladesh, no previous research on brand loyalty of toilet soap or other fast moving consumer goods have been done. The results of this study will provide the local companies the most important factors effecting brand loyalty of such products and will help them understand their target markets better and carry out specific market research and promotional activities aimed at them.

II. Research Objectives

a) Broad Objective

To find out the status of brand loyalty of toilet soap users in Dhaka City.

b) Specific Objectives

1. To figure out the level of brand loyalty for toilet soap
2. To find out the factors that affect brand loyalty of toilet soap
3. To find out the impacts of those factors on brand loyalty

III. Literature Review

a) Conceptual Framework

Brand Loyalty is the consumer's conscious or unconscious decision, expressed through intention or behaviour, to repurchase a brand continually. It occurs because the consumer perceives that the brand offers the right product features, image, or level of quality at the right price. Consumer behaviour is habitual because habits are safe and familiar. In order to create brand loyalty, advertisers must break consumer habits, help them acquire new habits, and reinforce those habits by reminding consumers of the value of their purchase and encourage them to continue purchasing those products in the future.

Brand loyalty, in marketing, consists of a consumer's commitment to repurchase or otherwise continue using the brand and can be demonstrated by repeated buying of a product or service or other positive behaviours such as word of mouth advocacy (Dick and Kunal, 1994). Brand loyalty is more than simple repurchasing, however. Customers may repurchase a brand due to situational constraints (such as vendor lock-in), a lack of viable alternatives, or out of convenience (Jones et al., 2002). Such loyalty is referred to as "spurious loyalty". True brand loyalty exists when customers have a high relative attitude toward the brand which is then exhibited through repurchase behaviour (Reichheld and Earl, 1990), (Reichheld, 1993).

A second dimension, however, is whether the customer is committed to the brand. Philip Kotler, again, defines four patterns of behaviour:

1. Hardcore Loyals - who buy the brand all the time.
2. SoftcoreLoyals - loyal to two or three brands.
3. Shifting Loyalty - moving from one brand to another
4. Switchers - with no loyalty (possibly 'deal-prone', constantly looking for bargains or 'vanity prone', looking for something different).

It has been suggested that loyalty includes some degree of pre-dispositional commitment toward a brand. Brand loyalty is viewed as multidimensional construct. It is determined by several distinct psychological processes and it entails multivariate measurements. Customers' Perceived value, Brand trust, Customers' satisfaction, Repeat purchase behaviour and Commitment are found to be the key influencing factors of brand loyalty. Commitment and Repeated purchase behaviour are considered as necessary conditions for brand loyalty followed by Perceived value, satisfaction and brand trust (Punniyamoorthy and Prasanna, 2007).

The most elaborate conceptual definition of brand loyalty was presented by Jacoby and Chestnut (1978). There are many operational definitions of brand loyalty. In general, brand loyalty can be defined as the strength of preference for a brand compared to other similar available options. This is often measured in terms of repeat purchase behaviour or price sensitivity (Brandchannel.com, 2006). However, Bloemer and Kasper (1995) defined true brand loyalty as having six necessary conditions which are: 1) the biased (i.e. non-random); 2) behavioural response (i.e. purchase); 3) expressed over time; 4) by some decision-making unit; 5) with respect to one or more alternative brands out of a set of such brands; and 6) a function of psychological processes.

True brand loyalty exists when customers have a high relative attitude toward the brand exhibited through repurchase behaviour. This type of loyalty can be a great asset to the firm: customers are willing to pay higher prices, may cost less to serve and can bring in new customers to the firm (Reichheld and Sasser, 1990).

The brand loyal consumer does not attempt any kind of attribute evaluation but simply chooses the familiar brand on the basis of some overall positive feelings towards it. This overall positive evaluation stems from past experience with the particular brand under consideration.

Lau et al. (2006) in his article mentioned that there were seven factors that influenced consumers' brand loyalty towards certain sportswear brands. The factors were: brand name, product quality, price, style, store environment, promotion and service quality.

Famous brand names can disseminate product benefits and lead to higher recall of advertised benefits than non-famous brand names (Keller, 2003). Product Quality encompasses the features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs. In other words, product quality is defined as "fitness for use" or 'conformance to requirement" (Russell and Taylor, 2006).

Promotion is a marketing mix component which is a kind of communication with consumers. Promotion

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includes the use of advertising, sales promotions, personal selling and publicity. Advertising is a non-personal presentation of information in mass media about a product, brand, company or store. It greatly affects consumers' images, beliefs and attitudes towards products and brands, and in turn, influences their purchase behaviours (Evans et al., 1996).

Brand loyal consumers are less price sensitive (Krishnamurthi and Raj, 1991). A strong consumer franchise gives manufacturers leverage with retailers (Aaker, 1991). And, loyalty reduces the sensitivity of consumers to marketplace offerings, which gives the firm time to respond to competitive moves (Aaker, 1991). In general, brand loyalty is a reflection of brand equity, which for many businesses is the largest single asset.

For this study, we are going to measure brand loyalty in three levels. Though Kotler has proposed four levels, it is very difficult to measure shifting brand loyalty of people who keep shifting from brand to brand. So, we have decided to keep three levels of brand loyalty. we will use Hardcore Loyalty, Softcore Loyalty and Switching Loyalty, means no brand loyalty.

To find out the factors which affect brand loyalty, we are going to take seven factors initially. They are

1. Product features,
2. Sales Promotion,
3. Advertisements,
4. Availability,
5. Brand image,
6. Price, and
7. Family influence.

Though Krishnamurthi and Raj (1991) has showed brand loyal consumers are less price sensitive, we have included price in the factors, because Lau et al. (2006) has taken price as a factor. It might also be found that in the case of brand loyalty of toilet soap users that they are not price sensitive. But, we want to test it in the context of Dhaka City.

b) *Hypotheses*

Null Hypothesis 1: Product features of toilet soap do not affect brand loyalty.

Null Hypothesis 2: Sales promotional activities do not affect brand loyalty.

Null Hypothesis 3: Advertisements do not affect brand loyalty.

Null Hypothesis 4: Family influence do not affect buying decision of toilet soap.

Null Hypothesis 5: Availability of toilet soaps does not affect brand loyalty.

Null Hypothesis 6: Price does not affect brand loyalty.

Null Hypothesis 7: Brand name of toilet soaps affects brand loyalty.

IV. Research Methods

a) *Data Sources*

The primary source of data for the research was the shoppers buying from New Market Kacha bazaar area and students of University of Dhaka.

i. *Primary Sources*

a. Focused Group discussion
b. Questionnaire survey,
c. Direct observation,
d. In-depth Interview.

ii. *Secondary Sources*

a. Related journals and articles,
b. Internet,
c. Previous works on the related issue.

b) *Methods of Data Collection*

A questionnaire survey was conducted to collect the empirical data in order to statistically test the hypotheses. The questionnaire contained all together 10 questions.

Any respondent has to answer highest 8 questions. First 8 questions are for hardcore brand loyals. If anybody is softcore brand loyal then she or he has to answer question no 9 instead of question no 8. Similarly question 10 will be answered instead of 8 for brand switchers.

The survey method was convenience survey. Although a random survey would be more preferable to convenience survey, but lack of necessary demographic data and lists needed to conduct a random survey and lack of time, made the choice of convenience survey inevitable.

In depth interview was conducted to the get to know about the real scenario of the users brand loyalty. It was also convenient basis. Form new market, few respondents agreed for in depth interview.

Observation technique was also used by standing beside local stores. When users come to the store to buy toilet soap, what they ask for and what criterion they focus on.

V. Description of the Samples

a) *Sample Size*

Total survey respondents were 108.

b) *Sample Selection*

A total of 108 respondents were surveyed for this purpose using a non-probability sampling technique. The respondents were chosen on the basis of accessibility and convenience. A questionnaire was developed for this purpose which includes checklists, dichotomous questions, and opens ended questions. From the observation, it is seen that females are mostly the buyers of toilet soap. So, in the sample, female respondents are majority. At the time of sample

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collection, we tried to get middle aged population more. But at the same time, different age groups are also covered. Similarly different income groups are also covered.

c) Profile of the Sample

The distribution of respondents by gender is shown in table 1. Majority of the sample are female.

Table1: Number of respondents by gender groups in the sample

Gender	Number	Percentage
Female	76	70
Male	32	30
Total	108	100

Source : Primary-survey data

The distribution of respondents by age is given in table 2. Majority of the respondents are from the age of 25 years to 35 years.

Table 2 : Number of respondents by age group in the sample.

Age Distribution	Number	Percentage
Below 18 years	4	4
18 to 25 years	12	11
25 to 35 years	44	41
35 to 45 years	38	35
45 years and above	10	9
Total	108	100

Source : Primary-survey data

The distribution of respondents by marital status is given in table 3. Majority of the respondents are married.

Table3 : Number of respondents by marital status in the sample.

Marital Status	Number	Percentage
Married	76	70
Not Married	32	30
Total	108	100

Source : Primary-survey data

The distribution of respondents by income is given in table 4. Majority of the respondents are married.

Table 4 : Number of respondents by income group in the sample

Income Distribution	Number	Percentage
Less than BDT 10,000	12	11
BDT 10,000 to 20,000	22	20
BDT 20,000 to 30,000	48	44
BDT 30,000 to 50,000	14	13
BDT 50,000 to 80,000	8	7
More than BDT 80,000	4	4
Total	108	100

Source : Primary-survey data

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VI. Findings of The Study

The distribution of the brand loyalty of toilet soap users are shown in table 5. Majority of the toilet soap users are hardcore brand loyal (63%) and switchers are the minority with 9%.

Table 5 : Distribution of brand loyalty of toilet soap users.

Brand Loyalty Level l	Number	Percent
Hardcore Brand Loyal	68	63
Softcore Brand Loyal	30	28
Switcher	10	9
Didn't influenced	108	100

Source : Primary-survey data

The distribution of the selection of price as a factor of brand loyalty of toilet soap users are shown in table 6. Majority of the hardcore brand loyal of toilet soap users are not price sensitive.

Table 6 : Distribution of selection of price as a factor of brand loyalty.

Brand Loyalty Level	Selected	Not selected
Hardcore Brand Loyal	12	56
Softcore Brand Loyal	12	18
Switcher	4	6
Didn't influenced	28	80

Source : Primary-survey data

The distribution of the selection of product features as a factor of brand loyalty of toilet soap users are shown in table 7. Majority of the toilet soap users are product feature sensitive.

Table 7 : Distribution of selection of product features as a factor of brand loyalty

Brand Loyalty Level	Selected	Not selected
Hardcore Brand Loyal	66	2
Softcore Brand Loyal	24	6
Switcher	6	4
Didn't influenced	96	12

Source : Primary-survey data

The distribution of the selection of family influence as a factor of brand loyalty of toilet soap users are shown in table 8. In the case of hardcore brand loyals, family influence is very high.

Table 8 : Distribution of selection of family influence as a factor of brand loyalty.

Brand Loyalty Level	Selected	Not selected
Hardcore Brand Loyal	52	16
Softcore Brand Loyal	12	18
Switcher	4	6
Didn't influenced	68	40

Source : Primary-survey data

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The distribution of the selection of product availability on local stores as a factor of brand loyalty of toilet soap users are shown in table 9. All the toilet soap users are really affected by the availability of the toilet soaps in local stores.

Table 9 : Distribution of selection of product availability as a factor of brand loyalty.

Brand Loyalty Level	Selected	Not selected
Hardcore Brand Loyal	28	40
Softcore Brand Loyal	30	0
Switcher	10	0
Didn't influenced	68	40

Source : Primary-survey data

The distribution of the selection of sales promotion (price off/ extra offer) as a factor of brand loyalty of toilet soap users are shown in table 10.

Table 10 : Distribution of selection of sales promotion as a factor of brand loyalty.

Brand Loyalty Level	Selected	Not selected
Hardcore Brand Loyal	4	64
Softcore Brand Loyal	20	10
Switcher	10	0
Didn't influenced	34	74

Source : Primary-survey data

If we look closely, for switchers, they are 100% influenced by the sales promotions. On the other hand, two-third softcore brand loyals are influenced by sales promotion. And among 34 hardcore brand loyals, only 2 are interested in sales promotion.

The distribution of the selection of advertisements as a factor of brand loyalty of toilet soap users are shown in table 11.

Table 11: Distribution of selection of advertisement as a factor of brand loyalty.

Brand Loyalty Level	Selected	Not selected
Hardcore Brand Loyal	22	46
Softcore Brand Loyal	14	16
Switcher	0	10
Didn't influenced	36	72

Source : Primary-survey data

We can find an interesting finding here. According to the survey, switchers are less interested in advertisements.

VII. Testing of Hypotheses

The hypothesis testing was done using chi square distribution. The level of significance used here is .05.

H1: Product features of toilet soap do not affect brand loyalty.

This hypothesis is tested using Chi-square test of independence.

Table 12 : Analyzing the relationship between product features and brand loyalty.

Ho: Product features of toilet soap do not affect brand loyalty	Chi-squared value from data	Degree of freedom	Chi-squared value from chart
	7.722794	2	5.991

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Since it is a test of independence, and the chi squared value from the calculation of data is more than the chi squared value from the chart at selected level of significance (α=.05).

So, we can reject the null hypothesis. It can be concluded that, product features of toilet soap affects brand loyalty.

H2: Sales promotion activities do not affect brand loyalty.

This hypothesis is tested using Chi-square test of independence.

Table 13 : Analyzing the relationship between sales promotion and brand loyalty.

Ho: Sales promotion activities do not affect brand loyalty	Chi-squared value from data	Degree of freedom	Chi-squared value from chart
	29.82004	2	5.991

Since it is a test of independence, and the chi squared value from the calculation of data is more than the chi squared value from the chart at selected level of significance (α=.05).

So, we can reject the null hypothesis. It can be concluded that, sales promotion of toilet soap affects brand loyalty.

H3: Advertisements do not affect brand loyalty.

This hypothesis is tested using Chi-square test of independence.

Table 14 : Analyzing the relationship between advertisement and brand loyalty.

Ho: Advertisements do not affect brand loyalty.	Chi-squared value from data	Degree of freedom	Chi-squared value from chart
	3.7147	2	5.991

Since it is a test of independence, and the chi squared value from the calculation of data is less than the chi squared value from the chart at selected level of significance (α=.05).

So, we cannot reject the null hypothesis. It can be concluded that, advertisement of toilet soap does not affect brand loyalty.

H4: Family influence do not affect buying decision of toilet soap.

This hypothesis is tested using Chi-square test of independence.

Table 15 : Analyzing the relationship between family influence and brand loyalty.

Ho: Family influence do not affect buying decision of toilet soap.	Chi-squared value from data	Degree of freedom	Chi-squared value from chart
	7.1825	2	5.991

Since it is a test of independence, and the chi squared value from the calculation of data is more than the chi squared value from the chart at selected level of significance (α=.05).

So, we reject the null hypothesis. It can be concluded that, family influence affects brand loyalty of toilet soap.

H5: Availability of toilet soaps does not affect brand loyalty.

This hypothesis is tested using Chi-square test of independence.

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Table 16 : Analyzing the relationship between Availability of toilet soap and brand loyalty·

Ho: Availability of toilet soaps does not affect brand loyalty.	Chi-squared value from data	Degree of freedom	Chi-squared value from chart
	18.61582	2	5.991

Since it is a test of independence, and the chi squared value from the calculation of data is more than the chi squared value from the chart at selected level of significance (α=.05).

So, we reject the null hypothesis. It can be concluded that, availability of toilet soap affects brand loyalty.

H6: Price does not affect brand loyalty.

This hypothesis is tested using Chi-square test of independence.

Table 17 : Analyzing the relationship between price and brand loyalty.

Ho: Price does not affect brand loyalty.	Chi-squared value from data	Degree of freedom	Chi-squared value from chart
	3.2763	2	5.991

Since it is a test of independence, and the chi squared value from the calculation of data is less than the chi squared value from the chart at selected level of significance (α=.05).

So, we cannot reject the null hypothesis. It can be concluded that, price of toilet soap does not affect brand loyalty.

H7: Brand name of toilet soaps affects brand loyalty.

This hypothesis is tested using Chi-square test of independence.

Table 18 : Analyzing the relationship between brand name and brand loyalty.

Ho: Brand name does not affect brand loyalty.	Chi-squared value from data	Degree of freedom	Chi-squared value from chart
	17.68889	2	5.991

Since it is a test of independence, and the chi squared value from the calculation of data is more than the chi squared value from the chart at selected level of significance (α=.05).

So, we reject the null hypothesis. It can be concluded that, brand name of toilet soap affects brand loyalty.

From the tests of hypotheses it is seen that among seven null hypotheses five are rejected and two are not. It means among seven estimated factors, brand loyalty have dependency with five of them.

The factors that affect brand loyalty are-

1. Product features,
2. Sales promotion,
3. Availability,
4. Family influence, and
5. Brand name.

The factors that do not affect brand loyalty are-

1. Advertisement, and
2. Price.

VIII. Discussion and Conclusion

a) *Discussion*

Majority (63%) of the toilet soap users are brand loyal. They buy soap on the basis of product features including color, fragrance, skin care or germ fight features. People are very much less sensitive to price. So, brand loyalty does not affected much by price. Less than 26% customer selected price as a factor.

If we look at the family influence by elderly persons or kids, 62.96% of the consumers are influenced by the family members to use their toilet soap brands. Similarly, 75% of the customers are influenced by the brand name of the toilet soap.

If we look at the availability, this is very important factor. More than 62% customers are affected by the availability of the toilet soap in the local stores.

For sales promotion, hardcore brand loyals are very less interested in sales promotion while softcore brand loyals and switchers are very much interested. Interestingly advertisements have no significant effect on brand loyalty.

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In the case of availability 100% of softcorebeandloyals and switchers have selected this issue as a very important factor. They think if the soaps are not available they will choose any other brands without any consideration.

The hypotheses were developed based on previous research done on other countries related to brand loyalty of different products. Two of the null hypotheses were not rejected. From hypotheses testing, it is proven that, Brand loyalty varies on five factors. Such as, product features, sales promotion, availability of toilet soaps in the local stores, family influence and brand name.

In consuming toilet soaps, people are influenced by family members, product features or availability of soaps in the local stores. Toilet soap users are not price sensitive and at the same time they are not advertisement sensitive.

b) Conclusion

No previous research on brand loyalty of toilet soap consumers have been done in the context of Bangladesh. So, it will definitely give brand loyalty researchers an indication of the status of brand loyalty of toilet soap users in Dhaka city. They can use this research for other fast moving consumer goods to find out the factors that affect brand loyalty. Marketers place a huge importance in determining the factors that affect brand loyalty of toilet soap. The results of this study will provide the local companies to understand their target markets better and carry out specific market research and promotional activities aimed at them. Future research can be done on the following topics as a continuation of this work. Direct and indirect influence of factors affecting brand loyalty of toilet soaps in Dhaka city is conducted here, the scope of the research can be extended to national or international level. Five factors affecting brand loyalty of toilet soap users have been identified. This research can be extended to find out more socio-economic factors in the case of brand loyalty of toilet soap users. This research can be extended to broad fast moving consumer goods category.

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The Roles and Responsibilities of Management Accountants in the Era of Globalization

By Mohammad Ahid & Ayuba Augustine
University Utara Malaysia

Abstract - The accounting profession has witnessed another severe criticism in the light of the recent global economic turmoil. Many questions were raised about the role of accountants in the era of globalization. As a result, there has been a greater research interest opportunities touching the role of the accountants with a special focus in its metamorphosis spanning from the past till the present, keeping in mind the future direction of accountants in the private and public enterprises. This paper therefore seeks to explore the role of accountants, their challenges and the perception of the public toward accountants in the era of globalization.

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THE ROLES AND RESPONSIBILITIES OF MANAGEMENT ACCOUNTANTS IN THE ERA OF GLOBALIZATION

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Abstract - The accounting profession has witnessed another severe criticism in the light of the recent global economic turmoil. Many questions were raised about the role of accountants in the era of globalization. As a result, there has been a greater research interest opportunities touching the role of the accountants with a special focus in its metamorphosis spanning from the past till the present, keeping in mind the future direction of accountants in the private and public enterprises. This paper therefore seeks to explore the role of accountants, their challenges and the perception of the public toward accountants in the era of globalization.

I. Introduction

Studies have shown that globalization is playing a big role in the survival of firms. Developing advances connected to globalization stated that accounting is a critical player in providing updated information to the internal and also the external activities of firms.

Over the past thirty five years the world has been transitioning into a global marketplace, thereby, today economy, financial markets, industry, and politics are all internationalized. This internationalization has led to increasing transfer of capital across borders, increasing importance of trade in the economy, increasing communication throughout the world and increasing in international trade policies. Globalization has had extreme effects on the world economic and has created many political challenges.

Economic globalization indeed influences policy, which has been analyzed in numerous empirical studies.

The process of globalization in general and the imposing of an international accounting system in one side are emphasizing some considerations related to the global cultural differences between countries on the other side.

International accounting is complex because of its nature being linked to the globalization movement that is sweeping all economic. However, the globalization is affecting in accounting craft, standards, management, audit and tax. Besides, the role of accountant in particular, has become more important, not only in the corporate level, but also at the national level and even more importantly in the international level.

Author α : E-mail : mohammadahed83@yahoo.com
Author σ : E-mail : ayubaaugustine@yahoo.com

For example, Siegel and Sorensen (1999) mentioned that with the pressure of globalization that is an increase in competition, advancement of technology and pressure to get information much sooner. Management accounting now plays bigger roles in organizations. Management accountant is not only playing the role of information provider but also participating in decision making or at least to help managers to make better decisions (Cooper & Dart, 2009).

The main objective of this paper is to discuss the roles of the accountant in the era of globalization. To achieve this, the paper is divided into three main sections. The first part discusses the definitions of management accounting and its features; the second part discusses the globalization and its features, the third part focuses on the role of the accountants. The forth part seeks public perception towards the accountant and conclusion is the final part.

