SE 307 Engineering Economics Survey Papers

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1	215483
*	224080
	216971
Topic :	**4(supply chain)**

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Topic:	**2 (EI)**

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	991523
Topic:	**Capt vs Isl**

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4	233193
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9	222738
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10	232651
*	235079
	246348
	259867
Topic:	**5(Project Eval)**

SE 307 Engineering Economics Survey Paper

Topic- Supply chain finance and key economic performance metrics

Group #: 1

AL-GAZLAN, BASSEER (**224080**), AL-ZAHRANI, SALEH (**215483**), AL-KAF, HASHEM (**216971**)

Saturday, December 1, 2007

Abstract

Business success today is driven by continous increase of sales, profit and return on investments. ROI as key indicator for stockholders who will in line with it facilitate or not in future investments. Achievement of this mission is target of whole company but also of all of its parts separately.

The significance and financial impact of supply chain are introduced in this paper. Analyzing the whole supply chain proccess it has been shown that by good planning and managing great improvements regarding sales and profit growth can be easily achieved. This chian is binded of different links and not all of them have the same financial impact.

Using financial analysis and comparing impacts of several different costs, it is easy to extract the ones that can significally change financial situation of company and assure accomplishment of business goals. Measuring and analyzing these financial impacts are described in this paper.

Isolation of this key financial indicators isn't enough. They should be involved in supply chain planning and strategy defining in order to provide contionous flow of information, material and services with maintaining lower costs and greater sales and profit as well as improved return on assests.

Which links of supply chain must be taken in consideration, what are the costs and cost savings connected to them and how to measure and use them in order to achieve business goals, it is releived on the following pages.

Introduction

Supply Chain Finance – Significance and Impact

The process through which a company creates and distributes its products and services to the end user is known as Supply Chain. Number of specific elements are included in it, from production planning, material sourcing, transportation management, warehouse management to demand management. All these functions are tightly integrated to provide the products and services to the end user in an efficient, timely and profitable manner.

In addition to internal functions, the supply chain also encompasses the activities of external entities, including materials and parts suppliers, manufacturers, distributors, and transportation providers. The supply chain comprises not only the movement of goods between supply chain participants, but also the flow of information and funds. Supply Chain execution begins at the point a demand is created and is about the efficiency and efficacy with which that demand is fulfilled.