II. Management Accounting and Its Features

Management accounting has been defined in many different ways, whether by describing its roles or describing its objectives and processes. Generally, it could be remarkable that the traditional definition of management accounting describes management accounting based on the fact of providing information to the managers, so management accountants were considered as information providers only as we notice from the following definition:

> *"Managerial accounting is concerned with providing information to managers, that is people inside an organization who direct and control its operations"* (Garrison, Noreen & Brewer, 2006).

Along the same lines, Institute of Management Accountants (IMA, 1981) defined management accounting by describing its traditional roles, they defined management accounting as:

> *" The process of identification, measurement, accumulation, analysis, preparation, interpretation, and communication of financial information used by management to plan, evaluate, and control an organization and to assure appropriate use of and accountability for its resources. Management accounting also comprises the preparation of financial reports for non-management groups such*

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as shareholders, creditors, regulatory agencies, and tax authorities" (IMA, 1981).

Moreover, some of the contemporary authors are still going on the same boat of traditional definition. Helton (2006) defined management accounting as it was defined by (IMA, 1981). He stated that managerial accounting is:

"The process of identifying, measuring analyzing interpreting and communicating information in pursuit of an organization's goals"

On the other hand, in the current studies and researches, managerial accountants are described as decision-makers and partnering of management members. IMA improved its definition of management accounting:

"Management accounting is a profession that involves partnering in management decision making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organization's strategy."

It is noticeable to what extent management accountants have become more effective and indispensable for decision making. Besides, management accounting has become an integral part of the management process and management accountants have become substantial strategic partners in an organization's management team (Hilton, 2004). Currently, there is a new managerial accounting term, which is modern management accounting, which means:

A changing set of concerns among management accountants (Horngren, Charles, Datar & Foster, 2003).

It is strikingly that the management accountants became more significance in the management team. Recently, more emphasis has been put on giving commercial advice to management, while it was in the past limited to provide information to the management.

Furthermore, The American Institute of Certified Public Accountants (AICPA) states that management accounting as practice extends to the following three areas:

- Strategic Management: Advancing the role of the management accountant as a strategic partner in the organization.
- Performance Management: Developing the practice of business decision-making and managing the performance of the organization.
- Risk Management: Contributing to frameworks and practices for identifying, measuring, managing and reporting risks to the achievement of the objectives of the organization.

III. Strategic Management

Strategic management is not a new concept; the first use was in 1970s; its meaning was that a team of strategic planners paying more or less attention to strategic programs and then tried to transfer them to decision makers (Wells, 2000). Wherefore, strategic managers are momentous in the organizations and they play very important role in decision making, they are partners in the management team. Goodstein, Nolan and Pfeiffer (1992) defined strategic management as:

"The process by which the guiding members of an organization envision its future and develop the necessary procedures and operations to achieve that future."

Susan (2000) suggested a guide to the strategic management process as following:

1. Agreement on initiation of the strategic management process.
2. Identification and clarification of the organization's mission, objectives, and current strategies.
3. Identification of the organization's internal strengths and weaknesses.
4. Assessment of the threats and opportunities from the external environment.
5. Identification of key constituents/ stakeholders and their expectations.
6. Identification of the key strategic issues confronting the organization.
7. Design/ analysis/ selection of strategy alternatives and options to manage issues identified in step 6.
8. Implementation of strategy.
9. Monitoring and review of the strategy's performance.

Figure (1) represents the strategic management model that is developed by (Wells, 2000), and as we see from the figure, strategic management goes further than the development of a strategic plan, which included the pre-planning and strategic planning processes. Strategic management is the deployment and implementation of the strategic plan and measurement and evaluation of the results. Deployment involves completing the plan and communicating it to all staff. Implementation involves resourcing the plan, putting it into action, and managing those actions. Measurement and evaluation consists not only of tracking implementation actions, but, more significantly, assessing how the organization is changing as a result of those actions and using that information to update the plan.

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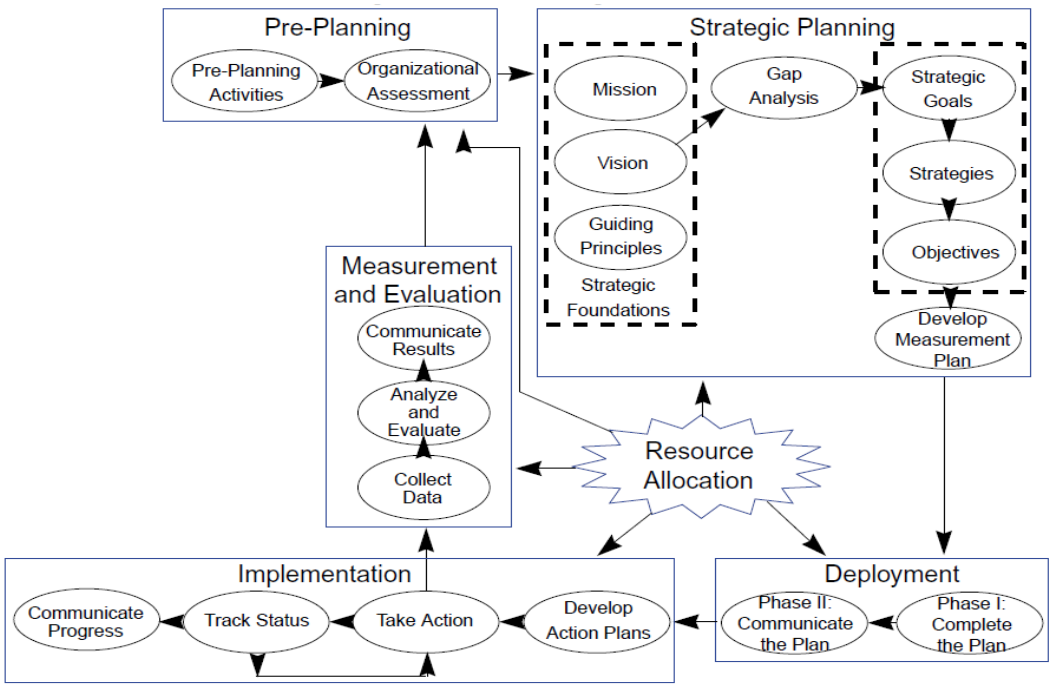
Figure 1 : strategic management model (Wells, 2000)



IV. Performance Management

Improvement and Development agency (I&DeA) defines performance management as:

> *"Taking action in response to actual performances to make outcomes for users and the public better than they would otherwise be"* (p.3)

So, in short we can say that performance management is the outcomes of work.

Performance as defined above is affected by a number of factors, Armstrong and Baron (1998) stated the following five factors:

- Personal factors: the individual's skill, confidence, motivation and commitment.
- Leadership factors: the quality of encouragement, guidance and support provided by the managers and team leaders.
- Team factors: the quality of support provided by colleagues.
- System factors: the system of work and facilities (instruments of labor) provided by the organization.
- Contextual (situational) factors: internal and external environmental pressures and changes.

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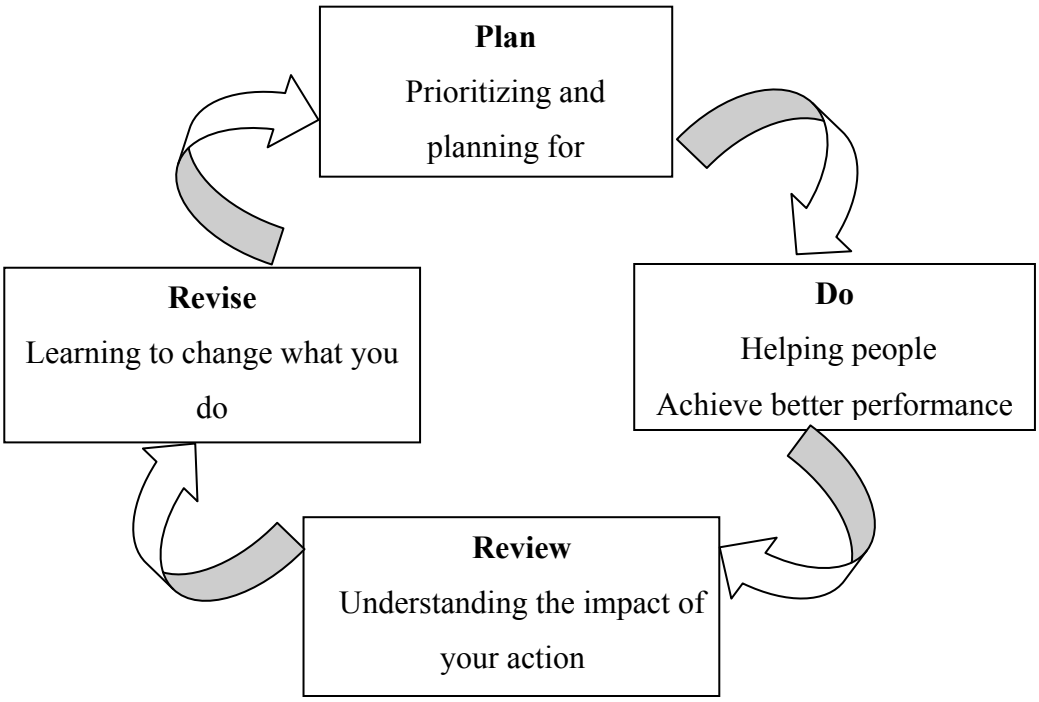
Figure 2 : Performance management



V. Risk Management

Risk management is *"The total process of identifying, controlling, and mitigating information system–related risks. It includes risk assessment; cost-benefit analysis; and the selection, implementation, test, and security evaluation of safeguards."* (Stoneburner, Goguen & Feringa, 2002).

We cannot be avoided from risk, but at least we can minimize it, The Our Comunity team provide some suggestion in order to minimize risk management, for instance, stuff screening, financial controls and ensure that all the premises are covered by their insurance policies. While The Our Comunity team emphasizes that the insurance is not a substitute for risk management, insurance comes after doing what the management can do to minimize the risk.

Meanwhile, management accountant's report covers an overview of risk management (CIAM).

VI. The Key Responsibilities of The Managers

As this paper mentioned earlier that the definitions of management accounting describe its roles, or its objectives or its process, it can also be description of its responsibilities as it is mentioned in the first definition by Garrison et al (2006), that they limited the responsibilities of management accounting in three responsibilities which are planning directing and controlling, while Bamber, Broun, and Harrison, (2008) include the decision making to the managers' responsibilities.

In this millennium, management accountants have not become information providers only, they are decision makers as well as very important part in the management team, because they provide useful and very important internal information to the top management, so, management accountants help the management to run the organization effectively and efficiently.

How management accountants help the top management to fulfill their four primary responsibilities?

- *Planning:* management accountants involve setting goals and objectives for the organization, and determining the way to fulfill them, by selecting specific action implementations, Garrison et al (2006) and Bamber et al (2008)
- *Directing:* is "overseeing the company's day-to-day operations" (Bamber et al, 2008), and monitoring the implementation of the plans in order to achieve the organizational goals. In addition, after setting planning, the organization is required to guide its stuff to achieve its objectives.
- *Controlling:* which is "evaluating the results of business operations against the plans and making adjustment to keep the company pressing towards its goals" (Bamber et al, 2008). On the other words, planning and directing should be controlling to

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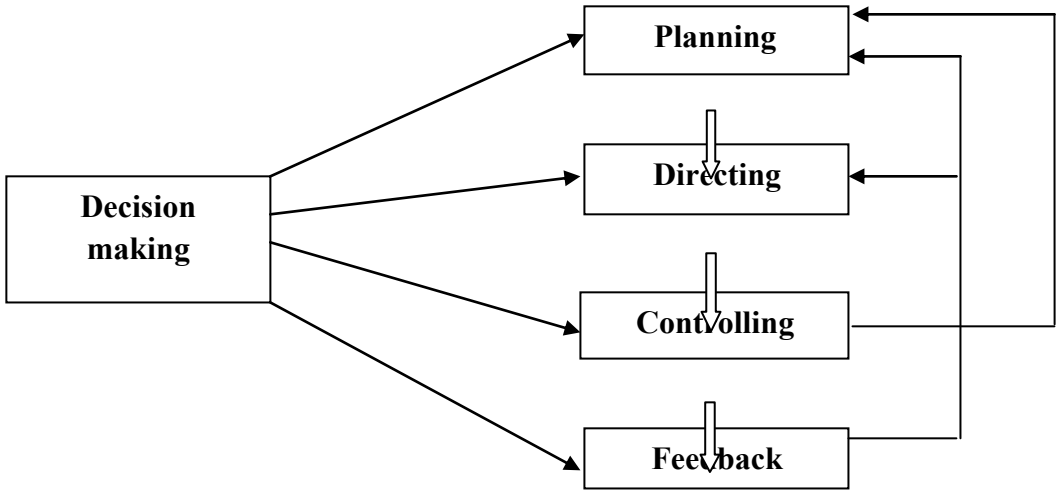
ensure the efficiency of effectiveness. Besides, the remarkable aim of controlling is to determine the success of the planning function.

- *Decision making:* management accountants involve setting goals, directing and controlling, which means tacitly that they are involving in decision making, which is the new function of management accounting.

Those four responsibilities are interdependent and coherent; I propose the following framework to show the association between those functions.

Figure 3 : Functions of management:



VII. The Management Accountant Within The Organization

a) Where does the management accountant work?

Management accountant used to work in the accounting department, additionally; they used to report to the controller (who is responsible of general financial accounting, managerial accounting and tax reporting, and he or she reports directly to the chief financial officer who is in return charge of all the organization financial concern and plays an important roles in overseeing the organization's financial matters).

Nowadays, management accountant is located throughout the company and works in the cross-functional teams which consist of employees presenting various function of the organization such as: R&D, design, production, marketing, distribution & consumer services, and they report to the vice presidents of various operations (Bamber et al, 2008).

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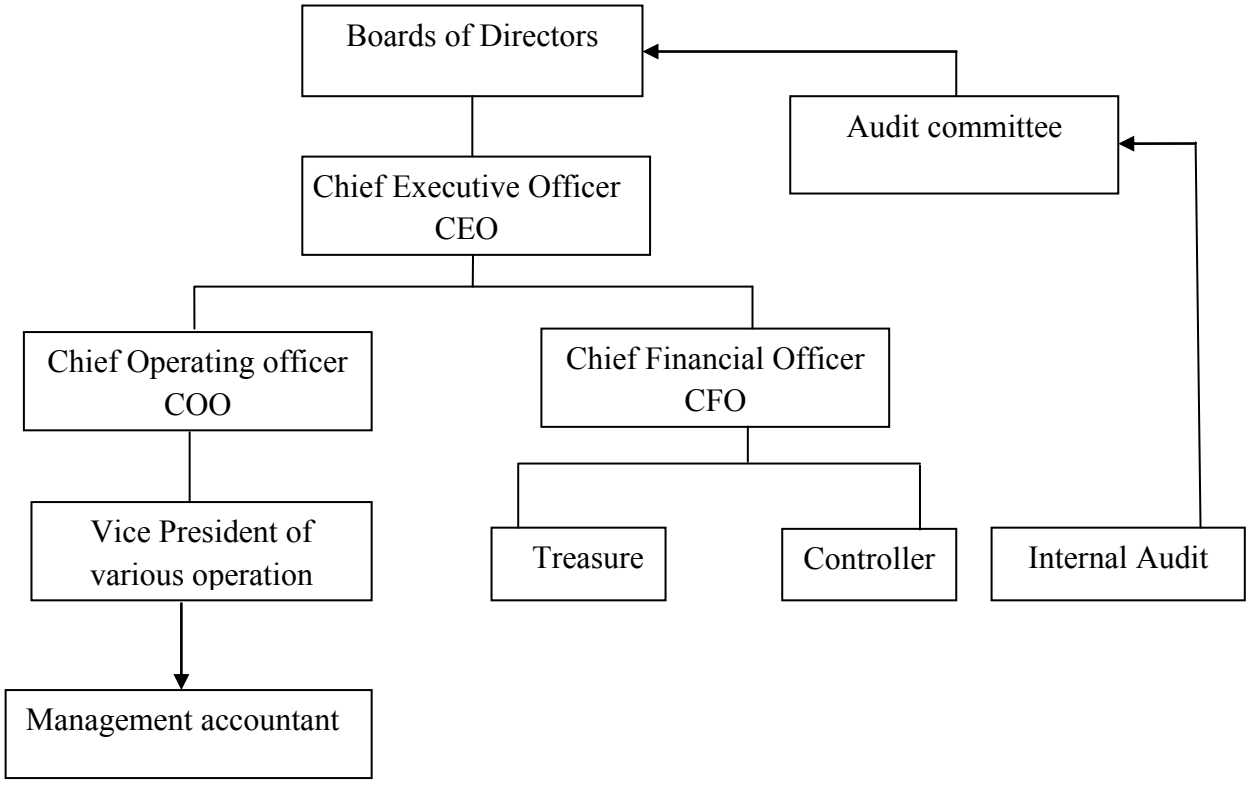
Figure 4 : Management accountant within the organization, (Bamber et al, 2008)



VIII. Globalization and Its Features

Globalization has been defined in many ways. There is neither specific nor standard definition of globalization. Perhaps, globalization has been defined by its characteristics (Mubiru, 2003), or the meaning of globalization depends on the perspective of the respective person talking about it. Therefore, the precise definition of globalization is still unavailable (Goyal, 2006). Catalina and et.al mentioned in their papers that the term 'globalization' was proposed first time in1983 by Theodor Eleviu, when he talked about the convergence of the markets around the world, which would operate as a unique entity.

Furthermore, many national and international organizations (like International Monetary Fund and UN Secretary General) try to determine a sole definition of globalization but the definition only describes the features of globalization. The International Monetary Fund defines globalization as the "growing economic interdependence of countries worldwide through increasing volume and variety of cross-border transactions in goods and services, free international capital flows and also more rapid and widespread diffusion of technology". It is remarkable from this definition how The International Monetary Fund defines the globalization economically and technologically.

Chen and Carr (2001) connote that "*globalization means different things to different people*" and he explained that in its broadest sense, the term encompasses all types of economic and culture transfers between nations- including domination of the media and widespread use of the World Wide Web. In a narrower sense, it refers to the economic exchange of goods and services internationally and international financial flows.

IX. Features of The Globalization and The Accountant

With the emergence of globalization, more and more companies have started going global by undertaking business activities across their national frontiers. The market is becoming increasingly global and competition becomes fierce more than ever. Coping with the intense competition calls for strategically positioning commercial enterprises- the context in which accountants operate to out compete rivals. As business activities go global trade transactions becomes voluminous and complex to account for. However, with advancements in technology more innovative software and other tools are being developed to assist the account to simply and easily account for transaction more than ever. It is clear that today's business environment cannot operate without technology. Technological advancement is having more effective and efficient improvements on the way businesses are

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operated, tied with increased automation of business processes (Mahon & Doran, 2008).

Moreover, organizations in this era are having flatter and flexible organizational structures with managers and accountants alike working cross-functionally. Moreover, the demand for more information by stakeholders has tremendously been intensified, customers are widely informed and other stakeholders demand more information for accountability of transaction. Worth mentioning here are the internationalization and standardization of the accounting profession. As world is becoming unified entity with borderless transactions worldwide standardization of the accounting profession has become under intense pressure to warrant comparison and uniformity. Cutting a long story short, globalization of markets, advances in information and production technologies, increased competition, core competencies, customer and supplier relationships, downsizing, outsourcing, flatter organizational structures and team work are some of the noticeable characteristics of the of the global era.

Given that the traditional nature of business enterprises has evolved into a more contemporary one, the role of accountant is also expected to change. Generally, accountants may include auditors, financial accountants, management accountants and the like. However, the objective of this paper as stated earlier is centralized on the roles of management accountants in the era of globalization.

X. Roles and Responsibilities of Management Accountants Before Globalization

Unlike most other modern professions, accounting has a history that is usually discussed in terms of one seminal event the invention and dissemination of the double entry bookkeeping processes.

Historically, management accountants' position was alienated from the core activities of the company and had little or no face-to-face interaction with clients. Sequel this, they were separated by physical boundaries within the organizational operations (Siegel & Sorensen, 1999). The deduction here is that management accountants at the dawn of their profession were not involved in decision making process. Their core role is to purely supply information for management decision making. All they used to do then is the preparation of budgets, checking of expenses reports, preparing inventory cost reports, and the generation of varied standardized financial statements (Siegel & Sorensen, 1999). In short, they summed it all by saying: "*they were, in fact, the scorekeepers, the bean counters and the corporate cops. Fulfilling the traditional accountant role, they were the keepers of financial records, the historians of the organization*" (Siegel & Sorensen, 1999, p.4).

Some mention, that the developed purely in response to the needs of the time brought about by changes in the environment and societal demands. On the other hand, some argue the development of the science of accounting has itself driven the evolution of commerce since, it was only through the use of more precise accounting methods that modern business was able to grow, flourish and respond to the needs of its owners and the public. Either way, the history of accounting throws a light on economic and business history generally, and may help us better predict what is on the horizon as the pace of global business evolution escalates (Alexander, 2002).

Carmona, Ezzamel and Gutiérrez (2004) mention that the accounting history has to decide at the beginning of an investigation whether a contemporary notion of accounting practice will be adopted, or whether a concept more suited to the historical context under investigation is to be considered. On the other hand, he mentioned that the legitimacy of deploying concepts of the present to describe and analyze past accounting practices is debatable.

However, the role of accounting in management has started to emerge before the 1900s. The management accounting role was seen to be parallel with the growth of industry and markets. In the past, management accounting only plays the role of providing information on the internal activities of a firm. It provides information on what is the appropriate wages and the material should be used in production. Fleischman and Parker (1997) purport 'beancounters' as preparers of financial information which has little relevance to management in decision making. However, this perception has faded due to the need for compliance, and the enormous expansion of financial management, general/strategic management and consultancy services. In this shift of accounting, Burns, Ezzamel, and Scapens (1999) and Institute of Management Accountants' (IMA) study in the USA (Siegel & Sorensen, 1999) believed that the need for the accounting profession to reposition itself in the intense global and technologically competitive atmosphere is partly the reason for this shift.

Management accountants of "yesterday" are arguably not the same as management accountants of "today". Historically, management accountants were seen as mere counters of figures. Counting, comparing, recording, and reporting financial information for internal decision making were the traditional roles of management accountants in the past rely (Debra and Jeff). First of all, the accountant should seek a major role in the planning phase regardless if serving a primary or support role in the investigation. Invariably, there will be financial aspects to the alleged wrongdoing. The accountant's advice will be necessary regarding the staffing of the investigative team, defining the scope of the investigation, devising an investigative

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plan, and counseling on the business consequences of the investigation.

Atkinson in his review of Johnson and Kaplan book, "Relevance Lost: The Rise and Fall of Management" mentioned that Johnson and Kaplan said that in the early 1900s Management accounting developed from only providing information for the internal activities of an organization to starting to give concern on the efficiency and productivity of physical labor and material used. However, this information is not for financial control, it is only to monitor the physical concerns. Later, accountants recognize that the information provided by management accounting for the purpose of monitoring the efficiency and the productivity can simplify the inventory valuation (Atkinson, 1989). This proclamation is supported by the International Federal Accountant Committee (IFAC) Management Accounting Concepts statement issued March 1998 stating that in the first stage of Management Accounting evolutions, firms used Management Accounting to determine information on the cost to be charge to Financial Statement. It is seen as technical activity in order to achieve organizational objectives.

XI. The Roles of Management Accountants During The Globalization Era

In this point, this paper discusses how the globalization is affecting on the role of accountants, and will focus on the period from 1980 to the present day. Recently, the media has undoubtedly concentrated its attention on the role and image of accountants (Warren and Parker, 2009). This is true, especially in the wake of the 2008 global economic crisis. Rigorous changes ranging from regulations to professional standards were witnessed. This phenomenon raises the eye brow of any concerned individual. Accountants have been perceived as 'beancounters' customarily.

Firstly, at the end of the twentieth century with the beginning of the twenty-first century globalization begun to affect in the local and global economic, this led to influence of accounting craft.

On the other hand, the globalization is affecting in management accounting concept and techniques filed. With the pressure of globalization that is increase in competition, advancement of technology and pressure to get information much sooner (Siegel & Sorensen, 1999), Management accounting now plays bigger roles in organization. Management accountant not only play the role of information provider but to participate in decision making or at least to help managers to make better decisions.

This when management accounting moves towards resource management by applying process analysis tools such as activity based costing, life cycle costing and cost management technologies such as opportunity cost analysis. Management accounting also provide inputs for strategic decision makers. This is supported by the findings in the survey undertook by Institute of Management Accountant and Ernst and Young (Garg, Ghosh, Hudick & Nowacki, 2003).

The global business environment is characterized by intense competition locally and abroad and the need for making strategic decision is inevitable in order to upbeat rivals in the industry. As a strategist, the management accountant is critically involved in taking and negotiating appropriate strategic moves and also helping managers determine their most important customers, substitute products in the market, critical capability, adequacy of cash to fund to a strategy (Horngren et al, 2009) and the like. In a bid to strengthen their strategic role management accountants concentrate their time and effort on strategic management accounting. In concretizing this claim, Mr. Udayasri Kariyawasam, the Chairman of both Securities and Exchange Commission and Insurance Board of Sri Lanka, in a keynote address at the Achievers CIMA Graduation ceremony on 30 August 2009 at BMICH (Bandaranaike Memorial International Conference Hall), said that:

'Management accountants today spend their time on 'strategic management accounting', with a view to broadening the span of traditional management accounting.

And that:

The term 'strategic management accounting' was first coined by Ken Simmonds in 1981. The Chartered Institute of Management Accountants' official terminology describes strategic management accounting as 'a form of management accounting in which emphasis is placed on information which relates to factors external to the firm, as well as non-financial information, and internally generated information'.

Management accounting continues to develop from focusing on reduction of waste to creation of value through effective use of resources (IFAC, 1998). On the other words, management accountants play an important role in creating and adding value to the organizations by managing resources, activities and people to fulfill the organizations' objectives (Hilton, 2004).

In pursuing the organizations' objectives, the organizations acquire resources, appointment people and then participate organized set of activities, as this paper explain earlier that the management team comprises four major responsibilities to make the best usage of resources, people and activities, which are planning, directing, controlling and decision making.

Managerial accountants add value to their organizations by pursuing five major objectives (Hilton, 2004), which are:

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1. Management accountants add value to their organizations by helping the top management in decision making and planning. Additionally, management accountants participate as an important part in the management team in decision making and processes. Recently, management accountants provide all kind of information to the management, (much of these information is financial information). In addition to their significant role in providing information, management accountants have become an integral part in the management team that they take proactive role players when it comes to strategic business planning and day to day needs to be made decisions. Furthermore, modern management accounting systems are considering more and more the activities that occur in all levels of the organization.
2. Management accountants add value to their organization by helping the top management in directing and controlling the operational activities. In order to achieve the organization's goals, the organization requires setting its plans, then, these plans need to be directed and controlled, which requires many information about the operation activities, and the role of management accountants here is to provide these information.
3. Management accountants add value to their organization by achieving the organization's goals by motivating all the employees (including managers) towards the organization's goals. Sometimes, the goals of individuals do not match the goals of organizations, so the roles of management accountant here is to motivate the managers and other employees to direct their efforts toward achieving the organizations' goals.
4. Management accountants add value to their organization by measuring the performance of activities, managers and other employees within the organization. Based on the feedback of measuring, the organization may reward the manager based on their performance.
5. Management accountants add value to their organization by estimating the organization's competitive position. In this competitive market, the significant role of management accountants is to assess how their organizations stack up against the competition and improvement.

As stated in IFAC, management accounting concept, this is the stage where organization evaluates and considers what derives customer value, shareholders value and organizational innovations. Target costing, cost design, recycling product and continuous cost improvement was the tools used to achieve the objective of creating value for customer, shareholder and the organization itself. Nishimura mentioned that in the integrated management accounting stage, organization take proactive and preventive feed forward management. This development was due to the uncertainty and changes in the market with the rapid change of technology and increase competition (Siegel & Sorensen, 1999).

The roles of management accountants vary from one organization to the next, that the roles are depending on the size of organization, the type of organization, culture, industry and other factors, on the other hand, these factors are different from time to time, the roles of management accountants in the past are not the same nowadays, because the circumstances are different. Notwithstanding, such differences do not change the basic roles of management accountants but the size of organizations and other factors influence the roles of management accountants and determine the complexity of the management accountants' roles (Edirisinghe, Ismail &Emerson, 2009). So the changing role of Management accounting can be seen as parallel with the market circumstances. From only providing information for the purpose of internal business activity, it already moves towards creating value demanded by customer and other stakeholders. Moreover, management accountants nowadays have more responsibilities than before as a result of decentralization and delegation of authority.

Likewise, management accountants play a vital role to develop and implement fraud prevention and internal control systems within their organizations, as this paper mentioned earlier that the management accountants report to the vice president of various operations, their reports cover extent patterns and causes of fraud, an overview of risk management, fraud prevention, identifying fraud and responding to fraud can be all measured, (CIMA).

Prevention fraud is the best way to stop fraud. There are various techniques that could be applied in order of prevent fraud. However, prevention techniques cannot provide 100% protection, it is very difficult to control all the opportunities for perpetrating fraud, but organizations should ensure that systems are placed to highlight occurrences of fraud. As well, in order to manage the risk of fraud, the organizations are required to consider both prevention and detection fraud in designing an effective strategy. In a view to implement fraud prevention, management accountants should receive training, which is very good basis for implementing anti-fraud program (CIMA).

As consequences of the new roles of management accountants, they are required to enhance their abilities to play those roles effectively in their organizations (Bamber et al, 2008). Siegal and Sorenso (1994) believe that management accountants need some skills in order to enhance their role in their organizations and their understanding of information

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needed by management. Siegal and Sorenso (1994) set some skills which are important for management accountants:

1. Financial and managerial accounting knowledge.
2. Analytical skills.
3. Verbal and written skills.
4. The capability to work in a group.
5. Expertise how a business functions.

Those skills are extremely important to management accountants that they help them to understand what information is needed; as a result, management accountants will provide qualified information; additionally, by utilizing both financial and non-financial indicators, using boarder range of skills taking good decisions and integrating operational and strategic control. As a result, management accountants will move to the spot light and become more integral part of the management team.

In short, the role of management accountant is not only "book-keeper" or "information-provider". Consequently, management accountant should have enough training and should be equipped with the mentioned above skills in order to become significant decision maker, strategic planner and market analytic.

XII. Conclusion

The era of globalization has given birth to a transformed management accountant position and the metamorphosis still continues. From bean counters to business partners and therefore moved from the back office to the front office (Holtzman, 2004). New roles and new challenges are facing management accountants. For successful business partnering we must constantly advance their knowledge in diverse areas and improve their communication skills to effectively communicate with their internal and external parties and all levels in their organizations. This is particularly important in a multicultural society.

Accounting has evolved to its present status as a profession through meeting the needs for measuring economic and financial activity and communicating this information to the society. Society is now demanding environmental information from organizations. Accountants must communicate the needed ecological information to interested parties in order to continue to receive professional support from society.

Management accounting has played a significant role in organizations even before 1900s. This is supported by researchers. Management accounting is seen as information provider for internal business process, management planning and control, resource management and creation of value through effectively used materials.

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Inquiry Method, Teacher Guided Discussion Method and Student's Attitude and Performance in Social Studies

By Dr. Ogunbiyi Joseph Olukayode
University Utara Malaysia

Abstract - The integrated social studies curriculum has always advocated for the use of innovative method in the teaching and learning of the subject at all level. While this advocacy is well orchestrated by theoretical assumptions in literature, empirical support evidences are still extremely scanty. It was in the context of enhancing learning outcome through Inquiry Method that this study was undertaken. The study examined the relativeness of Inquiry Method and Teacher Guided Discussion method as against the conventional and traditional methods in teaching and learning outcome of some aspects of social studies in secondary schools.

A pre-test, post-test, control group experimental design involving two experimental groups and one control group was used in the research work. The subjects of the study consist of one hundred and twenty (120) junior secondary schools two (JSS 2) social studies students in Ifo Local Government areas of Ogun State. A twenty (20) item objectives questions consisting of fill-in the gap and multiple choice objectives test was used for relevant data collection. The results of the pre-test and post-test scores in SSAT were analyzed, using both the descriptive and inferential statistics. The findings showed that there were significant differences among the treat situations. The Inquiry Method (IM) was found to have been most effective in enhancing learning outcome of the subjects. It was also discovered that a significant statistical interaction existed between the methods of instruction and academic ability were however found to have performed better in SSAT than those on low academic ability in the treatment conditions.

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INQUIRY METHOD, TEACHER GUIDED DISCUSSION METHOD AND STUDENTS ATTITUDE AND PERFORMANCE IN SOCIAL STUDIES

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I. Introduction

Social studies education is at least partly about information. The learning of this information is often regarded as an end itself, but in social studies, it is regarded as a means to more humane educational end. To achieve this humane satisfactorily, which is more than presentation of information, facts, concepts and generalizations must be processed to and from the learners, in order to provide the appropriate information to fulfill particular individuals' social needs. The amount of environmental and social information processed in any social studies course, taking into consideration the needs of all students, at all times, is enormous, at its best , the processing of this information must be fast and accurate.

Author : Social studies. Sociological studies department Tai solarin university of education Ijagun, ijebu-ode, ogun state.
E-mail : ogunbiyiolukayode@yahoo.com

This is where the relevance of the computer becomes apparent and crucial. A computer is essentially a device for storing and retrieval of large amount of information, and for handling this information in specific ways in extremely short period of time. Computer has therefore amplified the possibility of information processing and transformation with high speed in the performance of this routine operation.

Social studies is an integration of experience and knowledge concerning human relation for the purpose of citizenship education. The control goal of social studies is commonly given as education for democratic citizenship. However, this goal is typically divided into four parts; knowledge, skills, value and participation citizenship (Parker, 1991)

Teacher-Guided discussion strategies have been linked to open classroom situation in which each students is unique person, whom is endowed with intellectual ability to think and act both as an individual and as a group member. Students have the capability to meaningfully adjust to each other and to their world. Their coming together to work out social problem as a group is the shared goal of social studies curriculum and appropriate open classroom strategy.

There have been countless efforts by educators in Nigeria to promote innovative instructional methods and encouraging primary and secondary school teachers to abandon their –long standing practices of rote-learning, memorizations and persistence teacher dominated instructional strategies. The new social studies curriculum demands the adoption of more progressive strategies of discovery, inquiry, discussion, problem solving, dramatization / role playing, computer assisted instruction, simulation games, and other relaxed classroom learning and teaching activities.

Many years of research indicate that computer technologies in schools can play a supporting role in the acquisition of these information-literacy skills if their uses are embedded in significant learning experiences with computer (Braun & Kraft 1995). Other studies have examined approaches using computer that can increase the benefits for both students and teachers Muir (1994). Jonassen (1996) concurs that when tools such as databases, spreadsheets, multimedia, e-mail, and net work search engines are utilized to complete projects requiring students to use information to solve problems,

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there is a greater potential to promote cognitive development. These tools have the power to stimulate the development of intellectual skills such as inquiry, reasoning, problem solving and decision making abilities, critical and creative thinking; and learning how to learn. (Rose & Ferlund 1997).

There have been a lot studies on computer assisted instruction, which covers a wide range of domain of Biology, Geography, History, Economics etc but a hiatus still exist in the domain of social studies especially with reference to our local society. The pressure to computerize has had importance implication to social studies educators. However, the desire of Nigerian educators to promote and encourage innovative instructional methods among the primary and secondary school teachers has led to the discovery of teaching methods such as Teacher Guided Discussion, Computer Assisted Instruction etc. These methods are quite new and need constant application to ensure their relevance to the new social studies curriculum.

II. Purpose of The Study

The desire of Nigerian educators to promote and encourage innovative instructional methods among primary school and secondary school teachers has led to the discovery of various innovative teaching methods. The purpose of this study is to examine the effect of Computer assisted Instruction and Teacher Guided Discussion to the students learning outcome in some aspect of social studies.

III. Statement of The Problem

Despite the importance of social studies in the development of an individual and the society in general, and several calls for innovative instructional methods such as computer assisted instruction and teacher guided discussion in social studies, social studies lesson are still characterized by the traditional chalk and talk method of teaching. There have been a lot studies on computer assisted instruction, which covers a wide range of domain of Biology, Geography, History, Economics etc but a hiatus still exist in the domain of social studies especially with reference to our local society. This study therefore, was designed to determine the relativeness of the Teacher Guided Discussion and Computer Assisted Instruction on junior secondary schools students academic achievement in some aspects of social studies. The study also investigate the influence of academic ability and gender on students' learning outcome.

IV. Hypotheses

HO_1: There is no significant difference in the mean post-test achievement scores of subjects exposed to the different treatment conditions

HO_2:There will be no significant difference in the mean post-test scores on achievement of high and low academic subjects exposed to the different treatment conditions.

V. Sample

The subject for the study comprises of one hundred and twenty junior secondary schools students selected from three secondary schools within Ado-Odo/Oat and Ifo local government in Ogun State.
A three stage stratified random sampling procedure was used in selecting the subject. First, All secondary schools located within Ado-Odo/Ota and Ifo local government area constitute the target secondary schools.

After this initial categorization, three secondary schools were randomly selected using simple random sampling procedure. On selecting the secondary schools, all the Junior secondary II social studies students in each schools were taken as the "intact" groups. These three groups of subjects in the selected schools were randomly allocated to one of the two experimental situations. While all students were involved in the teaching and testing sessions, only 40 were randomly selected in each group for the purpose oof analysis and discussion.

VI. Concepts Selected for The Study

The two concepts in social studies selected for the study are as follows.
Culture and Identity
Migration and it's effect on the family

VII. Instruments

The following instruments were designed and used by the researcher:

i. Students Intelligence Test (SIT)
ii. Social Studies Achievement Test (SSAT)
iii. Computer-Assisted Instruction Materials (CAIMS)
iv. Teacher-Guided Discussion Materials (TGDMS)

Instruments III and IV (CAIMS), (TGDMS) are teaching materials for the two instructional methods (Computer-Assisted Instruction and Teacher Guided Discussion). The instruments II (SSAT) is the criterion measures for the study. All the above instruments focused on social studies topics selected for the study. The first instrument (SIT) was used in categorizing the categories of subjects into high and low academic ability.

VIII. Result and Discussion

a) Effects Of Teaching Methods On Cognitive Learning Achievements

The data presented in table 1, 2 and 3 indicate the summary of descriptive statistics of the pre-test and post-test scores of the three groups, while table 4

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specifically shows the mean gain scores in the two treatment groups.

Table 1: Descriptive Statistics Of The Pre –Test And Post Test Scores According To Treatment Groups: The Mean Gain Score.

	Teacher Guided Discussion		Computer Assisted Instruction		Control Group	
Test Type	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
SSAT N Obtainable Mark 20 X	40 10.475	40 13.925	40 11.775	40 14.825	40 10.725	40 13.775

Table 1 above represents the performance of subjects in both pre-test and post-test in the computer assisted instruction treatment group, obtained the highest post-test mean scores in the criterion measures. The subject exposed to the Teacher –Guided Discussion Method scored higher than those in the control group in the post-test mean scores.

Table 2 : Descriptive Statistics Of Scores According To Academics Abilities And Treatment Groups

		PRE –TEST						POST-TEST					
Test Type		TGD		CAI		CG		TGD		CAI		CG	
		H	L	H	L	H	L	H	L	H	L	H	L
SSAT	N	23	17	18	22	20	20	23	17	18	22	20	20
	X	15.55	6.71	15.56	7.05	9.1	6.35	17.91	10.59	17.94	10.63	10.05	7.75

Table 2 as presented above shows that performance of the academic ability group differ in the criterion measures under the different conditions. It can be seen that the high academic ability groups performed better than the low academic ability groups in the mean post-test scores in the criterion measures given in the different treatment conditions.

HO_1: There is no significant difference in the mean post-test achievement scores of subjects exposed to the different treatment conditions

A one-way, Analysis of Variance (ANOVA) was employed to test the hypothesis.

Table 3 : Summary of Analysis of Variance on The Post-Test Academic Scores of subjects.

Source	Sum of Squares (SS)	Degrees of Freedom	Means Square	F Cal	F Critical
Between Sum of squares (SSb)	439.33	2	219.665	18.25	3.07
Within Sum of squares (SSw)	1408.54	117	12.039		
Total Sum of squares (SSt)	1847.87	119			

From the summary of the ANOVA, as shown in table 3 above, it could be seen that there is a significant effect main effect (F =18.25, t critical < 3.07). The obtained values of F is greater than the critical F value F (tab). Thus shows that the difference in the three experimental conditions is significant.

HO_2: There will be no significant difference in the mean post-test scores on achievement of high and low academic subjects exposed to the different treatment conditions.

Table 2 as presented earlier on shows that academic ability had a highly significant main effect on the variations in subjects achievement (high academic ability χ = 15.30); and Low academic ability χ = 9.66). Table 4 gives a full detail performance of two academic ability groups in all the treatment conditions.

Table 4 : Mean, Standard Deviation And T-Test Comparison Of Achievement Scores Ha And La Subjects In Each Of The Instructions.

Instruction Mode		Gender	N	X	SD	t-Obtained	t-Critical
Teacher Guided Discussion	E1	HA	23	17.9	2.54	16.2	2.021
		LA	17	10.6	1.54		
Computer Assisted Instruction	E2	HA	18	18	1.50	20. 56	
		LA	22	10.6	1.075		
Control	C	HA	2	13	-2.4		

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I Group	G		0			-12.5	
		LA	20	7.75	1.292		

The post-hoc analysis (table 4) above, shows that high and low academic ability groups performed significantly differently in both E1 and E2 treatment conditions, [E1: High academic ability χ =17.9; and Low academic ability χ = 10.6 ; and in E2 : high academic ability χ =18; and Low academic ability χ = 10.6]. It is of interest to observe that the high academic ability group in E2 treatment condition performed highly better than the subjects (high academic groups) in E1 and control group. It was also observed that even in control group, the high academic group recorded a higher mean score above the low academic ability group. Even though the difference between the mean achievements scores of the high and low academic groups in the different treatment conditions was not found to be statistically significant, table 4 shows that the subjects in the Computer Assisted Instruction (E2) recorded better and higher mean achievement score than the subjects in (E1) and control treatment conditions. Consequently, this can be interpreted to mean that the computer Assisted Instruction seems to posses the capacity to promote higher cognitive attainment than teacher –Guided Discussion (E1) and Modified Lecture method in the learners.

On the basis of all these findings, the null hypothesis HO_2 which stated that there will be no statistically difference in the mean post-test scores on achievement high and low academic ability subjects exposed to the different conditions, is therefore not accepted.

The result therefore shows that high or low academic served as an important intervening variables in the study; with high academic ability subjects consistently performing better than their counterparts in the low academic ability group in the treatment condition. The results also indicates that the subjects exposed to the Computer assisted Instruction (E2) consistently performed better and score higher in the achievement criterion measures, than the subjects exposed to Teacher Guided Discussion (E1) and control group.

IX. Recommendation

A lot of works on the use of innovative teaching methods have been done by various researchers as cited in the introductory aspect of this paper. The findings of this studies also highlights that social studies teachers should endeavour to apply various innovative methods such as Computer Assisted Instruction in the teaching of Social Studies in secondary schools.

Seminar and workshop should be organized from time to time by the ministry of education and other concerned bodies to acquaint teachers with the latest and most appropriate teaching models and how they can be properly utilized to facilitate learning.

Teachers of social studies should be exposed to fundamentals knowledge of Computer-Assisted Instruction and its implications in the classroom.

The social studies curriculum should be reviewed to accommodate topics and issues that can be computerized and to include Computer-Assisted Instruction method among the various methods of instruction recommended in the curriculum.