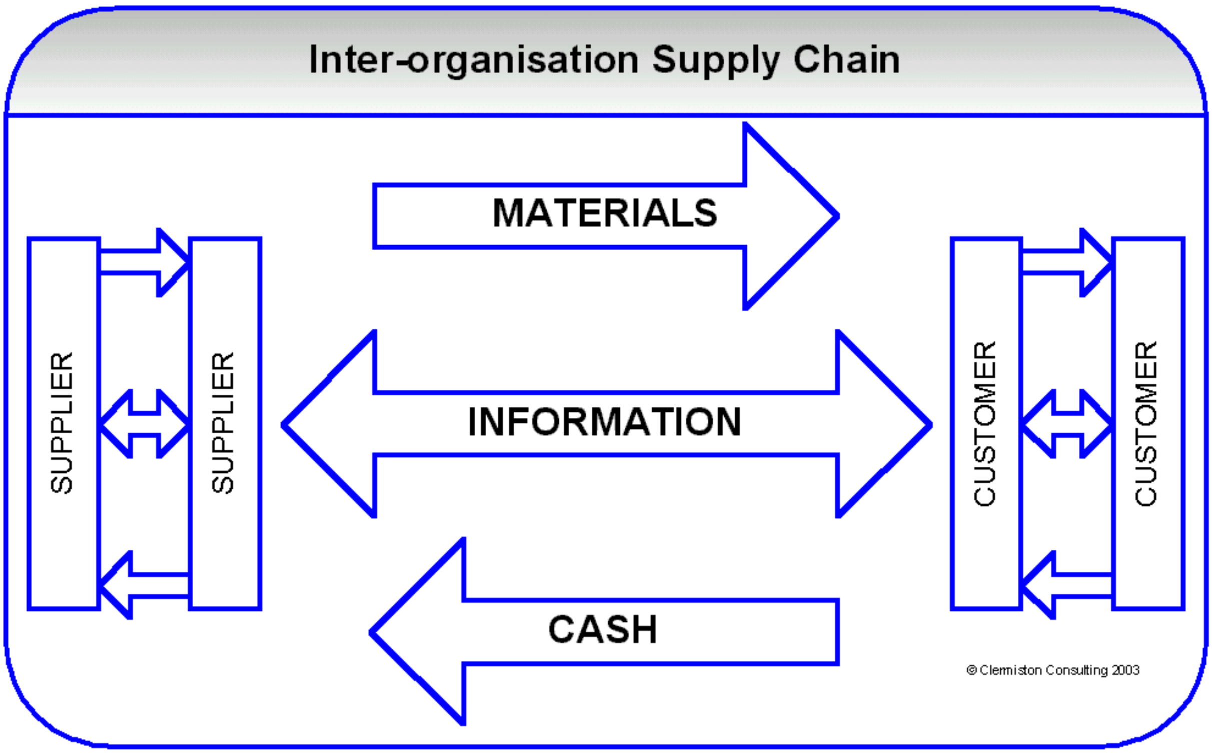

Figure 1. The complete supply chain[1]

Value must be created for customers and stockholders. The perfect purchase order must be executed on time. Value must also be sustained; it must be ongoing and it has to become embedded throughout the company. Supply chain value can represent the company and lead us to future direction - growth and profitability. Stockholders want to see their investments generate new profits which are considered in relation to stockholders net invesments or net worth and in relation to the assets utilized or return on assets. This Return on assets as financial preformance matric is used for benchmark when comparing management and company performance to other companies in same or similar industry area. Effective supply chains provide profitability of the company.

Although supply chains are full of benefits and can be a great asset to organizations, developing an effective and efficient supply chain is not always easy. It demands a lot of planning, expensive technology and good connections with reputable suppliers.

Supply chain management (SCM) has the potential to improve the three key drivers of financial performance - growth, profitability, and capital utilization. For example, a recent study explored the financial benefits of collaborative planning, forecasting, and replenishment (CPFR) for several companies, including Procter & Gamble,Wal-Mart, Sara Lee, and Nabisco[2].The study found that sales increased 12 percent on average from lower stock-out losses, improved promotional planning, and increased service levels. Inventory and related expenses decreased 20 to 40 percent as a result of lower safety stock because of greater confidence in the forecasting and planning process, and there was a 3.5 to 7.5 percent decrease in production capital requirements as a result of better scheduling.

A main problem that companies often run into is finding real cost-reduction solutions. Supply chain costs aren't negligible and higher they get, lower is the profit company wants to achieve. With proper preparation, planning and overall management, supply chain can be a tremendous asset of company, securing profit maximization and cost reducing without the headache of unforeseen problems.

It is important to get acquianted with all the costs that can incur in supply chain process, but also with influence each of them on profitability, sales and net income of company. If we are familiar with all this, it is easy to optimize the whole process in order to achieve corporate goals and success.

Costs and Profits

The performance of supply chain is measured in terms of sales and profit. Profit projections may improve by correct managing of all aspects in supply chain process that can affect it. But the major sales and profit increase will be result of decreasing supply chain costs.

Relation between costs and profit can be described by using following profit equation:

Profit = Sales – Costs (1)

where the Costs are certain precentage of Sales

Costs = (x%) Sales (2)

and the Profit equals:

Profit=(1-x%) Sales (3)

(1-x%) is defined as Profit Margin

Sales=Profit/Profit Margin(4)

If nothing changes, the supply chain cost saving increases profit for the amount of cost saving. The connection between profit, cost saving and sales is given by the last equation (4). Dividing profit which has been increased for the amonunt of cost saving with profit margin, we get the sales equivalent for this cost saving.
For example, if the cost is 80 percent of sales and profit margin is 20 percent of sales, cost saving for amount of 200 $ equals the sales of 1000 $.

Using the equations:

Sales = Cost saving (Profit) / Profit Margin
Sales = 200 $ / 0,2
Sales = 1000 $

We can see that sales and cost saving are in proportional relation and with cost saving increase, the sales growth is assured if the profit margin remains the same.

The profit margin has also great impact on sales and decreasing the profit margin you will increase sales if the cost saving doesn't change.The lower the profit margin, the higher the sales equivalent for given supply chain cost because it takes a greater sales volume to produce given profit. Supply chain cost savings have a much greater sales impact for companies with lower profit margin.[3]

Reducing the costs

The supply chain is made up of numerous links that bind many companies together in order to provide products to end costumers, but also make costs which must be taken in consideration when trying to achieve greater sales and profit.