X. Conclusion

This study was designed to examine the relative effectiveness of Computer-Assisted Instruction and Teacher Guided Discussion as against the conventional and traditional methods, in teaching and learning social studies in secondary schools. The study alos investigated the interactive effects, if any of achievement ability of the subjects on their achievement scores in the SSAT criterion measures.

A pre-test, post-test, control group experimental design involving two experimental groups and one control group was used in the research work. The subjects of the study consist of one hundred and twenty (120) junior secondary schools two (JSS 2) social studies students in Ado-Odo / Ota Local Government areas of Ogun State. A twenty (20) item objectives questions consisting of fill-in the gap and multiple choice objectives test was used for relevant data collection. The results of the pre-test and post-test scores in SSAT were analyzed, using both the descriptive and inferential statistics.

The results of the study were as follows;

The findings showed that there were significant differences among the treat situations. The Computer Assisted Instruction (CAI) was found to have been most effective in enhancing learning outcome of the subjects. It was also discovered that a significant statistical interaction existed between the methods of instruction and academic ability were however found to have performed better in SSAT than those on low academic ability in the treatment conditions.

As one of the earliest attempt in the area of innovative method of teaching social studies for enhancing effective learning outcome in the learner, this study seems to have successfully contributed to the frontier of knowledge on the efficacy of Computer Assisted Instruction in promoting learning outcome in some aspect of social studies. Thus, this study has generated some evidence in support of the theoretical assumptions and empirical assertions about the effectiveness of Computer-Assisted Instruction with

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particular reference to Banks (1977); Akinlaye (2003); Modern (1994); Powell (1995) respectively.

While there is need for caution in generalizing the findings of this investigation, in view of its limitation, this report has somehow contributed to the frontier of knowledge on the effectiveness of the Computer-Assisted Instruction, to develop and enhance learning outcome in the learners.

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Integrated Approach to Factors Affecting Consumers Purchase Behavior in Poland and an Empirical Study

By Dr. Durmaz Yakup & Dr. Sebastian Jablonsk
Hasan Kalyoncu University, Gaziantep, Turkey

Abstract - Nowadays influencing consumer behaviours is very important for companies which aims to be succesful in such an intense competetive environment. To cope with intense competetion and to influence consumer behaviours is inevitable for companies to consider cultural, social, psychologic and, personal status of consumers. main aim of the companies is to profit. Therefore companies should understand behaviours of their consumers to keep the permanency of the situation, to keep their customers and to keep their customers to buy. In this study, factors affecting the consumers' behaviours such as age and life times, occupation, life style and personality are studied. This study investigates how personal factors affect consumer behaviors in Poland with the participation of 500 people in the provinces through interviews. The obtained data are interpreted quantitatively.

Keywords : Consumer, Customer, Consumer Buyer Behaviour.

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INTEGRATED APPROACH TO FACTORS AFFECTING CONSUMERS PURCHASE BEHAVIOR IN POLAND AND AN EMPIRICAL STUDY

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Integrated Approach to Factors Affecting Consumers Purchase Behavior in Poland and an Empirical Study

Dr. Durmaz Yakup [α] & Dr. Sebastian Jablonsk [σ]

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Keywords : Consumer, Customer, Consumer Buyer Behaviour.

I. Introduction

In our globalizing world where economic crisis deepen and competition gets fiercer,comsumers are becoming more and more important. Every individual is a consumer.There are rapid changes in demands and desires of the consumers who are considered to be center of the modern marketing. Companies need to increase the rate of their research and development activities in order to be able to learn these changes and improvements.

The idea of Modern Marketing which improved after 1950s and gained speed after 1980s,gives priority to make profit by satisfying the demands and needs of consumers so as to fulfill business targets.Consumer satisfaction,which is widely accepted by developed countries and gaining importance day by day,can only be achieved by percieving the consumers and consumer behaviors.[1]

Author α : Faculty of Economics and Administrative Sciences, and Vice Dean. Hasan Kalyoncu University, Gaziantep, Turkey.
E-mail : yakupdu@hotmail.com, yakup.durmaz@hku.edu.tr
Author σ : College Of Economy, Tourism And Social Sciences İn Kielce. E-mail : sjablonski@etins.edu.pl

[1] Yavuz CÖMERT and Yakup DURMAZ, Tüketicinin Tatmini İle Satın Alma Davranışlarını Etkileyen Faktörlere Bütünleşik Yaklaşım Ve Adıyaman İlinde Bir Alan Çalışması, http://joy.yasar.edu.tr/makale/no4_vol1/04_comert_durmaz.pdf, 16.01.2012.

The aim of this survey is to understand the consumers' behavior better. After the factors affecting the consumer behavior had been explained theorically, a survey was made with Polish consumers about this subject and results were tried to be construed.

a) Consumption, Consumer And Customer Concepts

i. *Consumption*

The process in which the substance of a thing is completely destroyed, used up, or incorporated or transformed into something else. Consumption of goods and services is the amount of them used in a particular time period.[2]

ii. *Consumer and Customer*

The "consumer" is the one who consumes the goods and services produced. As such, consumers play a vital role in the economic system of a nation because in the absence of the effective demand that emanates from them, the economy virtually collapses. [3]

Customer is A person, company, or other entity which buys goods and services produced by another person, company, or other entity.[4]

iii. *Consumer Behaviour Concept*

Consumer behaviour is the study of when, why, how, and where people do or do not buy a product. It blends elements from psychology, sociology, social anthropology and economics.[5] Consumer behavior is "The study of individuals, groups, or organizations and the processes they use to select, secure, use, and dispose of products, services, experiences, or ideas to satisfy needs and the impacts that these processes have on the consumer and society." Although it is not necessary to memorize this definition, it brings up some useful points:[6]

- Behavior occurs either for the individual, or in the context of a group (e.g., friends influence what kinds

[2] http://www.businessdictionary.com/definition/consumption.html, 07.09.2011.
[3] Consumer, http://en.wikipedia.org/wiki/Consumer, 16.01.2012.
[4] Customer, http://www.investorwords.com/5877/customer.html, 16.01.2012.
[5] Consumer Behaviour, http://en.wikipedia.org/wiki/Consumer_behaviour, 16.01.2012.
[6] Lars PERNER, Consumer Behavıor: The Psychology Of Marketıng, http://www.consumerpsychologist.com/, 16.01.2012.

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of clothes a person wears) or an organization (people on the job make decisions as to which products the firm should use).

- Consumer behavior involves the use and disposal of products as well as the study of how they are purchased. Product use is often of great interest to the marketer, because this may influence how a product is best positioned or how we can encourage increased consumption. Since many environmental problems result from product disposal (e.g., motor oil being sent into sewage systems to save the recycling fee, or garbage piling up at landfills) this is also an area of interest.
- Consumer behavior involves services and ideas as well as tangible products.
- The impact of consumer behavior on society is also of relevance. For example, aggressive marketing of high fat foods, or aggressive marketing of easy credit, may have serious repercussions for the national health and economy.

b) The Decision Making Process

Research suggests that customers go through a five-stage decision-making process in any purchase. This is summarised in the diagram below:[7]

Figure 1 : Decision-Making Process.

This model is important for anyone making marketing decisions. It forces the marketer to consider the whole buying process rather than just the purchase decision (when it may be too late for a business to influence the choice!)

When purchasing a product there are several processes,which consumers go through. These will be discussed below.[8]

i. *Problem/Need Recognition*

How do you decide which particular product or service to purchase? It could be that your Blu-Ray DVD player stops working and you now have to look for a new one. All those Blu-Ray DVD films you purchased you can no longer play! So you have a problem or a new need. For high value items like a Blu-Ray player or a car or other low frequency purchased products this is the process we would take. However, for impulse low frequency purchases e.g. chocolate the process is different.

ii. *Information search*

So we have a problem, our Blu-Ray player no longer works and we need to buy a new one. What is the solution? Yes go out and purchase a new one, but which brand? Shall we buy the same brand as the one that blew up? Or stay clear of that? Consumer often go on some form of information search to help them through their purchase decision. Sources of information could be family, friends, neighbours who may have the product you have in mind, alternatively you may ask the sales people, or dealers, or read specialist magazines like What DVD? to help with the purchase decision. You may even actually examine the product before you decide to purchase it.

iii. *Evaluation of different purchase options.*

So what Blu-Ray DVD player do we purchase? Shall it be Sony, Toshiba or Bush? Consumers allocate factors to certain products, almost like a point scoring system which they work out in their mind over which brand to purchase. so for one customer, brand may be more important then price and another, features and price are just as

This means that consumers know what features from the rivals will benefit them and they attach different degrees of importance to each attribute. For example sound maybe better on the Sony product and picture on the Toshiba , but picture clarity is more important to you then sound. Consumers usually have some sort of brand preference with companies as they may have had a good history with a particular brand or their friends may have had a reliable history with one, but if the decision falls between the Sony DVD or Toshiba then which one shall it be? It could be that the a review the consumer reads on the particular Toshiba product may have tipped the balance and that they will purchase that brand.

iv. *Purchase decision*

Through the evaluation process discussed above, consumers will reach their final purchase decision and they reach the final process of going

[7] The decision-making process, http://tutor2u.net/business/marketing/buying_decision_process.asp, 11.01.2012.

[8] Consumer Buyer Behaviour, http://www.learnmarketing.net/consumer.htm, 16.01.2012.

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through the purchase action. The process of going to the shop to buy the product, which for some consumers can be as just as rewarding as actually purchasing the product. Purchase of the product can either be through the store, the web, or over the phone.

v. *Post Purchase Behaviour*

Ever have doubts about the product after you purchased it? This simply is post purchase behaviour and research shows that it is a common trait amongst purchasers of products. Manufacturers of products clearly want recent consumers to feel proud of their purchase and they want the customer to purchase from them again. It is therefore just as important for manufacturers to advertise for the sake of their recent purchaser so consumers feel comfortable that they own a product from a strong and reputable organisation.

c) Factors Affecting The Consumer Purchase Behavior

Markets have to be understood before marketing strategies can be developed. People using consumer markets buy goods and services for personal consumption. Consumers vary tremendously in age, income, education, tastes, and other factors. Consumer behavior is influenced by the buyer's characteristics and by the buyer's decision process. Buyer characteristics include four major factors: cultural, social, personal, and psychological. We can say that following factors can influence the Buying decision of the buyer: [9]

a. Cultural b. Social c. Personal d. Psychological

The task of marketing is to identify consumers' needs and wants accurately, then to develop products and services that will satisfy them. For marketing to be successful, it is not sufficient to merely discover what customers require, but to find out why it is required. Only by gaining a deep and comprehensive understanding of buyer behaviour can marketing's goals be realised. Such an understanding of buyer behaviour works to the mutual advantage of the consumer and marketer, allowing the marketer to become better equipped to satisfy the consumer's needs efficiently and establish a loyal group of customers with positive attitudes towards the company's products.[10]

Marketing of goods and services, non-marketing factors that affect individuals to purchase as shown in Figure 2 can be explained.[11]

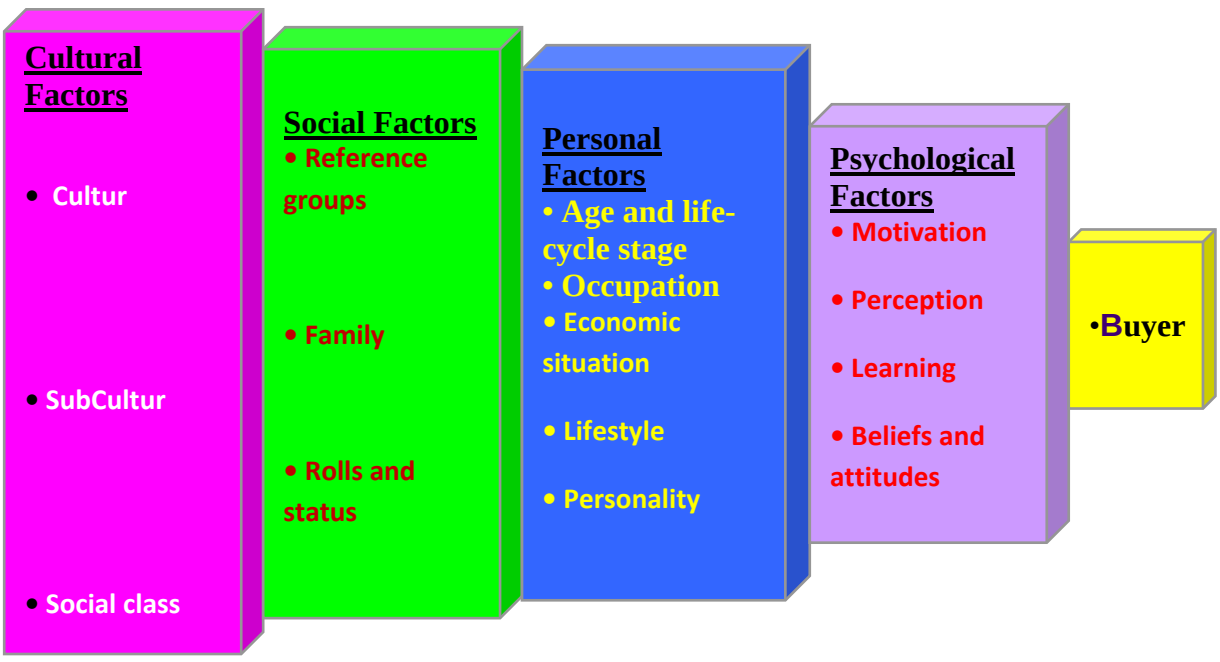

Figure 2 : Factors Affecting The Consumer Purchase Behavior.

[9] Consumer Buyer Behaviour, http://www.zainbooks.com/books/marketing/principles-of-marketing_15_consumer-buying-behavior.html, 11.01.2012.
[10] Geoff LANCASTER, Buyer Behaviour, http://www.marketingmasters.co.uk/geoff/Buybeh%20handout.doc, 06.11.2003.
[11] Philip KOTLER and Gary ARMSTRONG, Prenciple of Marketing, Prentice Hall International Edition, 1994, p.137.

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i. *Cultural Factors*

Cultural factors have a significant impact on customer behavior. Cultural Factors, culture, subculture and social class to be examined under three headings.

a. Cultur

Culture is the complex of beliefs of human societies, their roles, their behavior, their values, traditions, customs and traditions. Culture is an extremely important concept to understand consumer behavior and that needs to be examined.[12] Culture is the sum of a shared purpose among members of society, customs, norms and traditions. Consumer purchasing decisions are often affected by factors that are outside of their control but have direct or indirect impact on how we live and what we consume. One example of this are cultural factors. Culture represents the behavior, beliefs and, in many cases, the way we act learned by interacting or observing other members of society. In this way much of what we do is shared behavior, passed along from one member of society to another. Yet culture is a broad concept that, while of interest to marketers, is not nearly as important as understanding what occurs within smaller groups or Sub-Cultures to which we may also belong.[13]

b. Sub-cultur

Each culture contains "sub-cultures" – groups of people with share values. Sub-cultures can include nationalities, religions, racial groups, or groups of people sharing the same geographical location. Sometimes a sub-culture will create a substantial and distinctive market segment of its own. For example, the "youth culture" or "club culture" has quite distinct values and buying characteristics from the much older "gray generation"[14]

c. Social Class

Every society possesses some form of social class which is important to the marketers because the buying behavior of people in a given social class is similar. In this way marketing activities could be tailored according to different social classes. Here we should note that social class is not only determined by income but there are various other factors as well such as: wealth, education, occupation etc.[15] In the UK's socioeconomic classification scheme, social class is not just determined by income. It is measured as a combination of occupation, income, education, wealth and other variables:[16]

Table 1 : Socioeconomic Classification Scheme.

Class name	Social Status	Occupational Head of Household	% of UK Population
A	Upper middle	Higher managerial, administrative or professional	3
B	Middle	Intermediate managerial, administrative or professional	14
C1	Lower middle	Superiors or clerical, junior managerial, administrative or professional	27
C2	Skilled working	Skilled manual workers	25
D	Working	Semi-skilled and un-skilled manual workers	19
E	Those at lowest level of subsistence	State pensioners or widows, casual or lower-grade workers	12

ii. *Social Factors*

A consumer's behaviour also is influenced by social factors, such as the (i) Groups (ii) Family (iii) Roles and status.[17]

a. Reference Groups

Reference groups have potential in forming a person attitude or behavior. The impact of reference groups varies across products and brands. For example if the product is visible such as dress, shoes, car etc then the influence of reference groups will be high. Reference groups also include opinion leader (a person who influences other because of his special skill, knowledge or other characteristics).[18]

b. Family

A family is two or more people living together who are related by blood or marriage. It is a part of a household which consists of individuals living singly or together with others in a residential unit. Consumer

[12] Yakup Durmaz and Others, The Impact of Cultural Factors on the Consumer Buying Behaviors Examined through An Impirical Study, http://www.ijbssnet.com/journals/Vol._2_No._5_[Special_Issue_-_March_2011]/13.pdf, 16.01.2012.

[13]. Consumer Buyer Behaviour, http://www.knowthis.com/principles-of-marketing-tutorials/consumer-buying-behavior/external-influences-culture/ , 08.12.2011

[14] Factors Affecting Consumer Buying Behavior, http://www.marketing91.com/factors-affecting-consumer-buying-behavior/, 23.12.2011.

[15] Asifo SHAH, Factors Affecting Consumer Behavior, http://ezinearticles.com/?Factors-Affecting-Consumer-Behavior&id=4602848, 16.01.2012.

[16] Types of Cultural; Social İnfluences, http://tutor2u.net/business/marketing/buying_cultural_factors.asp, 16.01.2012.

[17] Factors influencing consumer behaviour, http://www.mbanotesworld.in/2008/05/factors-influencing-consumer-behaviour.html, 16.01.2012.

[18] Asifo SHAH, Factors Affecting Consumer Behavior, http://ezinearticles.com/?Factors-Affecting-Consumer-Behavior&id=4602848, 16.01.2012.

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behaviour is influenced not only by consumer personalities and motivations, but also by the relationships within families (family is a familiar social unit). In a family, members must satisfy their individual and shared needs by drawing on a common and shared, relatively fixed supply of sources. The individual family is a strong, most immediate
and most pervasive influence on decision-making. The husband, wife and children influence each other and are influenced by others.[19]

c. Roles and Status

A person belongs to many groups—family, clubs, organizations. The person's position in each group can be defined in terms of both role and status. A role consists of the activities people are expected to perform according to the persons around them. In last Lesson we discussed the Consumer Buying behavior its model and characteristics that can influence the decision for buying process. Today we will be continuing the same topic and will discuss the remaining factors that influence the buying process and decision of consumers.[20]

iii. *Personel Factors*

Personel factors, a buyer's decisions are also influenced by personal characteristics such as the buyer's age and life-cycle stage, occupation, economic situation, life style, and personality and self-concept.[21]

a. Age and Life-Cycle State

People change the goods and services they buy over their lifetimes. Buying is also shaped by the stage of the family life cycle-the stages through which families might pass as they mature over time. Marketers often define their target markets in terms of life-cycle stage and develop appropriate products and marketing plans. [22]

b. Occupation

Occupation - a person's occupation affects the goods and services bought. Marketers try to identify the occupational groups that have an above-average interest in their products and services. A company can even specialize in making products needed by a given occupational group.[23]

c. Economic Situation

Economic Situation - a person's economic situation will greatly affect product choice. Marketers of income-sensitive goods closely watch trends in personal income, savings, and interest rates. If economic indicators point to a recession, marketers can take steps to redesign, reposition, and reprice their products.[24]

d. Life Style

Life Style, people coming from the same subculture, social class, and even occupation may have quite different life styles. Life style is a person's pattern of living as expressed in his or her activities, interests, and opinions. Life style captures something more than the person's social class or personality. The life-style concept, when used carefully, can help the marketer gain an understanding of changing consumer values and how they affect buying behavior..[25]

e. Personelity and Self-Concept

Personality and Self-Concept, each person's distinct personality will influence his or her buying behavior. Personality refers to the unique psychological characteristics that lead to relatively consistent and lasting responses to one's own environment. Many marketers use a concept related to personality-a person's self-concept .[26]

iv. *Psychological Factors*

There are four factors that affect the consumer buying decision process:[27]

1. Motivation
2. Perception
3. Learning
4. Beliefs and attitudes

a. Motivation

Motivation is an activated internal need state leading to goal-directed behavior to satisfy that need. Accordingly motives can be defined as relatively

[19] Yakup DURMAZ and Sevil ZENGİN, An Impirical Study on the Effect of Family Factor on Consumer Buying Behaviours, http://ccsenet.org/journal/index.php/ass/article/view/12453, 16.01.2012.

[20] Consumer Buyer Behavior, http://www.zainbooks.com/books/marketing/principles-of-marketing_15_consumer-buying-behavior.html, 16.01.2012.

[21] "Buyer Behaviour", http://www.buseco.monash.edu.au/depts/mkt/mtp_online/factors.html, 23.09.2003.

[22] Consumer Markets: Influences on Consumer Behavior, http://referaty-seminarky.sk/consumer-markets-influences-on-consumer-behavior/, 16.01.2012.

[23] Consumer Markets: Influences on Consumer Behavior, http://referaty-seminarky.sk/consumer-markets-influences-on-consumer-behavior/, 16.01.2012.

[24] Consumer Markets: Influences on Consumer Behavior, http://referaty-seminarky.sk/consumer-markets-influences-on-consumer-behavior/, 16.01.2012.

[25] Johanna Fyrbjörk, "Attitudes and Consumer Behaviour", http://hem.passagen.se/fyrbjork/Bachelor_Thesis.pdf, 23.12.2003.

[26] James YIP, "Final Revision Notes for Consumer Behaviour Module for ICB", http://www.icbwin.com/upload/Final%20Revision%20Notes%20for%20Consumer%20Behaviour-PART%20B.doc, 24.11.2003.

[27] Car Sales Training, http://www.ul.ie/techcomm/ELearning/Projects/ELearning%20Projects/ElaineWalsh/CARS/module1_titles.htm., 20.01.2004.

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enduring, strong, and persistent internal stimuli that arouse and direct behavior toward certain goals.[28] There are five different levels in Maslow's hierarchy of needs:[29]

i. *Physiological Needs:* These include the most basic needs that are vital to survival, such as the need for water, air, food and sleep. Maslow believed that these needs are the most basic and instinctive needs in the hierarchy because all needs become secondary until these physiological needs are met.

ii. *Security Needs:* These include needs for safety and security. Security needs are important for survival, but they are not as demanding as the physiological needs. Examples of security needs include a desire for steady employment, health insurance, safe neighborhoods and shelter from the environment.

iii. *Social Needs:* These include needs for belonging, love and affection. Maslow considered these needs to be less basic than physiological and security needs. Relationships such as friendships, romantic attachments and families help fulfill this need for companionship and acceptance, as does involvement in social, community or religious groups.

iv. *Esteem Needs:* After the first three needs have been satisfied, esteem needs becomes increasingly important. These include the need for things that reflect on self-esteem, personal worth, social recognition and accomplishment.

v. *Self-actualizing Needs :*This is the highest level of Maslow's hierarchy of needs. Self-actualizing people are self-aware, concerned with personal growth, less concerned with the opinions of others and interested fulfilling their potential.

Figure 3 : Maslow's hierarchy of needs.[30]

[28] Lantos, GP. (2011). "Consumer Behavior in Action; Real Life Applications for Marketing Managers" , M.E. Sharpe, Inc., USA.,

[29] Maslow Was Probably Right, http://bottom-of-the-glass.blogspot.com/2011/05/maslow-was-probably-right.html, 23.12.2011

[30] http://bottom-of-the-glass.blogspot.com/2011/05/maslow-was-probably-right.html, 23.12.2011

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b. Perception

Perception is called as the energy which makes us aware of the world around us and attaches a meaning to it after a sensing process. Each human being in the world sees his/her surroundings differently. Several people have the same ideas about a specific event. No one can see or feel the % 100 of all things.

Ever wonder why people buy certain products? It is all about perception. Perception is how consumers understand the world around them based on information received through their senses. In response to stimuli, consumers subconsciously evaluate their needs, values and expectations, and then they use that evaluation to select, organize and interpret the stimuli.[31]

The marketplace's perception of a brand or industry is extremely important, which is why big brands work so hard to ensure that the general perception surrounding them and their industry is as positive as possible. As a result, companies like Gillette, will pay David Beckham to 'model' their products. By aligning the way people feel about Beckham, with the Gillette brand, Gillette can improve the perception of their brand or reinforce what's already positive about it.[32]

c. Learning

Learning is a change in a person's thought processes caused by prior experience.[33] Consumer learning may result from things that marketers do, or it may result from stimuli that have nothing to do with marketing. Either way, almost all consumer behavior is learned.[34]

d. Beliefs and Attitudes

Kotler defines belief as "descriptive thought that a person holds about something" and attitude as "a person's enduring favorable or unfavorable cognitive evaluations, emotional feelings, and action tendencies toward some object or idea" .Individuals can have specific beliefs and attitudes about specific products and services.[35]

Marketers are interested in the beliefs that people formulate about specific products and services because these beliefs make up product and brand images that affect buying behavior. If some of the beliefs are wrong and prevent purchase, the marketer has to launch a campaign to correct them[20]. A consumer may believe that Sony's Cyber-shot camera takes the best HD video, is easiest to use, and is the most reasonably priced. These beliefs may be based on knowledge, faith, or hearsay. Consumers tend to develop a set of beliefs about a product's attributes and then, through these beliefs, form a brand image-a set of beliefs about a particular brand.[36]

People have attitudes regarding religion, politics, clothes, music, food, etc. Attitude of consumer also influences the consumer behavior. If consumer's attitude towards a product is favorable, then it will have positive effect on consumer behavior. The marketers discover prevailing attitude towards their product and try to make it positive, and if it is already positive, then try to maintain it.[37]

II. Application

a) Purpose And Scope Of Research

The purpose of this study is by shedding light to the managers of founded and will be set up business and especially to the marketing department, which provides to development of country and which leads that the consumers are better known by them and better quality goods, services and ideas will be presented

In the 1950s, "contemporary (modern) marketing concept" expresses the consumer-oriented businesses. What, when, where and at what price and why wants consumers, these questions were asked firstly about forty years ago. In other words, get to know people has become more important.

b) Methods And Sample

In this study as data collection method questionnaire was preffered to obtain objective data and to interpret the first order, that person is the source or first hand. Questionnaire has been prepared according to the 'funnel'technique, that means from general to special. . Assumption of this technique, wenn the special questions are asked at first place to the surveys, they will be probably avoided.

Research data, by sampling the group of Poland consumers , consist of multiple choice questions for the questionnaire.

c) Limiting Of İnvestigation

In the survey, altougth it was aimed 1000 people, reasons like limited time, financial problems and difficulty of doing research in an other country are the limits of this survey.

d) Results Analysis And Interpretation

The data obtained were analyzed through computer program package "frequency" and the results were inerpreted according to this method.

[31] Lake, L. (2009). "Consumer Behavior for Dummies", Wiley Publishing Inc., Indianapolis.
[32] Connolly, J.(2010), http:// jimsmarketingblog.com ,2010.01.22.
[33] Michael R. Solomon, Consumer Behavior 2nd edition Allyn and Bacon, 1994, p. 137.
[34] William D. PERREAULT and E. Jerome McCARTHY, Basic Marketing, McGraw-Hill, New York, 2002, p.161.
[35] Lee, S. (2007). Motivation Study Based on Expectancy Theory ,The Florida State University College of Information Academic Library Service, the Florida State University.
[36] Lamb, CW., Hair, JF., MacDaniel, C. (2010) "MKTD 5", Cengage Learning, Mason
[37] Trehan, M, Trehan R. (2009). "Advertising and Sales Management" , V.K. India Enterprises, New Delhi.

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e) An Analise With Of The Factors Which Affects Satisfaction And Buying

Representing the main mass of the population of Poland in the random sampling method was chosen as 500 people

i. *Do you generally like shopping?*

Table 2 : Distribution of consumer shopping satisfaction Breakdown.

	Frequency	Percent	Valid Percent	Cumulative Percent
Exteremely satisfied	110	22,0	22,1	22,1
Satisfied	198	39,6	39,8	61,8
Nuetral	130	26,0	26,1	88,0
Dissatisfied	37	7,4	7,4	95,4
Exteremely dissatisfied	23	4,6	4,6	100,0
Total	498	99,6	100,0	
Missing	2	,4		
Total	500	100,0		

With this question,it is intendend to detect the like degree of consumer shopping . As shown in Table 2, 500 people responded to this question, 198 people (39.76%) had enjoyed shopping satisfied, 130 people (26.10%) exteremely satisfied, 110 people (22.09%) is nuetral While, 37 persons (7.4%) did not like, and 23 persons (4.6%) stated they did not like at all.

According to these data, it could be said that the vast majority of those who surveyed (61,8 %) enjoy shopping.

ii. *Where do you generally do your shopping?*

Table 3 : Place of Purchase-data as of Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Super market	300	60,0	60,4	60,4
Grocer and greengrocer	56	11,2	11,3	71,6
Bazaar	48	9,6	9,7	81,3
Related store	61	12,2	12,3	93,6
Other	31	6,2	6,2	99,8
Total	497	99,4	100,0	
Missing	3	,6		
Genel toplam	500	100,0		

In this question it's aimed to learn what kind of retailers consumers prefer. As it is seen in Table 3, 497 people responded to this question and 300 (%60.36) of them do their shopping from super markets, 61 (%12,27) people from related store,56 (% 11,27) people from grocer and greengrocer, 45 (%9,66) people form bazaar, 31 (%6,2) people prefer other places to do their shopping.

We can list some of the reasons why of super markets being preferred ;

1. Cheaper prices
2. Their being cool in summer and being warm in winter
3. Opportunities of credit card and receips (compared to the grocers)
4. Car park areas and play grounds for children
5. Variety of products
6. Fresh products

It is stated that the super markets are the least affected from economic crisis in the world.(Hiper markets are in the same category with super markets)

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iii. *Who do you generally do your shopping?*

Table 4 : Who makes the buying-data.

	Frequency	Percent	Valid Percent	Cumulative Percent
Mother	132	26,4	26,5	26,5
Father	49	9,8	9,8	36,3
Children	30	6,0	6,0	42,4
With parents	55	11,0	11,0	53,4
The whole family	108	21,6	21,7	75,1
Other	124	24,8	24,9	100,0
Total	498	99,6	100,0	
Missing	2	,4		
Total	500	100,0		

We aimed to investigate with this question in general who does shopping. The number of surveys who answered as the father of the number is 49 (9,8%) individuals, all families in those 108 (21.6%), parents with the score of 55 (11%), the mother 132 (26,4%) in those 30 children (6%), and who said others consist of 124 (24.5%) people.

According to these results, it seems to take the first place that the Mothers do the shopping exchange of Mothers in Poland.

iv. *How do you want shopkeep or sellers behave you when you go to buy product you need*

Table 5 : What consumers expect from the seller.

	Frequency	Percent	Valid Percent	Cumulative Percent
The thing which is important for me is the product that I need	119	23,8	24,1	24,1
I want sellers to be cheerful, sincere and be interested in me	249	49,8	50,5	74,6
I like them to serve tea and coffee	26	5,2	5,3	79,9
I'm affected them by making sell with credit cart	16	3,2	3,2	83,2
I desire them to give receipt or bill after sales	4	,8	,8	84,0
I want them to sent me off with sincere, without being angry when I leave the store without finding the product I need	72	14,4	14,6	98,6
Diğer	7	1,4	1,4	100,0
Toplam	493	98,6	100,0	
Cevapsız	7	1,4		
Genel toplam	500	100,0		

With this question we aimed to learn what kind of expectations consumers have from shopkeepers and sellers and we wanted them to sign 3 choices in order.While 249 (50,51%) of 493 respondents wanted the seller to be sincere,cheerful, 119 (24,14%) of them said that the thing which is important is the product they need,72 (14,6%) people wanted the seller to be sincere when they laeve the store without finding the product they need, 26 (5.3%) of them wantedto be served tea or coffee; 4 people wanted to be given receipt or bill after sales; 16(3,2%) of them wanted to do shopping with credit cards.

From these results we can conclude that as result of his nature a person wants the shopkeepers or sellers to be cheerful,sincere, honest.

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v. *If you find a product or service in suitable condition, will you buy it even if you don't need it?*

Table 6 : Purchase Of Suitable Conditions, The Product Found.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes, I buy it	119	23,8	25,0	25,0
No, I don't buy it	231	46,2	48,5	73,5
Other	126	25,2	26,5	100,0
Total	476	95,2	100,0	
Missing	24	4,8		
General total	500	100,0		

With this question we aimed to learn whether a consumer buys a product or service which is suitable in various aspects even if he/she doesn't need it. As it is seen from the table 6 ; while 231 (46,2%) people said ''no,i don't want to buy it''; 119 (23,8%) people said ''yes, i buy it''.As a result we can say that the consumers are conscious.

vi. *Do you do research and make a comparison before you buy expensive goods (for price, quality and brand?*

Table 7 : Compare Before You Buy Making.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	370	74,0	76,9	76,9
No	87	17,4	18,1	95,0
Other	24	4,8	5,0	100,0
Total	481	96,2	100,0	
Missing	19	3,8		
General total	500	100,0		

Its aimed to learn whether consumers do research or make comparison before they buy expensive products. While 370 (76,92%) people said yes; 87 (18,09%) of them said no. It can be seen that the consumers who answer this question are sensible about doing research before buying expensive goods.

vii. *Do you have any information about the consumer protection law and consumer right*

Table 8 : As Information About Consumer Law Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	258	51,6	53,6	53,6
No	192	38,4	39,9	93.5
Other	31	6,2	6,4	100,0
Total	481	96,2	100,0	
Missing	19	3,8		
General total	500	100,0		

We aimed to learn whether consumers have a knowledge about their rights and while 192 (39,92%) people said that they knew consumer protection law and consumer rights; 258 (53,64%) people said they didn't know about it . It can be seen from the results that consumers should to be informed.

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viii. *When you bring the product that you have paid much to the house, if it is out of order how would be your behaviour?*

Table 9 : Attitudes To The Emergence Of The Product Defective.

	Frequency	Percent	Valid Percent	Cumulative Percent
I accuse myself for not buying more qualified product paying a lot of money	78	15,6	16,3	16,3
I seek solutions with going to the store	274	54,8	57,1	73,3
I decide not to do shopping from there and I stay silent	42	8,4	8,8	82,1
I don't mind; I think thing like this happens	56	11,2	11,7	93,8
Other	30	6,0	6,2	100,0
Total	480	96,0	100,0	
Missing	20	4,0		
General total	500	100,0		

The aim of this question is to learn consumers sensebility about what to do when the product they bought is out of order.274 (57,1%) people said they would seek solutions by going the store; 42 (8,75%) people said they would stay silent and decide not to do shopping from there; 56 (11,67%) people said they wouldn't mind and would think that things like that happen; 78(16,3%) people said they would accuse himself for not buying more qualified product.

When we look at the results we can see that the majority of people want to seek solutions to the problem and it can be said that this is a good improvment.

ix. *Which of the following are your reasons for not buying a product thet you haven't got in your house?*

Table 10 : Reasons for not existing as of the product at home, the Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Higher price of product	163	32,6	34,2	34,2
Absence of product options in market to meet my necessity in full	70	14,0	14,7	48,9
Nsufficent income	86	17,2	18,1	67,0
Don't need	133	26,6	27,9	95,0
Other	24	4,8	5,0	100,0
Total	476	95,2	100,0	
Missing	24	4,8		
General total	500	100,0		

The aim of this question is to learn the reason for not buying the products that the consumers haven't got at home .As it can be seen from the table 10; 86 (18,1%) people said the reason is insufficent income; 133 (27,94%) people said they didnt need; 163 (34,2%) people said because of the higher price of products ; 70 (14,7%) people said because of absence of product obtions in market.

As a result we can say that majority of the consumers can't buy the product they havent got because of Higher price of product.

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x. *Which income zone is your parents' montly income included?*

Table 11 : As of the Family of Monthly Income, Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
600 PLN and below	32	6,4	7,0	7,0
Between 600- 1000 PLN	67	13,4	14,6	21,6
Between 1000- 2000 PLN	94	18,8	20,5	42,1
Between 2000- 3000 PLN	84	16,8	18,3	60,5
3000 and above	181	36,2	39,5	100,0
Total	458	91,6	100,0	
Missing	42	8,4		
General total	500	100,0		

The aim of this question is to determine the incomes of families. As you can see from the table 11, 181 (39.52%) peoples income is 3000 PLN and above, 94 (20.52%) people between 1000 – 2000 PLN ; 84 (18.34%) people between 2000 – 3000 PLN; 67 (14.63%) people between 600 – 1000 PLN; 40 (9.17%) people missing. According to this result it can be said that salary of the majority of respondents are 3000 PLN and above.

xi. *What percentage of your montly income do you seperate to the following expense item?*

a. *What percentage of your montly income do you seperate to Food (Jedzenie)*

Table 12 : As of Food expenditure in monthly income, Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
% 10 - % 20	56	11,2	11,7	11,7
% 20 - %30	151	30,2	31,5	43,1
% 30 - % 40	128	25,6	26,7	69,8
% 40 - % 50	96	19,2	20,0	89,8
% 50 ve üzeri	49	9,8	10,2	100,0
Total	480	96,0	100,0	
Missing	20	4,0		
General total	500	100,0		

The aim of this question is to determine the percentage of income which participants spend on food. As shown in Table 12 ; 128 people (26,67%) spend 30%-40%; 151 people (31.46%) spend 20%-30% ; 96 people (20%) spend 40%-50%; 56 people (11.67%) spend 10%-20% and 49 (10.2 %) people spend %50 and above of their income on food.

As a result it can be said that most of the respondents spend their great part of income on food.

b. *What percentage of your montly income do you seperate to Clothing.*

Table 13 : As of Clothing expenditure in monthly income, Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
% 10 - % 20	217	43,4	48,2	48,2
% 20 - %30	134	26,8	29,8	78,0
% 30 - % 40	68	13,6	15,1	93,1
% 40 - % 50	20	4,0	4,4	97,6

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% 50 ve üzeri	11	2,2	2,4	100,0
Total	450	90,0	100,0	
Missing	50	10,0		
General total	500	100,0		

The aim of this question is to determine the percentage of income which participants spend on clothing. As seen in Table 13 ; 217 people (48,22) spend %10-20 ; 134 people (29.8%) spend 20-30% ; 68 (15.11%) people spend % 30-40; 20 (4.4%) people spend 40%-50% and 11 people spend %50 and above of their income on clothing.

According to this result it can be said that respondents spend less money on clothing than they spend on food.

c. *What percentage of your montly income do you seperate to health service.*

Table 14 : As of Health expenditure in monthly income, Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
% 10 - % 20	235	47,0	57,2	57,2
% 20 - %30	109	21,8	26,5	83,7
% 30 - % 40	44	8,8	10,7	94,4
% 40 - % 50	13	2,6	3,2	97,6
% 50 ve üzeri	10	2,0	2,4	100,0
Total	411	82,2	100,0	
Missing	89	17,8		
General total	500	100,0		

With this question we wanted to learn the percentage of income spent on health. As we can see in Table 14 ; 235 (57.18%) people spend %10-20 ; 109 (26.52%) people spend 20%-30%; 44 (10.7%) people spend 30%-40%; 13 (3.2%) people spend %40-%50 and 10 (2.4%) people spend 50% and above of their income on health service.

As a result we can say that respondents spend less money on health service than they spend on food and clothing.

d. *What percentage of your montly income do you seperate to education?*

Table 15 : As of Education expenditure in monthly income, Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
% 10 - % 20	184	36,8	45,0	45,0
% 20 - %30	126	25,2	30,8	75,8
% 30 - % 40	52	10,4	12,7	88,5
% 40 - % 50	29	5,8	7,1	95,6
% 50 ve üzeri	18	3,6	4,4	100,0
Total	409	81,8	100,0	
Missing	91	18,2		
General total	500	100,0		

In this question we aimed to learn the percentage of spending on education. As seen in Table 15 ; 184 (45%) people spend 10%-20% ; 126 (30.8%) people spend 20%-30% ; 52 (12,7%) people spend 30%-40% ; 29 (7%) people spend 40%-50% and 18 (4,4%) people spend %50 and above of their monthly income on education.

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According to this result we can say that respondents spend less money on education than they spend on food and clothing.

e. *What percentage of your montly income do you seperate to furniture?*

Table 16 : As of White Goods and Furniture expenditure in monthly income, Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
% 10 - % 20	222	44,4	67,9	67,9
% 20 - %30	71	14,2	21,7	89,6
% 30 - % 40	20	4,0	6,1	95,7
% 40 - % 50	9	1,8	2,8	98,5
% 50 ve üzeri	5	1,0	1,5	100,0
Total	327	65,4	100,0	
Missing	173	34,6		
General total	500	100,0		

The aim of this question is to determine the percentage of spending on furniture. As we can see in Table 16 ; while 173 people didint answer for not spending Money on furniture, 222 (67.89%) people spend 10%-20% ; 71 (21.71%) people spend 20%-30% ; 20 (6%) people spend 30%-40% and 5 people spend 50% and above of their monthly income on furniture.

As a result we can see that respondents spend much less money on furniture than they spend on food and clothing.

f. *What percentage of your montly income do you seperate to saving money?*

Table 17 : As of Saving expenditure in monthly income, Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
% 10 - % 20	200	40,0	55,6	55,6
% 20 - %30	78	15,6	21,7	77,2
% 30 - % 40	43	8,6	11,9	89,2
% 40 - % 50	22	4,4	6,1	95,3
% 50 ve üzeri	17	3,4	4,7	100,0
Total	360	72,0	100,0	
Missing	140	28,0		
General total	500	100,0		

We aimed to learn the percentage which respondents seperate for saving Money. As seen in Table 17, while 140 people didn't answer to this question; 200 (55.56%) people save 10%-20% ; 78 (21,67) people save 20%-30% ; 43 (11%) people save 30%-40% ; 22 people save 40-50% and 17 (4,7%) people save 50% and above of their Money.

According to this result it can be said that respondents save a verry little part of their monthly income.

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xii. *I spend a lot of Money to shopping and I like it very much.*

Table 18 : According to their Spending Money for the shopping behavior of consumers.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	94	18,8	20,6	20,6
No agreed	128	25,6	28,1	48,7
Undecided	121	24,2	26,5	75,2
Agreed	91	18,2	20,0	95,2
Certainly agreed	22	4,4	4,8	100,0
Toplam	456	91,2	100,0	
Missing	44	8,8		
General total	500	100,0		

In this question we wanted to learn whether consumers spend much money on shopping and whether they like shopping or not. As seen in Table 18; 94 (20,6%) people said they certainly didn't like shopping and didn't spend much Money on it; 128 (28%) people said they didn't like shopping and didn't spend much Money on it ; 91 (20%) people said they certainly liked shopping and spend much Money on it; 22 (4,8%) people said

xiii. *I do shopping to make myself happy. I don't care what other people think.*

Table 19 : According to Instructions to Be Happy Shopping Behavior Of Consumers.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	87	17,4	18,7	18,7
No agreed	99	19,8	21,3	40,0
Undecided	110	22,0	23,7	63,7
Agreed	138	27,6	29,7	93,3
Certainly agreed	31	6,2	6,7	100,0
Toplam	465	93,0	100,0	
Missing	35	7,0		
General total	500	100,0		

In this question the purpose is to learn whether consumers do shopping to make themselves happy without thinking other peoples opinion.As seen in Table 19 ; 138 (29,7%) people do their shopping to make themselves happy ; 110 people (23,7%) undecided; 99 (21,3%) people dont do shopping to make themselves happy; 31 (6,7%) people certainly agreed ;87(18,71%) people certainly didn't agree.