One of these links is supply chain demand, the network of trading partners that extends from manufacturers to consumers. Having good demand chain management is crucial for two reasons, delivering the best value to the customers and maintaining profits and increasing business' overall success. Managing this chain is not easy because of the objective reasons like large number of parties included in it, from wholesalers, distributors, customers, but optimization of this chain can bring company closer to achievement of its goals.

With this optimization we can increase value and profit while decreasing the costs at the same time.

Demand Chain Optimization can produce the following:

1. Higher customer service which leads to greater net income.
2. Greater inventory turnover.
3. Lower logistics costs which will provide lower operating expenses.
4. Increased working productivity also providing decreasing operating expenses.
5. Lower cost of product sold which can assure higher net income.

Another link on which we can affect to reduce costs is supply chain inventory. Supply chain inventory management refers to management of all inventories in a away to assure not lacking or having too much supplies. Avoiding this poroblem can save a lot of money to any company.

People who manage supply chain inventory should be able to predict future demands and supply needs. If this forecasts are accurate enough, having excessive or shortage amounts of supplies can be easily avoided. Demand planning, stock optimization and monitoring the age of products are the three main inventory administration activities which will ensure the avilability of products at exactly the right time.

Some of the costs associated with carrying inventory are Interest on Capital costs, Taxes and insurance, Obsolence and Depreciation, Storage and Opportunity costs. Running out of supplies can cause several problems like loosing customers/sales, bad reputation and disruption in supply chain.

Some of the costs that can be produced by poorly managed supply chain inventory are following:

1. Higher costs caused by too much inventory that goes unneeded
2. Increased costs because excessive inventory in warehouses
3. Loss of sales/money induced by lack of necessary products (bad demand planning)

Financial impact of supply chain inventory management on profitability and business success is significant. If properly managed, this link of supply chain can save us a lot of money and ensure profit increase. Otherwise, the company can face severe problems.

More capital that company invests in inventory, leaves less space for capital investments in other areas. That's why good inventory management must be employed.

Beside demand management and inventory management, other links in supply chain like order management, channel structure management and transportation management financialy affect company regarding the profitability and accomplishment of business goals.

Cost savings in channel structure management can be obtaiend in several ways. Use of outsourcing supply chain processes can be much cheaper than use of our owns. Minimizing channel inventories, improving information and efficient channel structure can likewise lower the costs, reduce the assets and increase the sales. Decisions that lower supply chain assets and/or improve sales through supply chain services result in higher ROA[2].

Reducing stockouts, optimizing order fill-rate process, reengineering order-to-cash cycles and improving infomation will optimize financial impact of order management on company business goals. If we reduce stockouts, inventory cost savings are ensured. Optimization of order fill-rate process will reduce order-processing time and result with shorter accounts receivable collection time. Together with better managed order-to cash cycles company can reduce capital fund costs for accounts payable. All these reductions done in time can considerably improve ROA.

Having effective transportation management will result in improving ROA and lowering the costs. Reduced transit time and variability of transit time can be a good market differentiator and help improve sales and gain greater profit. Modal transport optimization can save money by using low-cost transportation method.

All of the above mentioned links have financial impact on business success of a company. Profit, sales and ROA are in the directional relation with cost savings in different links of supply chain. Supply chain optimization which includes all the links of this chain can ensure reduced supply chain costs, improved product margins, lower inventories, better return on assets and overall improvement of company's supply chain. Through planning and defining good strategy, all this goals can be easily achieved.

Supply Chain Decisions –Financial Analysis, Planning and Strategy

In the last chapter were explained the most significant links of supply chains with their financial impact on company's business goals. But how to know which of them has the largest financial impact and should be definitely taken in consideration when making supply chain decisions?

Which cost reduction will result with best improved sales and profit? Inventory, transportation or warehouse costs? Using the example of CBL firm, it's easy to find the answer. If all mentioned costs are reduced for 10 percent, supply chains alternatives will give the results as shown in the following table[4]:

Ratio Analysis	CBL 2001 $(000)	Transportation Cost Reduced 10%	Warehousing Cost Reduced 10%	Inventory Cost Reduced 10%
Profit margin	7.00%	7.24%	7.06%	7.12%
Return on assets	7.24%	7.49%	7.30%	7.42%
Inventory turns/year	8.00	8.00	8.00	8.89
Transportation as percentage of sales	4.00%	3.60%	4.00%	4.00%
Warehousing As percentage of sales	1.00%	1.00%	0.90%	1.00%
Inventory As percentage of sales	2.00%	2.00%	2.00%	1.80%

Table 1. Comparison of supply chain alternatives

The largest impact on profit margin and return on assets have reduced transportation costs. This doesn't come as a surprise since transportation costs are as percentage of sales larger then other two costs.