According to this result it can be said that majority of the respondents do their shopping to make themselves happy without thinking others opinion.

xiv. *The most important thing for me is brand of the services and goods i will take.*

Table 20 : As those who accept the Brand Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	57	11,4	12,2	12,2
No agreed	93	18,6	20,0	32,2
Undecided	136	27,2	29,2	61,4
Agreed	137	27,4	29,4	90,8
Certainly agreed	43	8,6	9,2	100,0

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Toplam	466	93,2	100,0	
Missing	34	6,8		
General total	500	100,0		

We wanted to learn whether the most important thing for consumers is the brand of goods and services.As seen in Table 20 ; 137 (29,4%) people agreed; 93 (20%) people no agreed; 43 (9,2%) people certainly agreed and 57 (12,2%) people certainly no agreed; 136 people (29,2%) were undecided..

It can be concluded from this result that brand is an important on services and goods (36%).

xv. *The important thing for me is quality of the goods and services i will take.*

Table 21 : As those who accept the Quality Important Consumer Distribution..

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	59	11,8	12,1	12,1
No agreed	47	9,4	9,7	21,8
Undecided	57	11,4	11,7	33,5
Agreed	200	40,0	41,2	74,7
Certainly agreed	123	24,6	25,3	100,0
Toplam	486	97,2	100,0	
Missing	14	2,8		
General total	1000	100,0		

The purpose of this question is to learn if the important thing for consumers is quality of goods and services. As we can see in Table 21; 200 (41,2%) people agreed; 123 (25,3%) people certainly agreed ; 57 (11,7%) people undecided; 59 (12,1%) people certainly no agreed and 47 people (9,7%) no agreed.

According to this result we can say that the quality is very important factor for consumers when shopping (66,5%).

xvi. *The important thing for me is price of the goods and services that i will take.*

Table 22 : As those who accept the Price Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	38	7,6	7,9	7,9
No agreed	72	14,4	14,9	22,7
Undecided	116	23,2	24,0	46,7
Agreed	161	32,2	33,3	80,0
Certainly agreed	97	19,4	20,0	100,0
Toplam	484	96,8	100,0	
Missing	16	3,2		
General total	500	100,0		

Bu sonuca göre; ankete cevap verenlerin büyük çoğunluğunun (yaklaşık % 70'inin) fiyatın en önemli faktör olduğuna inandıkları söylenebilir.

The aim of this question is to learn whether the most important thing for consumers is price . As shown in Table 22; 161 (33,3%) people agreed; 97 (20%) people certainly agreed; 38 (7,9%) people no agreed; 72 (14,9%) people certainly noagreed.

As a result of this, majority of the respondents think that the price is really important for them.

xvii. *The important thing for me is guarantee period of goods and services.*

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Table 23 : As those who accept the Quarantee Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	37	7,4	7,7	7,7
No agreed	67	13,4	14,0	21,8
Undecided	142	28,4	29,7	51,5
Agreed	173	34,6	36,2	87,7
Certainly agreed	59	11,8	12,3	100,0
Toplam	478	95,6	100,0	
Missing	22	4,4		
General total	500	100,0		

We aimed to learn whether the guarantee period is important for consumers. As seen in Table 23; 173 (36,2%) people agreed; 59(12,3%) people certainly agreed; 67 (14%) people no agreed; 37(7,7%) people certainly no agreed.

We can conclude that guarantee period is really important for majority of the participants.

xviii. *The most important thing for me is that sellers convince me in every case on the goods and services that i will take.*

Table 24 : As those who accept the Sellers Convince Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	70	14,0	15,4	15,4
No agreed	107	21,4	23,6	39,0
Undecided	184	36,8	40,5	79,5
Agreed	73	14,6	16,1	95,6
Certainly agreed	20	4,0	4,4	100,0
Toplam	454	90,8	100,0	
Missing	46	9,2		
General total	500	100,0		

The aim is to learn whether sellers convince is important for participants.Table 24 shows that ; 107 (23,6%) people no agreed; 70 (15,4%) people certainlt no agreed; 73 (16,1%) people agreed and 20 (4,4%) people certainly agreed.

As a result it can be said that participants think that sellers convice is not important fort them on the goods and services they will take.

xix. *The most important thing for me is the spare part and technique service on the gooods and services that i will take.*

Table 25 : As those who accept the Spare Part Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	49	9,8	10,6	10,6
No agreed	71	14,2	15,4	26,0
Undecided	146	29,2	31,6	57,6
Agreed	152	30,4	32,9	90,5
Certainly agreed	44	8,8	9,5	100,0
Toplam	462	92,4	100,0	

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Missing	38	7,6		
General total	500	100,0		

With this question we wanted to learn whether the spare parts and technique service is important for respondents. In Table 25 it can be seen ; 152 (32,9%) people agreed; 44 (9,5%) people certaainly agreed; 71 (15,4%) people no agreed and 49 (10,6%) people certainly no agreed.

We can conclude that most of the respondents believe that the spare part and technique service is important when taking goods and services.

xx. *The most important thing for me is my economic condition on goods and services that i will take.*

Table 26 : As those who accept the Economic Condition Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	46	9,2	10,3	10,3
No agreed	68	13,6	15,2	25,4
Undecided	163	32,6	36,4	61,8
Agreed	151	30,2	33,7	95,5
Certainly agreed	20	4,0	4,5	100,0
Toplam	448	89,6	100,0	
Missing	52	10,4		
General total	500	100,0		

The purpose of this question is to learn whether their economic condition is important for participants when shopping. As seen in Table 26, 20 (4,5%) people certainly agreed; 151 (33,7%) people agreed; 68 (15,2%) people no agreed and 46 (10,3%) people certainly no agreed.

According to this result most of the reespondents believe thath economic condition is really important for them.

xxi. *The most important thing for me is the effective advertisement on the goods and service that i will take.*

Table 27 : As those who accept the Effective Advertisement Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	81	16,2	18,0	18,0
No agreed	106	21,2	23,6	41,6
Undecided	186	37,2	41,4	83,1
Agreed	57	11,4	12,7	95,8
Certainly agreed	19	3,8	4,2	100,0
Toplam	449	89,8	100,0	
Missing	51	10,2		
General total	500	100,0		

The aim of this question is to learn whether effective advertisement on the goods and services that they will take is important for participants.Table 27 show that 106 (23,6%) people didn't agree, 57 (12,7%) people agreed; 81 (18%) people certainly didn't agree and 19 (4,2%) people certainly agreed.

We can say that effective advertisement is not an important factor.

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xxii. *The most important thing for me is the product usage rate of the goods and services that i will take.*

Table 28 : As those who accept the Product Usage Rate Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	22	4,4	4,7	4,7
No agreed	56	11,2	11,9	16,6
Undecided	97	19,4	20,6	37,2
Agreed	171	34,2	36,4	73,6
Certainly agreed	124	24,8	26,4	100,0
Toplam	470	94,0	100,0	
Missing	30	6,0		
General total	500	100,0		

Figure 30: As those who accept the Product Usage Rate Important Consumer Distribution.

The aim is to learn whether the product usage rate is the most important thing for paarticipants. In Table 28 , 171 (36,4%) people seemed to agree; 124 (26,4%) people certainly agreed, 56 (11,9%) people no agreed and 22 (4,7%) people certainly no agreed.

The product usage rate is an important factor for most of the participants approximetly (62,8%) .

xxiii. *The most important thing for me is to be given gifts in buying goods and services.*

Table 29 : As those who accept Givin Gift Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	52	10,4	11,5	11,5
No agreed	108	21,6	23,9	35,4
Undecided	189	37,8	41,8	77,2
Agreed	87	17,4	19,2	96,5
Certainly agreed	16	3,2	3,5	100,0
Toplam	452	90,4	100,0	
Missing	48	9,6		
General total	500	100,0		

Bu sorudaki amaç; ankete katılanların, mal ve hizmet alımlarındaki en önemli faktörün ürünün yanında hediye verilmesi olup-olmadığını öğrenmektir. Tablo 29' da görüldüğü gibi, 189 kişi (41,8%) undecided; 108 kişi (23,9%) no agreed; 87 kişi (19,2%) agreed; 52 kişi (11,5%) certainly no agreed and 16 kişi (3,5%) certainly no agreed.

Bu sonuca göre; ankete cevap verenlerin çoğunun ürünün yanında hediye verilmesinin en önemli faktör olduğuna inandıkları söylenebilir.

The aim of this question is to learn whether being given gifts is important for participants in buying goods and services. As it can be seen in Table 29; 189(41,8%) people were undecided; 108 (23,9%) people didn't agree; 87(19,2%) people agreed; 52(11,5%) peple certainly didn't agree and 16(3,5%) people certainly agreed.?????

According to this result; we can say that being given gifts is not an important factor for he majority of the participants.

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xxiv. *The most important thing for me is the image of store and shop in buying goods and services.*

Table 30 : As those who accept the image of store Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	62	12,4	13,7	13,7
No agreed	78	15,6	17,2	30,9
Undecided	184	36,8	40,6	71,5
Agreed	109	21,8	24,1	95,6
Certainly agreed	20	4,0	4,4	100,0
Toplam	453	90,6	100,0	
Missing	47	9,4		
General total	500	100,0		

We wanted to learn how important the image of stores and shops for participants in buying goods and services. Table 30 shows that ; 184 (40,6%) people undecided; 109 (21,8%) people agreed ; 78 (17,2%) people no agreed; 62 (13,7%) people certainly no agreed and 20 (4,4%) people certainly agreed.

We can say that don't think that the image of store and shop seemed to be the most important thing for participants.

xxv. *The most important thing for me is fashion and widespread usage of goods and services.*

Table 31 : As those Who Accept The Fashion Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	77	15,4	17,0	17,0
No agreed	97	19,4	21,4	38,4
Undecided	165	33,0	36,4	74,8
Agreed	90	18,0	19,9	94,7
Certainly agreed	24	4,8	5,3	100,0
Toplam	453	90,6	100,0	
Missing	47	9,4		
General total	500	100,0		

The purpose of this question is to learn how important fashion and widespread usage for participants.In Table 31 ; 97 (21,4%) people no agreed; 90 (19,9%) people agreed; 77 (17%) people certainly no agreed and 24 (5,3%) people certainly agreed.

It can be said that fashion and wide spread usage is not an important factor for more than half of the participants.

xxvi. *The most important thing form e is enjoying myself in buuying goods and services.*

Table 32 : As those who Accept The Enjoying Myself Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	58	11,6	12,4	12,4
No agreed	55	11,0	11,7	24,1
Undecided	76	15,2	16,2	40,3
Agreed	192	38,4	40,9	81,2

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Certainly agreed	88	17,6	18,8	100,0
Toplam	469	93,8	100,0	
Missing	31	6,2		
General total	500	100,0		

Our aim is to learn how enjoying is important for participants in buying goods and services. As seen in Table 32; 192 (40,9%) people agreed by saying that enjoying themselves is the most important thing; 88 (18,8%) people certainly agreed; 58 (12,4%) people certainly no agreed and 55 (11,7%) people no agreed.

It can be concluded from these results that enjoying is the most important criteria for most of the respondents.

xxvii. *The most important thing for me is approval of my family in buying goods and services.*

Table 33 : As Those Who Accept Approval Of My Family Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	94	18,8	20,7	20,7
No agreed	120	24,0	26,4	47,1
Undecided	159	31,8	35,0	82,2
Agreed	59	11,8	13,0	95,2
Certainly agreed	22	4,4	4,8	100,0
Toplam	454	90,8	100,0	
Missing	46	9,2		
General total	500	100,0		

We aimed to learn how important approval of family is for participants in buying goods and services. In Table 33; 120 (26,4%) people seemed to no agreed; 94 (20,7%) people certainly no agreed; 59 (13%) people agreed and 22 (4,8%) people certainly agreed.

As a result, approval of family isn't an important factor for majority of the participants in buying goods and services.

xxviii. *The most important thing form e is approval of my environment or friends in buying goods and services.*

Table 34 : As Those Who Accept Approval Of My Environment Or Friends Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	92	18,4	20,2	20,2
No agreed	127	25,4	27,9	48,1
Undecided	159	31,8	34,9	83,1
Agreed	58	11,6	12,7	95,8
Certainly agreed	19	3,8	4,2	100,0
Toplam	455	91,0	100,0	
Missing	45	9,0		
General total	500	100,0		

The purpose of these question is to learn how important the envirament and friends in buying goods and services of the survey participants. As shown in table 34, 127 people (27,9%) no agreed; 92 people (20.2%) certainly no agreed; 58 (12.7 %) agreed and 19 people (% 4,2) certainly agreed.

According to these results, it can be said that the majority didn't believe that the most important factor in buying goods and services are enviroment and friends.

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xxix. *The most important thing for me is approval of the group of the goods and services that i will take.*

Table 35 : As Those Who Accept Approval Of Group Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	95	19,0	21,0	21,0
No agreed	122	24,4	26,9	47,9
Undecided	157	31,4	34,7	82,6
Agreed	63	12,6	13,9	96,5
Certainly agreed	16	3,2	3,5	100,0
Toplam	453	90,6	100,0	
Missing	47	9,4		
General total	500	100,0		

The purpose of this question is to learn whether approval of the reference group is the most important thing for participants. As seen in Table 35 ; 157 (34,7%) people undecided; 122 (26,9%) people no agreed; 95 (21%) people certainly no agreed; 63 (13,9%) people agreed and 16 (3,5%) people certainly agreed about this.

According to this result approval of the reference group is the most important factor for more than half of the respondents.

xxx. *The most important thing form e is suitablity to my culture, belief, tradition and custom on the goods and services that i will take.*

Table 36 : As Those Who Accept Tradition and Custom Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	74	14,8	16,2	16,2
No agreed	102	20,4	22,4	38,6
Undecided	147	29,4	32,2	70,8
Agreed	104	20,8	22,8	93,6
Certainly agreed	29	5,8	6,4	100,0
Toplam	456	91,2	100,0	
Missing	44	8,8		
General total	500	100,0		

The purpose of this question is to learn if culture, beliefs and traditions are the most important criterias of the survey participants in buying goods and services. As seen in Table 36 ; 147 (32,2%) people undecided; for 104 people (22,8%) faith, culture and tradition are the most important criteria in buying goods and services. That for 102 people (22.4%) is the most important no criteria when you say; for 74 people (16,2%) certainly no agreed , 29 persons (6,4%) had mentioned certainly agreed.

According to these results that can be said that for the majority of survey respondents (approximately 38,6%), belief, culture and tradition are not the most important factor.

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xxxi. *The most important thing for me is suitablity to my age on the goods and services that i will take.*

Table 37 : As Those Who Accept Suitable To My Age Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	58	11,6	12,5	12,5
No agreed	77	15,4	16,6	29,2
Undecided	113	22,6	24,4	53,6
Agreed	171	34,2	36,9	90,5
Certainly agreed	44	8,8	9,5	100,0
Toplam	463	92,6	100,0	
Missing	37	7,4		
General total	500	100,0		

The aim of this question is to learn whether suitablity to their age is the most important thing for participants. In Table 37 we can see that 44 (9,5%) people certainly agreed; 171 (36,9%) people agreed; 77 (16,6%) people no agreed and 58 (12,5%) people no agreed.

As a result we can say that suitablity to their age is the most important thing to them.

xxxii. *The most important thing for me is suitability to my job of the goods and services that i will take.*

Table 38 : As Those Who Accept Suitable To My Jop Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	40	8,0	8,7	8,7
No agreed	76	15,2	16,5	25,2
Undecided	136	27,2	29,5	54,7
Agreed	170	34,0	36,9	91,5
Certainly agreed	39	7,8	8,5	100,0
Toplam	461	92,2	100,0	
Missing	39	7,8		
General total	500	100,0		

Our aim is to learn whether the most importanat thing for consumers is suitability for their job . Table 38 shows that 170 (36,9%) people agreed; 39 (8,5%) people certainly agreed ; 76 (16,5%) people no agreed and 40 (8,7%) people certainly no agreed .

Majority of the respondents believe that suitablity to their job isn't the most important thing.

xxxiii. *The most important thing for me is the colour or model of the goods and services that i will take.*

Table 39 : As Those Who Accept Suitable To colour or model Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Certainly no agreed	50	10,0	11,0	11,0
No agreed	79	15,8	17,4	28,4
Undecided	138	27,6	30,3	58,7
Agreed	135	27,0	29,7	88,4

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Certainly agreed	53	10,6	11,6	100,0
Toplam	455	91,0	100,0	
Missing	45	9,0		
General total	500	100,0		

The aim of this question is to learn the most important thing for costumers is whether colour or model. As we can see in Table 39 ; 138 (30,33%) people are undecided; 135 (29,7%) people agreed ; 79 (17,4%) no agreed; 53 (11,6%) people certainly agreed; 50 people (11%) certainly no agreed.

It can be concluded that most of the respondents think that colour and model are important for them.

xxxiv. *Your education level?*

Table 40 : As Those Who Accept Suitable To Education Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Illiterate	14	2,8	2,9	2,9
Primary school	28	5,6	5,7	8,6
High school	123	24,6	25,3	33,9
University (Varational school or Faculty)	202	40,4	41,5	75,4
Postgradute (Master and Doctorate)	120	24,0	24,6	100,0
Total	487	97,4	100,0	
Missing	13	2,6		
General total	500	100,0		

With this question we wanted to learn participants education level. As seen in Table 40 , 202 (41,5%) people are undergraduate; 123 (25,3%) people are high school students; 120 (24,64%) people are postgraduate; 28(5,7%) people are primary school students and 14 (2,9%) people are illitrete.

xxxv. *Your occupattion?*

Table 41 : As Those Who Accept Suitable To Occupation Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Teacher	17	3,4	3,5	3,5
Officer	162	32,4	33,7	37,2
Worker	93	18,6	19,3	56,5
Free occupation	28	5,6	5,8	62,4
Unoccupation	40	8,0	8,3	70,7
Other	141	28,2	29,3	100,0
Total	481	96,2	100,0	
Missing	19	3,8		
General total	500	100,0		

In this question the aim is to learn the occupations of participants. As shown in Table 41; 162 (32,4%) people are officer, 93 (19,33%) people are worker; 40 (8,3%) people are unemployed ; 17 (3,5%) people are teacher and 141 (29,31%) people have other jobs than these.

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xxxvi. *In which group does your age take place?*

Table 42 : As Those Who Accept Suitable To Age Important Consumer Distribution.

	Frequency	Percent	Valid Percent	Cumulative Percent
Between 18 - 25	221	44,2	45,0	45,0
Between 25 - 35	135	27,0	27,5	72,5
Between 35 - 45	70	14,0	14,3	86,8
Between 45 - 55	38	7,6	7,7	94,5
55 and above	27	5,4	5,5	100,0
Total	491	98,2	100,0	
Missing	9	1,8		
General total	500	100,0		

The aim of this question is to learn ages of respondents.As seen in Table 42 ; 221 (45 %) people are between 18-25; 135 (27,5%) people are between 25-35; 70 (14,3%) people are between 35-45; 38 (7,7%) people are between 45-55 and 27 (5,5%5) people are 55 and above.

According to this result majority of the respondents are youngs who are between 18-25.

xxxvii. *Martial status?*

Table 43 : As Those Who Accept Suitable To Martial Status Important Consumer Distribution.

		Frequency	Percent	Valid Percent	Cumulative Percent
	Single	302	60,4	63,0	63,0
	Married	159	31,8	33,2	96,2
	Widow	18	3,6	3,8	100,0
	Total	479	95,8	100,0	
	Missing	21	4,2		
General total		500	100,0		

We wanted to learn marital status of respondents with this question. As seen in Table 43; 302 (63%) people are single; 159 (33,2%) people are married and 18 (3,8%) people are widow.It can be seen that more than half of the respondents are single.

xxxviii. *Gender?*

Table 44 : As Those Who Accept Suitable To Gender Important Consumer Distribution.

		Frequency	Percent	Valid Percent	Cumulative Percent
Total	Female	228	45,6	48,1	48,1
	Male	246	49,2	51,9	100,0
	Toplam	474	94,8	100,0	
	Missing	26	5,2		
General total		500	100,0		

The aim of this question is to determmine sexes of respondents. As seen in Table 44; 228 (48,1%) people are female; 246 (51,9%) people are male, As a result majority of the respondents are male.

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III. Conclusion And Evaluation

Out of 500, 208 (approximately 62%) Polish participants stated that generally they like shopping. Business enterprises in Poland can attract consumers by increasing their level of satisfaction and this can be possible by knowing consumers and consumers' demands and desires very well.

300 people who participated in the survey said that they go supermarkets for shopping and this number forms the highest amount (60%)

Some reasons for such a choice are as follows;

1. *Lower prices*
2. *They are cool in summer and warm in winter*
3. *Opportunities of credit cards and getting a receipt (compared to the grocers)*
4. *Car parking lots and playgrounds for children*
5. *Variety of products*
6. *Fresh products*

It is stated that the supermarkets are the least affected from economic crisis in the world. (Hypermarkets and supermarkets are in the same category)

It is found out that mostly mothers go to shopping in Poland. The rate of shopping by the mentioned mothers is 26,51% and this is the highest percentage.

The results of the grading question that we asked to figure out the consumers' satisfaction level also give us the expected results.

In the first grading, 246 people (50,51%) want the shop assistants or shop owners reply the demand "I want sellers to be cheerful, sincere and be interested in me"

The repliers stated that even though they are in the suitable circumstance, they are not going to buy the products that they do not need (48,5%), they compare when they buy expensive (but liked) ones (76,92%), in a condition that the products that they bought are defective majority of them (57,1%) are going to go to the shop where they bought them and try to sort out a solution to their problem. When we look from the point that the consuming habits has changed in a positive way, this is pleasing.

They stressed that they could not buy the products in their house because of high prices. We can see that they spend their revenue on food, clothing, health, education, home furniture, saving and other needs, respectively.

The percentage of the answers of the questions that we asked separately to figure out the factors that affect the ones who attended the survey to buy are given as follows, from the higher to the lower;

As purchasing a good or a service;

1. The brand of the good is important (66,5%),
2. The customer chooses his/her own good (59,7%),
3. The usage tariff of the good (59%),
4. The price of it (53,3%),
5. The colour and model of it (51,3%),
6. The guarantee date of it (48,5%),
7. The suitability of the good to the consumer's age (46,4%),
8. The suitability of the good to the consumer's job(45,4&),
9. The spare part(s) availability of it (42,4&),
10. The seller's convincing ability. (39%),

Out of the topics and their rates mentioned above, it is figured out that these rates are important, the rest of the questions in the survey have none of importance.

The rate of the repliers is as follows;

University graduates: (41,48%)

Officers: (33,68%)

18-25 years old singles: (63%)

We can see that men attended the survey a bit more than women did.

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Predictive Accuracy of GARCH, GJR and EGARCH Models Select Exchange Rates Application

By Ravindran Ramasamy & Shanmugam Munisamy
University Tun Abdul Razak

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Keywords : Forecasting, GARCH, GJR, EGARCH, exchange rate, volatility, Gaussian distribution.

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PREDICTIVE ACCURACY OF GARCH, GJR AND EGARCH MODELS SELECT EXCHANGE RATES APPLICATION

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Predictive Accuracy of GARCH, GJR and EGARCH Models Select Exchange Rates Application

Ravindran Ramasamy [α] & Shanmugam Munisamy [σ]

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I. Introduction

Forecasting and risk management are the focal points in finance function of business (Arifovic, 2000). The exchange rates assume more importance in the present scenario of globalization. Several univariate and multivariate models are applied in forecasting extensively. The econometric models such as ARMA, GARCH and the extended models like GJR GARCH and EGARCH models are popular. The above models assume Gaussian normal distribution Z ~ iid N(0,1) in forecasting the returns of financial time series (Le Baron, 1999). These models use Gaussian distribution to estimate the future returns using the maximum likelihood (ML) estimations. ML estimation is done through optimization with inequality constraints which not only takes enormous time to solve but also involve iterative processes. This paper aims to compare the efficiency of forecasting of the three models taking ARMA part as constant. The first approach takes the Bollerslev (1992) GARCH as variable element, the second approach takes the GJR GARCH (Glosten, 1993) as the variable element and finally EGARCH of Nelson (1991) as variable element. These models have been extensively debated and proved to be efficient in modeling the returns and volatilities of financial time series (Bollerslev, 1987; Box, 1994). Only a few formal empirical applications have been attempted in judging their accuracy, efficiency, reliability and validation.

The exchange rates (XRs) more important, but less studied variable (Ken Johnston, 2000) when compared to shares, bonds and units. Financial time series tend to be non-stationary (Hamilton, 1994) meaning that additional data will not only change the mean but also the variance, which is an impediment in forecasting. The argument of non stationary nature is taken care of by natural logarithm differencing. The *ln* returns generated are stationary and the returns distribution is approximately Gaussian normal (Brooks, 1998). Few studies prove that the return distributions are not-perfectly normal and they are either skewed or with leptokurtic property with fat tails (Lux, 1998) and show 't' distribution pattern. Any financial time series risk management is concerned about the negative returns at the left tail of a distribution (Beltratti, 1999) and they are to be quantified precisely for effective hedging decisions.

Our paper is application oriented and it compares the predictive accuracy of the three econometric models that forecast the XRs. The remaining part of the paper is organized into five sections. Section two reviews the existing literature in this area on both econometric models and XR forecasting. Section three discusses about the data, volatility, leverage and their efficiency in forecasting financial time series. Section four discusses the results of the analysis and the final section concludes this paper.

II. Literature Review

Volatility is an important parameter in risk assessment and management and it changes as the market prices of financial products change. In international trade the foreign exchange risk

Author α : Graduate School of Business. University Tun Abdul Razak. E-mail : ravindran@unirazak.edu.my
Author σ : Bank Rakyat School of Business. University Tun Abdul Razak. E-mail : shanmugam@unirazak.edu.my

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management is central as these rates change continuously. Modelling their volatility is highly in need to value these reserve assets in banks as demanded by BASEL II and in currency portfolio management (Brooks, 1998). Exporters and importers face transaction and translation losses if not managed properly. A perfect forecasting model is needed to avoid these losses through hedging and to reduce the cost of foreign exchange transaction costs.

In recent years risk assessment models especially in volatility and forecasting focus on three major areas. Firstly, time series forecasting is revolving around the stationarity of data (Pourahmadi, 1988) and to prove non stationarity, unit root testing (Ma, 2000) is applied after differentiation of financial time series data. These ideas were extended to incorporate autoregressive errors and subsequently further extended to ARMA and GARCH models (Engle, 1995). Among them, the prominent area is about volatility modelling attempted by Engle (1982). Later extensions covered not only volatility (Bollerslev, 1986; Andersen, 1997) but also excess kurtosis (Baillie, 1989, 1992; Hsieh, 1989) and volatility clustering (Cont, 2004; Lux, 2000).

The second major area is in determining the distribution for returns generated by financial time series (Barndorff, 2001; Barndorff, 1997). The returns (shocks) created by the price changes in stock market or in currency market are to be modelled for least cost efficient management. Diverse opinions prevail among researchers regarding the shape of the distributions of these returns (Hinich, 1996). Gaussian normal distribution is the most popular among them. But this normal distribution is symmetric and never captures the fat tails (Jensen, 2001), kurtosis and skewness properties (Arifovic, 2000) which are widely prevalent in the returns generated by the financial asset price changes. As an alternative, researchers suggest the student t distribution which roughly captures the above properties. These two distributions are used by researchers to draw random numbers while simulating the future exchange rates. In this paper we use normal distribution for simulation of future XRs.

The third area is regarding the leverage terms. The leverage terms included in the model incorporate the Markovian property of memory of data. The price of a financial asset depends only on the previous day's price and it does not get any contribution from preceding prices (Sarantis, 1999). This assumption is extreme; normally the previous data also contribute but in a lesser weight (Baillie, 1996). This property is accommodated by EGARCH model (Nelson 1991) by including two leverage terms and the volatility is in natural logarithmic form. The Glostan's (1993) GJR model also discusses the importance of another type of leverage. In finance, risk management is all about negative returns as they represent future losses. Positive returns are to be suppressed as they bring profits and not part of risk. To capture the importance of negative returns GJR model introduces two leverage parameters. The model specification is explained in methodology.

The above three areas are researched in isolation (Baillie et al., 1996) like volatility or the nature of distribution etc. This paper incorporates all the above three areas in the model and integrates with ARMA to compute the return and forecasting exchange rates. Though these models have been thoroughly researched in the last two decades still a large gap is uncovered in the practical application (Liew, 2003). For instance, they all model volatility or ARMA individually and they come out with their findings. The volatility and ARMA models ultimately ends up in forecasting the financial time series like share prices and exchange rates (Guillaume et. al, 1997) which are actively pursued not only for buy and sell decisions but also for protecting the asset portfolios. The protection of value of the portfolios is to be carried out for satisfying the investors, regulators, governments and other bodies which invest in these financial instruments substantially. With this background we proceed to elaborate the methodology adopted in analysing and estimating the future XRs.

III. Methodology

Let the daily XRs are denoted by X_t, $t = 0, 1, \ldots, T$ and their *ln* returns at time *t* be

$$R_t = \ln\left(\frac{X_t}{X_{t-1}}\right) \qquad t = 0, 1, \ldots, T. \qquad (1)$$

Let $U_t = R_t - \bar{R}$ be the return process where $\bar{R}$ is the mean of *ln* returns of the test sample and U_t be the forecasted return. All GARCH processes try to model the above return process in terms of moving average, conditional variance and autoregressive heteroscedastic variances. The future returns U_t are the total of two components one is based on the U_{t-1} and the other is on the errors ε_t.

$$U_t = \sum_{t=1}^{k} \varphi U_{t-1} + \varepsilon_t \qquad (2)$$

The ε_t is composed of

$$\varepsilon_t = \sigma_t v_t \qquad (3)$$

where

$v_t \sim iid\ N(0,1)$, a random number drawn from the standard normal distribution.

σ_t = is the volatility of returns

σ^2_t = is the variance of the returns

This σ^2_t is based on the GARCH, GJR and EGARCH.

IV. GARCH Model

The generalised autoregressive conditional heteroscedasticity not only takes the lagged error variances but also takes the time lagged variances while modelling volatility. This gives robustness for the model

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and reduces the forecasting errors. For parsimony, here only two lags are considered though we can include any number of lags.

$$\sigma_t^2 = k + \sum_{i=1}^{P} \Psi_1 \sigma_{t-1}^2 + \sum_{i=1}^{P} \Psi_2 \sigma_{t-2}^2 + \sum_{j=1}^{Q} \varphi_1 \varepsilon_{t-1}^2 + \sum_{j=1}^{Q} \varphi_2 \varepsilon_{t-2}^2 \qquad (4)$$

Where

σ_t^2 = Conditional Variance

k = Constant

P = Lag in autoregressive GARCH (P,Q) conditional variance model

Q = Lag in innovations GARCH (P,Q) conditional variance model

Ψ = GARCH coefficient (Variance)

φ = ARCH coefficient (Innovations)

V. The GJR Volatility Model

The normal distribution is a symmetric distribution which treats both the tails as asymptotic and equal. In financial time series forecasting especially in hedging decisions the left tail is given importance as it represents future losses and these losses are to be hedged. Moreover the return tails are not symmetric (Ding, 1996) and not smooth they are leptokurtic with fat tails. To accommodate these properties and to give more weightage to left tail (Yoon and Lee, 2008) which represents the risk the GJR model induct leverage terms in the conditional volatility model. The volatility model in GJR model is as follows.

$$\sigma_t^2 = k + \sum_{i=1}^{P} \Psi_1 \sigma_{t-1}^2 + \sum_{i=1}^{P} \Psi_2 \sigma_{t-2}^2 + \sum_{j=1}^{Q} \varphi_1 \varepsilon_{t-1}^2 + \sum_{j=1}^{Q} \varphi_2 \varepsilon_{t-2}^2 + \varepsilon_{t-1}^2 * I_{t-1} + \varepsilon_{t-2}^2 * I_{t-2} \qquad (5)$$

$$I_{t-1} = \begin{cases} 0, \ if & \varepsilon_{t-1}^2 > 0 \\ 1, \ if & \varepsilon_{t-1}^2 < 0 \end{cases} \qquad (6)$$

I_{t-2} also will allow the same leverage effect. If the error is positive it will give a weight of 0 and if it is negative it will assign a weight of 1. This will capture the negative returns more precisely and will help in hedging decisions.

VI. The EGARCH Volatility Model

The EGARCH model deals with another problem not addressed by the above two models. In financial time series the recent data is more valuable and contributes more in determining the next day's return as per Markovian principle. The data has no memory (Beran, 1994; Breidt, 1998; Ding, 1983; Granger, 1980; Kirman, 2002; Laboto, 2000) and the recent data only will determine the next return and so on. To give more weightage to the recent data the EGARCH model introduces two changes to the volatility model which is as follows.

$$\log(\sigma_t^2) = k + \sum_{i=1}^{P} \Psi_1 \log(\sigma_{t-1}^2) + \sum_{i=1}^{P} \Psi_2 \log(\sigma_{t-2}^2) + \sum_{j=1}^{Q} \varphi_1 \frac{|\varepsilon_{t-1}^2|}{\sigma_{t-1}^2} + \sum_{j=1}^{Q} \varphi_2 \frac{|\varepsilon_{t-2}^2|}{\sigma_{t-2}^2} + \sum_{j=1}^{Q} \varphi_1 \frac{\varepsilon_{t-1}^2}{\sigma_{t-1}^2} + \sum_{j=1}^{Q} \varphi_2 \frac{\varepsilon_{t-2}^2}{\sigma_{t-2}^2} \qquad (7)$$

The first two log volatilities capture the exponential variances the next two standardised autoregressive capture the error effects and the last two standardised components capture the asymmetric negative effects of returns, which is more important in risk assessment.

VII. The Integrated Model

Finally this volatility is combined with the ARMA process to get the next day's return as follows

$$R_t = \mu + \sigma * iid\, N(0,1) \qquad (8)$$

The mean μ is arrived in ARMA process and the σ is quantified in one of the GARCH process. The standard normal distribution is used to draw the stochastic process and in combination it produces the next day's return.

$$X_t = R_t + X_{t-1} \qquad (9)$$

The current XR is estimated by adding the current return with the previous day's XR. By iteration the entire series of XRs are computed with the MATLAB program.

VIII. Data

To test the efficiency of the forecasting models we have selected four exchange rates which are closely connected with Malaysia in terms of trade and tourism. As such we have chosen exchange rates of Australian Dollar (AUD), Singapore Dollar (SD), Thailand Bhat (TB) and Philippine Peso (PP). While AUD and SD are stronger currencies, TB and PP are soft currencies. We have downloaded the daily exchange rates of the above four currencies from Pacific Exchange rate services website for the period between Jan 2010 and Sept 30, 2011. The data relating to year 2010 is taken for modelling the ARMA, and GARCH coefficients. The computed coefficients were used to predict the

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exchange rates of 2011 for the whole year. All the three models have been applied to predict the selected four XRs.

Forecasting efficiency of a model is normally tested by the mean square errors they produce. This comparison of errors will not be informative as it is a point estimate. In this paper we not only compute the errors they produce in an iterative manner but also plotted the entire predicted and actual rates to observe the convergence and divergence of the rates. The exchanges rates predicted with different set of Gaussian normal random numbers will give different predicted rates which will make the identification of efficient model difficult. To stop the Gaussian normal random numbers change at every model we put the random state arbitrarily at 100. This state of random numbers will be identical and uniform for GARCH, GJR GARCH and EGARCH models. As all the three models use identical random numbers in all models the predicted exchange rates are comparable. All the three models assume normality in returns of XRs hence they all apply Gaussian normal distribution for simulation of XRs. Uniformly for all the models same initial parameters are applied to assess their efficiency. The model specification is as follows.

Table 1 : Initial values assigned to the model parameters

Distribution:	'Gaussian'			
R:	1			
M:	1			
C:	0.200			
AR:	0.050			
MA:	0.250			
Variance Model:	'GARCH', 'GJR', 'EGARCH'			
P:	2			
Q:	2			
K:	0.300			
GARCH:	Lag 1	0.150	Lag 2	0.200
ARCH:	Lag 1	0.250	Lag 2	0.100
Leverage:	Lag 1	0.050	Lag 2	0.020

For ARMA a lag of 1,1 is applied for autoregressive and moving average components with initial values of 5% and 25% respectively. The constants are arbitrarily assigned an initial vale of 20% for ARMA and 30% for GARCH models. The GARCH, GJR and EGARCH models are assigned with 2 lags to accommodate wider variance and as such four values are given two for volatility and another two for autoregressive component. In addition GJR and EGARCH models are assigned initially two leverage values to capture the importance of negative tail values and to give more weight to recent data which are more important in hedging decisions. Totally six assignments are made and these assignments should not exceed a total value of one and as such the values are distributed as given in the above table. With the above model specifications the GARCH, GJR and EGARCH models are run in MATLAB with a custom made program given in the appendix. The following results are arrived for four XRs.

IX. Australian Dollar

Table 2 : AUD autoregressive coefficients and t values.

	GARCH			GJR			EGARCH		
Parameter	Coeff	Std Err	t value	Coeff	Std Err	t value	Coeff	Std Err	t value
C	0.000	0.001	0.304	0.000	0.001	-0.143	-0.001	0.001	-1.000
AR(1)	-0.264	0.633	-0.417	-0.760	2.664	-0.285	-0.998	0.024	-41.861
MA(1)	0.155	0.641	0.243	0.767	2.631	0.292	1.000	0.040	24.842
K	0.000	0.000	0.677	0.000	0.000	1.126	-2.113	1.501	-1.407
GARCH(1)	0.666	1.468	0.453	0.000	0.560	0.000	0.586	0.593	0.988
GARCH(2)	0.000	1.084	0.000	0.598	0.369	1.621	0.200	0.473	0.423
ARCH(1)	0.035	0.082	0.430	0.000	0.088	0.000	-0.210	0.181	-1.158
ARCH(2)	0.081	0.161	0.507	0.000	0.093	0.000	0.313	0.186	1.682

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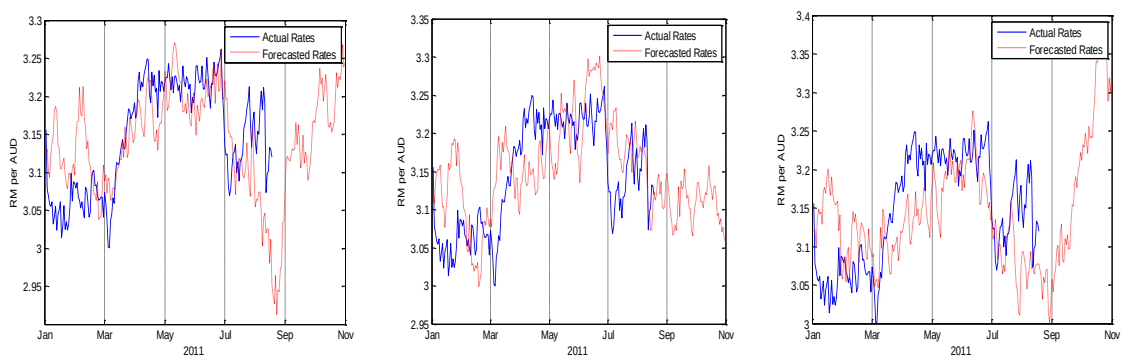
Leverage(1)		0.248	0.157	1.582	-0.283	0.103	-2.739
Leverage(2)		0.096	0.219	0.441	0.022	0.199	0.109

The XR of AUD against Ringgit Malaysia (RM) is forecasted with ARMA and GARCH coefficients generated with the input data of 2010 under the three famous autoregressive models with one lag for ARMA and two lags for all GRACH models. These coefficients determine the predictive accuracy of forecasted exchange rates (FXRs). The t values determine the strength of the coefficients. Normally they will be converted into probability values and then they will be interpreted. For large samples t value of 1.66 is significant at 10% level and a t value of 1.96 is significant at 5% level.

In GARCH model none of the coefficients show t values greater than 1.66 and therefore none of the coefficients is significant in determining the XRs. All the above coefficients contribute for forecasting in a negligible way. In GJR GARCH none of the t values are more than 1.66 therefore under this model also all variables are insignificant and their contribution is negligible. In EGARCH the AR and MA coefficients are significant as their values are high. The AR negatively contributes to the forecasting. In the volatility section the first leverage coefficient also negatively and significantly influences the forecasting. The ARCH(2) coefficient is significant at 10% level of significance. In all models the AR coefficient is negative which implies that the AR pulls down the forecasted XRs but not significantly. The ARCH coefficients in the volatility section are too meagre in value and their contribution is also negligible.



1.a 1.b 1.c

Figure 1 : Convergence of actual and predided exchange rates.

The convergence of actual and forecasted exchange rates is given in 1.a to 1.c for GARCH, GJR GARCH and EGARCH respectively. In all the three graphs converge nicely form Jan 2011 to Sept 2011. Initially the models forecast badly with upward peaks for a month and then they synchronise well with the actual XR line. In March 2011 the rates sharply fall to RM 3 and in the first 15 days they increase sharply and later it stabilises. The forecasted rates go along with the actual rate line in the later month with minor deviations. In GARCH graph in the month of August 2011 the rates fall very steeply to RM 2.95 but the real rates are stable. The same trend is visible in GJR and EGARCH models. There is no much difference in the above forecasted rates. Since we use an iterative process to get the mini error and a maximum convergence we have to see the iterations the computer takes to reach the minimum error level. To produce an error level less than 5% or less the GARCH model takes 98 iterations while the GJR produces the graph with 49 iterations. The EGARCH model takes 104 iterations to get the results. Both GARCH and EGARCH modes take similar numbers of iterations to reach the same level of convergence. These results imply that the GJR model is suitable for forecasting as it quickly converges to the actual rates.

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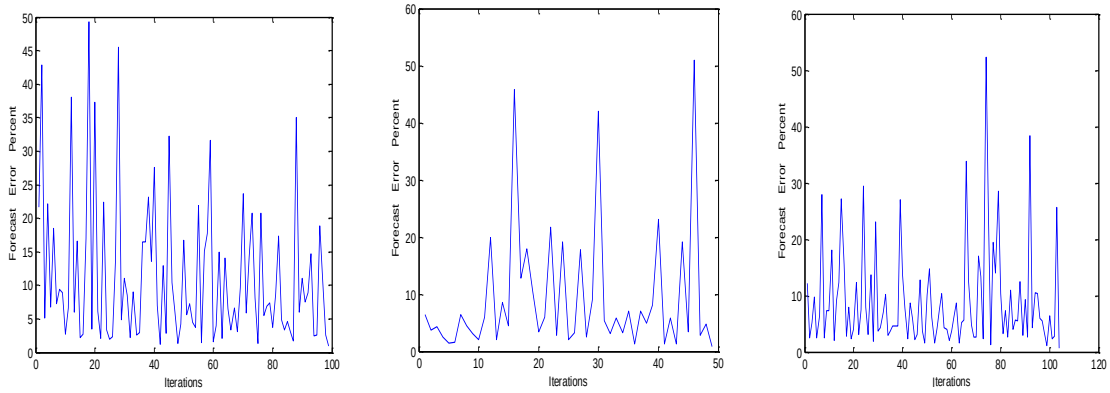

2.a 2.b 2.c

Figure 2 : Iterations taken to achieve an error level of less than 5 %

Figures 2.a to 2.c show the error levels produced at different number of iterations with the same random number simulations of three GARCH models. The errors do not show any trend or increasing pattern. The XRs predicted are truly stochastic and the iteration numbers show the efficiency of the models. For AUD the GJR model quickly converges.

X. Singapore Dollar

The various GARCH coefficients for different models are given in the table below. In the GARCH model only one coefficient GARCH(2) is significant with a t value of 4.247, all other variables are insignificant. As in AUD here also the AR coefficient is negative.

Table 3 : Singapore Dollar autoregressive coefficients and t values.