Analyzing the given results, inventory reduced costs are on the second place by their financial impact. One of the benefits of 10% inventory cost reduced is reduction in assets. Inventory cost reduction opens more space for capital investments in other projects.

The same financial analysis can be done by using strategic profit model. This model includes two more ratios, asset turnover and return on equity. Asset turnover represents a ratio of sales to total assets and gives information about company's utilization of its assets in relation to sales. Facts about return the stockholders are realizing on their equity in company are indicated by return on equity.

All kinds of cost should be taken in consideration when trying to improve supply chain management. Based on this financial analysis, links that are poorly managed can be enhanced and better strategy can be embedded.
Inventory, demand, transportation, order, channel structure have to be correctly planned and managed in order to provide continous flow through supply chain and to maintain lower cost while improving profits and sales.

Supply chain management has the potential to help provide higher returns to shareholders.Yet
only a small percentage of companies use SCM to manage overall financial performance.The CFO must take a leadership role in making the financial-logistics connection. It is recommended that the CFO make this connection using a three step, top-down approach which: benchmarks key financial metrics and values gaps; maps gaps to SCM business processes, activities, and KPI's; and uses this information to explore and prioritize initiatives to improve SCM business processes and strategies.[5]

(1) Benchmark Key Financial Metrics and Value Gaps

↓

(2) Map Gaps to SCM to Business Processes and Strategies

↓

(3) Explore/Prioritize Solutions to Improve SCM Processes and Strategies

Figure 2. Top-Down Approach to Making Financial
Supply Chain Management Connection

Conclusion

Supply chain financial analysis has become a significant tool for many companies seeking to increase their profitability. At some point the supply chains have grown so large and complex that it was not so easy to find a way for cost reduction or revenue enhancement. But, through innovations in technology and process modeling, it is now possible for companies to gain visibility into their cost, capacity utilization, revenue drivers, and profit at any level of granularity. They also have contextual analysis capability that enables root cause determination to simplify efficiency improvements.[6]

The importance of supply chains for everyday company business is tremendous. Large amount of products, services and funds pass along from plants to customers. And that is not just credit of marketing, research and development departments or executive managers. This credit also goes to well organized and managed supply chain. The billions of dollars or any other currency can be result of properly managed cost savings in supply chain process. This will provide the best value for customers and stockholders, but also for entire supply chain.

Refrences

1- http://www.clermiston.com.au
2- Andraski, Joseph C.,Haedicke, Jack."CPFR: Time for the Breakthrough." Supply Chain Management Review. May/June 2003.
3- Coyle, John Joseph et al. Supply chain finance. In the management of business logistics: a supply chain perspective. Mason, OH. South-Western/Thomson Learning.2003. Ch. 15. pp. 540-551
4- Coyle, John Joseph et al. Supply chain finance. In the management of business logistics: a supply chain perspective. Mason, OH. South-Western/Thomson Learning.2003. Ch. 15. pp. 552-568
5-www.CFOProject.com, dr. Stephen g. Timme, The Financial Supply Chain
6- Anderson Steven, Putterman Leland. White Paper. Building the Profit Focused Supply Chain: A Game Plan for Capturing a Real Value. February 2005.

SE 307 Engineering Economics Survey Paper

Economic indicators

Group #: 02

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Monday, December 3, 2007

Abstract

Here in this report you will find the definition of economic indicators and will talk about its three types, will also give some examples on it. Also I'll talk about how to use them and have the full benefit using them.

What is the economic indicator?

Statistical data showing general trends in the economy. Those with predictive value are leading indicators; those occurring at the same time as the related economic activity are coincident indicators; and those that only become apparent after the activity is lagging indicators. Examples are unemployment, housing starts, Consumer Price Index, industrial production, bankruptcies, GDP-Gross Domestic Product-, stock market prices, money supply changes, and housing starts. **Also called** business indicators.

And another definition of economic indicators is Being able to manage the economy implies the availability of useful and timely indexes of performance. Although there are hundreds of such measures, they are usually categorized as leading, coincident, and lagging indicators of performance.

Types of economic indicators:

There are three types of the economic indicators Coincident indicators, Leading indicators and Lagging indicators**.**

Coincident indicators: are indicators which occur at the same time as the economic activity.

And we have examples for this kind of indicators:

1. Payroll.
2. Personal income less transfer payments and overall change in GDP.

Leading indicators: are economic indicators which are used to predict the economic change before it happens because it always changes before it.

Some examples for the leading indicators:

1. Stock prices.
2. Average work hours in manufacturing sector.
3. Housing Markets.
4. Inflation.
5. Interest rates.

Lagging indicators: are indicators that happen after an economic activity.

Examples on lagging indicators:

1. Saving bank deposit levels.
2. Consumer dept level.

If we have a difference from the time of the change in the economy then it would be called either lag time or lead time.

What is the correlation?

The correlation is used to determine whether the indicator is Pro-cyclical indicator or counter-cyclical indicator. The indicator is known to be a pro-cyclical indicator when it moves in the same direction of the general economic activity. It is known to be a counter-cyclical indicator when it moves in the same direction of the general economic activity.

The correlation between two random variables X and Y with expected value μ_X and μ_Y and standard variables σ_X and $\sigma_{Y.}$ is

$$\rho_{X,Y} = \frac{\mathrm{cov}(X,Y)}{\sigma_X \sigma_Y} = \frac{E((X-\mu_X)(Y-\mu_Y))}{\sigma_X \sigma_Y},$$

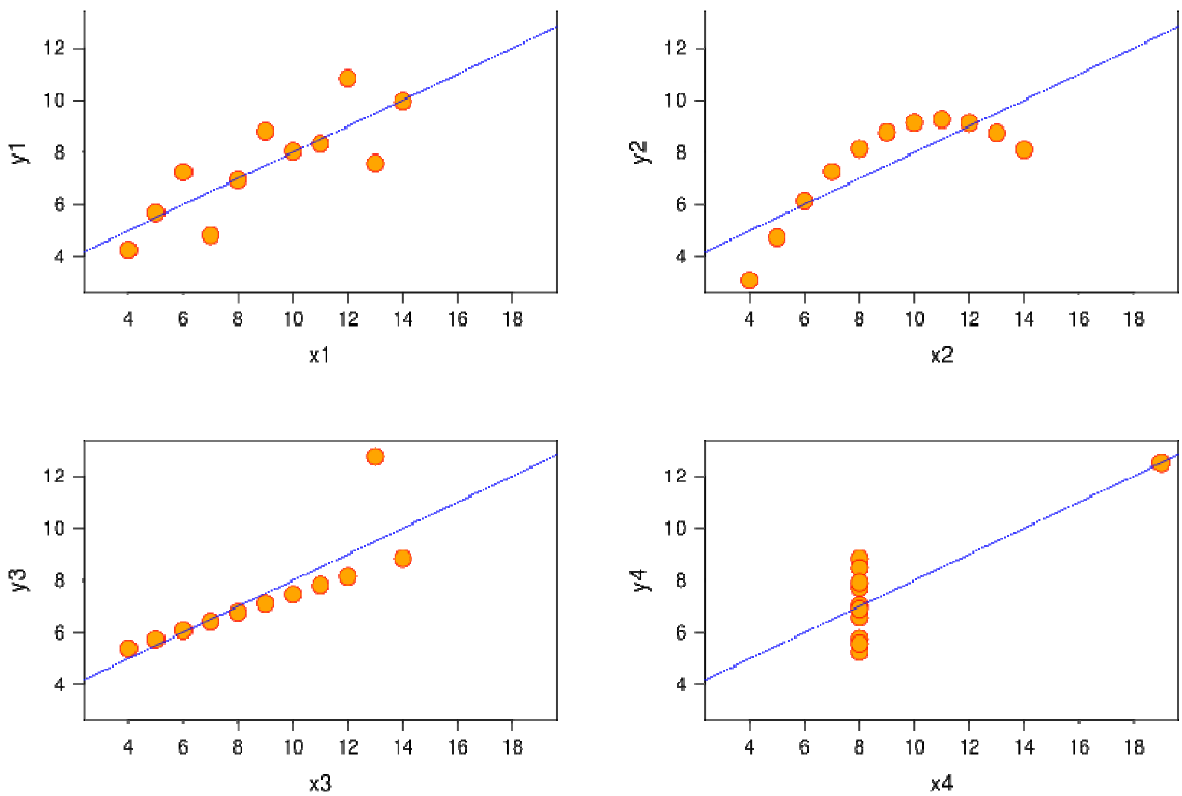
Where E is the expected value
Cov means covariance

The correlation is defined when the standard deviations are whether infinite or zero.