	GARCH			GJR			EGARCH		
	Coeff	Std Err	t value	Coeff	Std Err	t value	Coeff	Std Err	t value
C	0.000	0.000	-0.052	0.000	0.000	-0.073	0.000	0.000	-0.192
AR(1)	-0.057	0.487	-0.117	-0.935	0.180	-5.199	0.021	0.414	0.050
MA(1)	-0.106	0.475	-0.223	0.916	0.203	4.510	-0.175	0.411	-0.427
K	0.000	0.000	0.939	0.000	0.000	1.257	-0.606	0.344	-1.762
GARCH(1)	0.039	0.158	0.249	0.000	0.064	0.000	1.289	0.282	4.576
GARCH(2)	0.760	0.179	4.247	0.779	0.144	5.415	-0.343	0.279	-1.230
ARCH(1)	0.001	0.031	0.020	0.000	0.000	0.000	-0.276	0.134	-2.061
ARCH(2)	0.083	0.050	1.649	0.148	0.084	1.753	0.373	0.143	2.616
Leverage(1)				0.000	0.000	Inf	0.098	0.078	1.251
Leverage(2)				-0.148	0.088	-1.683	-0.098	0.075	-1.304

In GJR model AR, MA and GARCH(2) coefficients are significant at 5% level and ARCH and leverage(2) coefficients are significant at 10% level. This model is robust and hence in forecasting the iterations will decrease and the rates will quickly converge. In EGARCH model GARCH(1), ARCH(1) and ARCH(2) are significant at 5% level. The other coefficients are high in values though they are insignificant. Therefore the EGARCH model converges within two iterations. These results show the close economic relationship and the macro economic variables such as interest rate, inflation rate, GDP and balance of payments closely move in tandem in both the countries.

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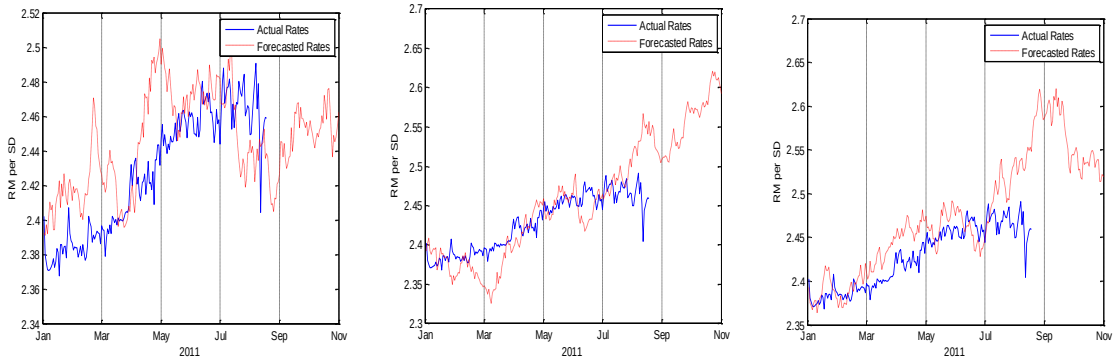
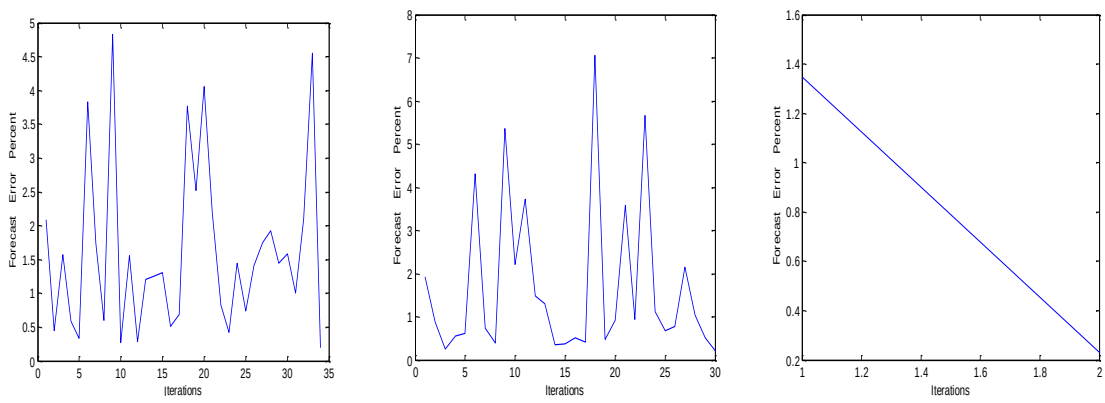


3.a 3.b 3.c

Figure 3 : Convergence of actual and predicted exchange rates

Graphs of Singapore Dollar of the three models are given below. The GARCH graph given in 3.a is more divergent than the GJR figure given in 3.b. and EGARCH in 3.c. Both GJR and EGARCH figures produce the same results in quicker iterations. The GARCH model takes 34 iterations to get the convergence. The convergence is not as efficient as in GJR and EGARCH models. The GJR GARCH takes 30 iterations to reach the same level of convergence. The EGRCH only takes two iterations to produce a good convergence. The results imply that the EGARCH model is suitable to forecast the Singapore Dollar.



4.a 4.b 4.c

Figure 4 : Iterations taken to achieve an error level of less than 5 %

Singapore Dollar rates quickly converge with the actual rates. In EGARCH model it takes only two iterations to forecast the XRs which are close to actual rates. This may be due to the basket of currencies which determine the currency values of both the countries are similar. It may also be due to the close economic relationship existing between both the countries.

XI. Thailand Bhat

The various model results of TB are given below in the table 4. The first model GARCH whose AR(1), MA(1) and ARCH(2) show significant coefficients at 5% level. GARCH(2) and ARMA constant also show significant coefficients at 10% level. But the convergence takes place only at the 42nd iteration. These results imply that the macroeconomic variables of these two countries differ substantially. The GJR model also exhibit three different coefficients, GARCH (2), ARCH (2) and leverage (2) as significant. This model takes 80 iterations to achieve an error level of less than 5%. These results show the relative efficiency of management of their respective economies.

Table 4 : Thai Bhat autoregressive coefficients and t values

	GARCH			GJR			EGARCH		
	Coeff	Std Err	t value	Coeff	Std Err	t value	Coeff	Std Err	t value
C	0.000	0.000	-0.436	0.000	0.000	0.250	0.000	0.000	0.395
AR(1)	-0.959	0.124	-7.718	-0.577	0.708	-0.815	-0.411	0.756	-0.544

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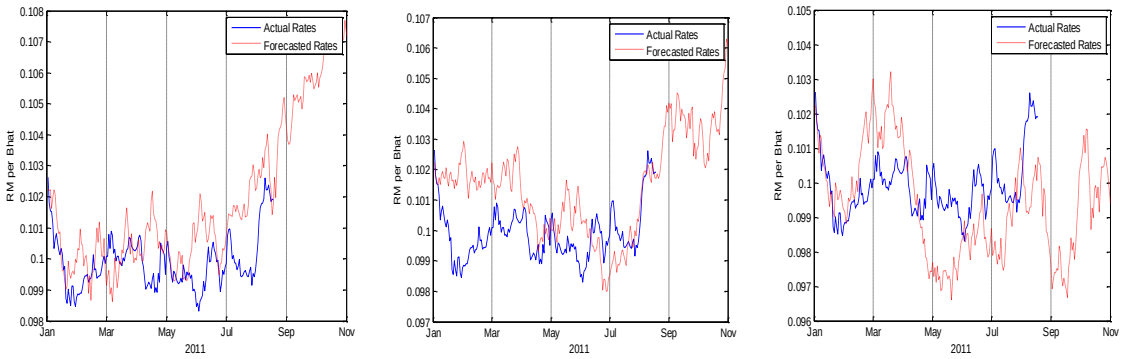
MA(1)	0.967	0.107	9.011	0.516	0.737	0.700	0.335	0.775	0.433
K	0.000	0.000	1.673	0.000	0.000	1.952	-1.334	0.704	-1.895
GARCH(1)	0.208	0.319	0.651	0.160	0.233	0.687	0.253	0.261	0.969
GARCH(2)	0.478	0.282	1.696	0.517	0.186	2.773	0.624	0.238	2.623
ARCH(1)	0.000	0.069	0.000	0.000	0.117	0.000	0.024	0.162	0.148
ARCH(2)	0.189	0.058	3.274	0.324	0.121	2.666	0.367	0.109	3.371
Leverage(1)				0.000	0.125	0.000	-0.054	0.102	-0.534
Leverage(2)				-0.263	0.122	-2.163	0.165	0.085	1.953

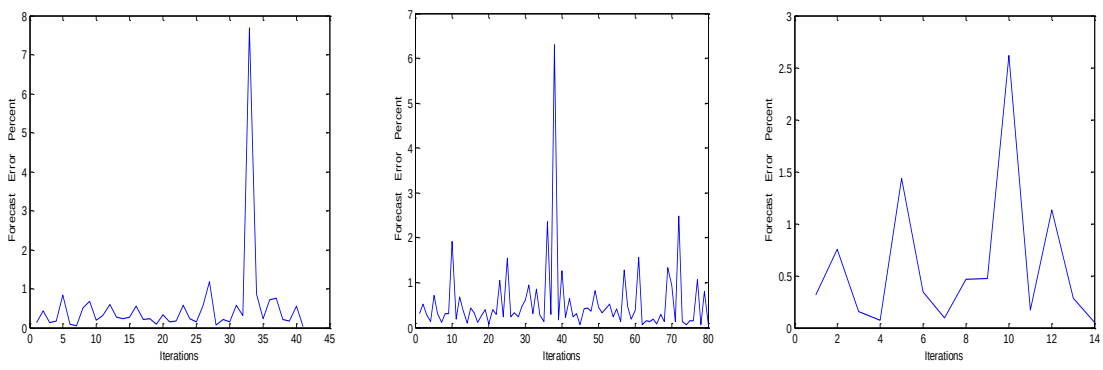
The EGARCH model also shows GARCH (2) and ARCHES(2) significant coefficients. The leverage(2) also significant at 10% level. Though several coefficients are insignificant this model converges quickly within 14 iterations. This result shows the negative association of all coefficients to the predictive accuracy. This may be due to the soft nature of TB against RM.



5.a 5.b 5.c

Figure 5 : convergence of actual and predicted exchange rates

Thailand Bhat's forecasting figures are given in figures 5.a to 5.c. The actual exchange rates (AXR) are closely following the FXR. The GJR model initially overestimates the FXRs for 4 months. The FXRs mostly go above the AXR. Similarly EGARCH model moves but the FXRs go above and below the AXR equally. The GARCH model takes 42 iterations while GJR takes 80 iterations to reach the same level of convergence. But the EGARCH achieves this convergence within 14 iterations. But the EGARCH's convergence is not as good as GARCH and GJR models though it produces similar results.



6.a 6.b 6.c

Figure 6 : iterations taken to achieve an error level of less than 5 %

Figure 6.a and 6.b produce larger errors at the end and at the middle of iterations. Though the coefficients are significant still the GARCH and GJR models do not converge quickly. In EGARCH the coefficients are weak but quickly converge. We attribute this to the relatively weak macro economic variables and economy management as the reasons.

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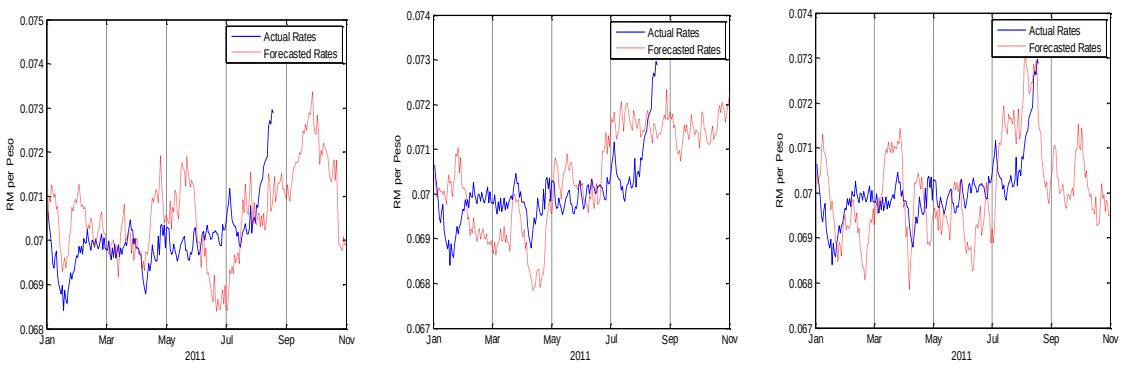
XII. Philippine Peso

Philippine is another closest neighbour of Malaysia but he economic conditions are not similar. The Malaysian Ringgit is stronger than Peso and it depreciates against Ringgit continuously.

Table 5 : Philippine Peso autoregressive coefficients and t values.

	GARCH			GJR			EGARCH		
	Coeff	Std Err	t value	Coeff	Std Err	t value	Coeff	Std Err	t value
C	-0.001	0.001	-0.958	0.000	0.000	-1.231	0.000	0.000	-0.918
AR(1)	-0.943	1.165	-0.810	-0.105	0.212	-0.497	-0.190	0.253	-0.749
MA(1)	0.942	1.181	0.798	-0.220	0.223	-0.989	-0.067	0.268	-0.249
K	0.000	0.000	0.758	0.000	0.000	0.317	-3.244	3.639	-0.891
GARCH(1)	0.000	1.854	0.000	0.732	3.304	0.222	-0.134	0.171	-0.780
GARCH(2)	0.000	0.676	0.000	0.036	2.594	0.014	0.836	0.166	5.038
ARCH(1)	0.228	0.122	1.869	0.137	0.130	1.057	0.294	0.162	1.811
ARCH(2)	0.093	0.436	0.213	0.000	0.443	0.000	0.074	0.173	0.430
Leverage(1)				-0.088	0.154	-0.568	0.033	0.073	0.447
Leverage(2)				0.036	0.223	0.163	-0.005	0.076	-0.061

In GARCH model ARCH(1) is only significant that too at 10% level. In GJR model none of the coefficients is significant. In EGARCH the GARCH(2) coefficient alone is significant. The peso is soft when compared to Ringgit and the forecasted rate converges quickly in GJR model than GARCH and EGARCH. The GARCH model takes 18 iterations to produce an error level of less than 5%, while EGARCH takes around 54 iterations. It is observed that in soft currencies when the coefficients are weak the FXR converges quickly towards the AXR.



7.a 7.b 7.c

Figure 7 : convergence of actual and predicted exchange rates.

The PP figures are given in figures 7.a to 7.c for GARCH, GJR and EGARCH models. The GRACH model achieves FXR in 18 iterations and produces an error level of less than 5%. But the convergence of AXR and FXR does not converge well. Up to June 2011 the forecasted rates go above the actual rates and after that it goes down in July and August 2011and later it increases steeply in Sept 2011. The convergence is not satisfactory though it produces less overall error. The GJR model also shows similar convergence. Though the FXR line follows the AXR line the convergence is not satisfactory. A similar pattern could be observed in EGARCH model also. In this model the sharpness of FXR is more. The AXR is not with valleys and peaks but the FXR is with sharp valleys and peaks. This result is also not satisfactory though it produces less than 5% error.

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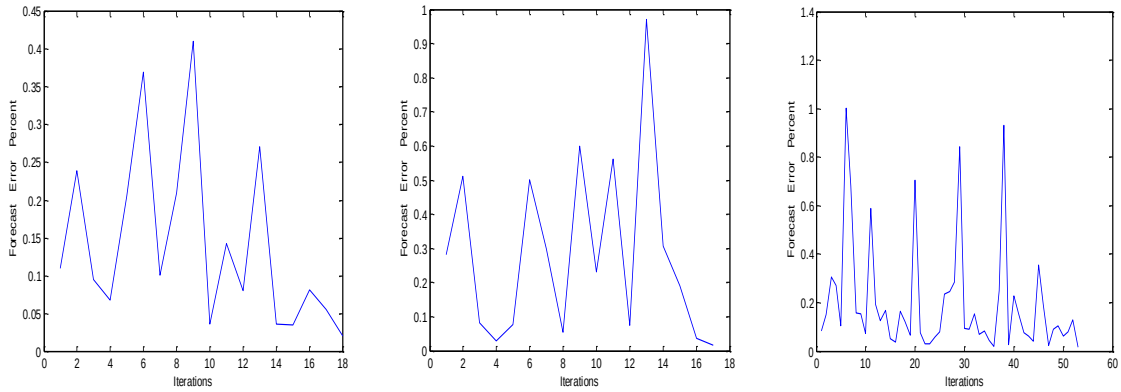

8.a 8.b 8.c

Figure 8 : iterations taken to achieve an error level of less than 5 %

The pattern of errors produced in different iterations is independent and they never show any trend. Even in the last few iterations the errors are very high and they fall steeply to less than 5% level. Though the coefficients are insignificant the convergence is quicker for PP. EGARCH takes more iterations than the other two models.

XIII. Conclusion

We have forecasted exchange rates by applying three autoregressive models and tested four currencies' exchange rates for their convergence to the actual rates to judge the efficiency of the forecasting ability of the autoregressive models with moving average. The hard currencies' autoregressive coefficients are robust in values but the forecasted rate takes more iteration to converge while soft currencies quickly converge with the actual rates though their coefficients are not so strong. We attribute these phenomena to the macroeconomic variables and management of the economy in these countries. Australia and Singapore tightly manage their economic affairs. They control inflation and show lesser fiscal deficit than Malaysia. Thailand and Philippines economies are not managed as efficiently as Malaysian economy and another reason is there was unrest in Thailand during the study period and in Philippines the economy was affected by floods and cyclones frequently and badly. These economic owes reflected in home currency values and hence actual exchange rates are more volatile than the other two strong currencies. The more volatile exchange rates are modelled by these GARCH models efficiently than the less volatile hard currencies. Among the three models which is more efficient is indeterminable as the models in different currencies produce less error in different number of total iterations. The leverage effect brought in GJR and EGARCH models do not improve the results much. Their effect is negligible. The above models are suitable to predict the future exchange rates though they take different number of iterations, the results are useful for hedging and thus the foreign exchange losses could be avoided.

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Matlab Program

```
Close all
clear all
clc
randn('state',100)

load gerdata

a=data(:,1);p=data(:,2);s=data(:,3);t=data(:,4);
ar1=a(1:250);ar2=a(251:end);

ar=price2ret(a);pr=price2ret(p);
sr=price2ret(s); tr=price2ret(t);

a1=ar(1:250); a2=ar(251:end);
p1=pr(1:250); p2=pr(251:end);
```


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```
s1=sr(1:250); s2=sr(251:end);
t1=tr(1:250); t2=tr(251:end);

 %% GARCH Model

spec1=garchset('display','off');
spec2=garchset(spec1,'R',1,'M',1,'C',.2,'AR',.05,'MA',.25,'
K',.3,...
'P',2,'Q',2,'GARCH',[0.25,0.20],'ARCH',[0.15,
0.1],'Variancemodel','GARCH');

e=3;
n=0;
while (e>1)
        e=0;
        [coeff errors]=garchfit(spec2,a1);
        spec3=garchset(coeff);
        asim=garchsim(spec3,249,1);
        asr=ret2price(asim,a(250));
        asrate=asr;
        acr=asrate(1:189);
        e2=sum((acr-ar2).^2);
        eadg(n+1)=e2      % Error Australian Dollar
GARCH
        e=e2;
        n=n+1

end

 figure
 plot([1:189],ar2,[1:250], asr,'r:','LineWidth',0.5)

set(gca,'XTickLabel',{'Jan','Mar','May','Jul','Sep','Nov'},'XG
rid','on')
 xlabel('2011','FontSize',10)
 ylabel('RM per AUD','FontSize',10)
 legend('Actual Rates','Forecasted Rates')

  %% GJR Model With Leverage

spec1=garchset('display','off');
spec2=garchset(spec1,'R',1,'M',1,'C',.2,'AR',.05,'MA',.25,'
K',.3,...
'P',2,'Q',2,'GARCH',[0.25,0.20],'ARCH',[0.15,
0.1],'L',[0.05,0.02],...
'Variancemodel','GJR');

e=3;
n=0;
while (e>1)
        e=0;
        [coeff errors]=garchfit(spec2,a1);
        spec3=garchset(coeff);
        asim=garchsim(spec3,249,1);
        asr=ret2price(asim,a(250));
        asrate=asr;
        acr=asrate(1:189);
        e2=sum((acr-ar2).^2);

eadjr(n+1)=e2   % Error Australian Dollar GJR
e=e2
        n=n+1
end

figure
plot([1:189],ar2,[1:250], asr,'r:','LineWidth',0.5)

set(gca,'XTickLabel',{'Jan','Mar','May','Jul','Sep','Nov'},'XG
rid','on')
 xlabel('2011','FontSize',10)
 ylabel('RM per AUD','FontSize',10)
 legend('Actual Rates','Forecasted Rates')

 %% EGARCH Model With Leverage

spec1=garchset('display','off');
spec2=garchset(spec1,'R',1,'M',1,'C',.2,'AR',.05,'MA',.25,'
K',.3,...
'P',2,'Q',2,'GARCH',[0.25,0.20],'ARCH',[0.15,
0.1],'L',[0.05,0.02],...
'Variancemodel','EGARCH');

e=3;
n=0;
while (e>1)
        e=0;
        [coeff errors]=garchfit(spec2,a1);
        spec3=garchset(coeff);
        asim=garchsim(spec3,249,1);
        asr=ret2price(asim,a(250));
        asrate=asr;
        acr=asrate(1:189);
        e2=sum((acr-ar2).^2);
        eadeg(n+1)=e2      % Error Australian Dollar
EGARCH
        e=e2
        n=n+1
end

figure
plot([1:189],ar2,[1:250], asr,'r:','LineWidth',0.5)

set(gca,'XTickLabel',{'Jan','Mar','May','Jul','Sep','Nov'},'XG
rid','on')
xlabel('2011','FontSize',10)
ylabel('RM per AUD','FontSize',10)
legend('Actual Rates','Forecasted Rates')
```


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3. Submission of Manuscripts,

4. Manuscript's Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

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sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page

- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to

shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.
- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic

principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.

- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

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Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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