Examples of correlations:

- Manufacturing output.
- Production of building materials.
- Sales of consumer durables.
- Retail sales.
- Unemployment levels.
- Interest rates.
- Growth of real GDP.

Correlation	Negative	Positive
Small	−0.29 to −0.10	0.10 to 0.29
Medium	−0.49 to −0.30	0.30 to 0.49
Large	−1.00 to −0.50	0.50 to 1.00



Description

This graphic represents the four datasets defined by Francis Anscombe for which some of the usual statistical properties (mean, variance, correlation and regression line) are the same, even though the datasets are different.

Property	Value
Mean of each x variables	9.0
Variance of each x variables	11.0
Mean of each y variables	7.5
Variance of each y variables	4.12
Correlation between each x and y variable	0.816
Regression line	$y = 3 + 0.5x$

Conclusion and Comments:

In this report we talked about economic indicators and its definition and its type and how it is related to the changes in economy, we also talked about correlations and how it helps us to define the kind of the indicator. From this report a can say that economic indicator is one of the most important things that investors look for before or while investing their money, and how they can use the correlations to know if it is cyclic or not.

Readings:

[1]. Myers, Walpole, “Probability & Statistics for Engineers & Scientists“, Pearson Education, 2002.
[2]. Wikipedia. http://en.wikipedia.org/wiki/Correlation, 29-11-2007.
[3]. A. K. Gayen (1951). "The frequency distribution of the product moment correlation coefficent in random samples of any size draw from non-normal universes". *Biometrika* **38**: 219–247.
[4].Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.) Hillsdale, NJ: Lawrence Erlbaum Associates. ISBN 0-8058-0283-5.
[5]. Wikipedia. 1 December 2007. http://en.wikipedia.org/wiki/Economic_indicator. 02-12-2007.

SE 307 Engineering Economics Survey Paper

Topic- Capitalism vs. Islamic Economic System

Group #: 03
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Saturday, December 1, 2007

Abstract

In this report, we talk about the Capitalism and the Islamic economic systems. We give a definition for each one of them. Then we introduce some principles of the two systems. After that we list the advantages and the disadvantages of each system. Then we show how the Islamic system is safe and secure. Finally, we conclude with our opinion the differences between these two systems in implementation.

INTRODUCTION:

Capitalism and Islamic economic are both types of economic systems in different societies throughout the world, that have been successful at times, but also not so fortunate in their success at other times in history. Both have their good and bad points, although the main focus we are presenting will acknowledge socialism in better terms than the Islamic economy. Also, opinions from Islamic economic are given to they who capitalists examine an Islamic economic society. Criticism is given in each one's point of view, along with defending arguments. Also, our personal opinion is the main conclusion to which economy is the most prosperous based on facts contributed in our research on both capitalism and Islamic economic.

MAIN BODY:

The Definition for Capitalism

It would be a form of social system that separates the economy from the state. Laissez faire is another name that was given by Scottish philosopher Adam Smith. He said it is better for a government to have no intervention in the economy at all. Capitalism is based upon private ownership of property and every person has the right to live his life in any manner he chooses, as long as he does not violate the rights of others. Individuals are allowed to run their own businesses in a free market in such way that he or she creates the wealth for him or her self. It usually depends on how self-motivated a person is to determine how wealth they will become. If a person is always working hard to make money, they most likely will, compared to a "bum" who can not get welfare in this type of system. Capitalists believe that the only purpose of a government is to protect its citizens from force or fraud. They claim that the force is the protection of individual's rights. This is achieved in such ways as the use of police force to protect the rights of citizens at home, a military to protect citizens from foreign attack, and a court system to enforce contracts and settle disputes between residents.

Capitalists also feel that initiating force can only violate rights, thus the government only uses force in relation of those who initiate it. For instance, if an individual can not start his own electric company, it is a violation of his freedoms. A capitalist's argument towards this statement would be that the governments' legal monopoly on utility companies prevents people from starting their own electric company.. In a capitalist society all people can start any kind of business they want. The protections of monopolies are not there. If a person wants to take the chance on their own company, even if it is next to one that is successful, the peril is in their "own hands." The only law capitalists clearly state, and one must follow is that members of society can not infringe on the rights of others. They give credence to holding individual rights as absolutes, and freedoms as absolutes. From a purely economic view, a capitalist is a person who buys in order to sell for profit.

Philosopher Karl Marx and his followers were convinced that sooner or later alternatives to capitalism would emerge because "it is already in the process of developing within a capitalist society and we must find a way to overcome the resistance of capitalists and their supporters to achieve Islamic economic."

Capitalists take the wealth that they create to build more capital for himself. They feel as if there is a contradiction between social production and individual capitalist ownership. One capitalist deprives another capitalist of property and more wealth is concentrated towards a smaller and smaller number of people. In order to compete in this type of market things must be cut; jobs, wages, and benefits.
There are good points and bad points concerning both types of systems.

<u>Disadvantages of Capitalist Society</u>

- Unregulated capitalism leads to worker exploitation because there is no government intervention to protect workers.
- Racism in the workplace takes place because there is not a minimum wage set and impedes poorer minorities from reaching economic advancement.
- They will not have enough money to pay for the high priced items the companies they work for produce.
- If a minority worker were able to do the same work for a lower wage then it would be in the economic self-interest of the employer to hire that person.
- The driving force under capitalism is driven by a profit motive because firms want to maximize their profits at all times.
- The protection against discrimination is not there, but it is provided by a socialist economy.
- A capitalist's argument against this would be that workers are free to choose who they work for and if they decide that they are going to work for someone who pays less than minimum wage, that is their own fault and should seek work elsewhere.
- Poor working conditions are also a problem that comes up.

- With an unregulated economy, immoral businessmen will try to increase their own profits by selling cheap, unhealthy, and unsafe products to an ignorant community.
- The workers who make the products have unsafe machinery, an unsanitary workplace, and no insurance so if they were to get hurt they would not be safeguarded.
- In a free market there are no government agencies that say what goods, foods, and services can be sold. Since 1938 the U.S food and drug administration has decided what medical goods and food can be sold in the United States. This protects us from attaining drugs or food that can be dangerous to our health.
- Capitalists do not see this as a good thing because "it is an attempt by the government to intervene in the free choices of individuals regarding what medical products or food one can purchase". This is a ridiculous idea because we as individuals can not know what medicines or food can be harmful to us because we do not have the education to determine this. The FDA is there to do the testing and research for our own good, and if we want to abuse the product they say is bad, then we can also do it at our own risk.
- In a free market the only type of monopoly that can exist is a "non-coercive monopoly" or one that is earned, in the words of a capitalist.
- The goal of a welfare system is to help certain citizens when they need financial aid in order for them to be productive members in society. Capitalists do not provide this service and say it is the government stealing money from its citizens on the basis of those with more wealth who have a duty to serve those with less. It may do this, but in the long run it creates a class of fewer people who are dependants and have been given a way restart their lives or begins one.

<u>Advantages of Capitalists</u>

- Financial aid for college students through grants because the money is going to a good cause to better young adult's education and we can have more qualified workers in various occupations.
- We do agree with a few concepts that belong to a capitalist society when it comes to competition in businesses and pollution concerning private property.
- In a free market they do not have monopolies to protect them from competition. The fact that they do have so much competition would make a company strive to give the best service and goods to their customers. Once they are considered to be the best in their field people will go to their company. For another company to do well they must also offer the same, or if not better qualities in their products. Therefore, we then have many companies who are all offering good products.
- The point that overrides this in my mind is all of safety standards that are unregulated and do not protect the workers who make the successful companies' products.

- The key to stopping unnecessary pollution is the verifying identity for capitalism, and the best thing that could come out of it. The reason that it is so easy to pollute rivers, oceans, air, and land is because it is publicly owned. Since public property belongs to everyone, no one person takes care of it and property with no real owner is easy to pollute. If all property is privately owned then no one can dump garbage in a river because it will drift into another person's private property, thus violating his or her rights.
- Capitalists do not have a government, but they do believe in courts, or a way to settle disputes over contracts such as property rights.
- Also, if the beaches and parks are owned privately and the owner charges money for people to use his land, then it would be in his own self interest to keep it clean so more people will come to his park instead of a competitors'.

So, there are good points and bad points in the Capitalists system.

The definition of Islamic economic system differs from conventional economic systems such as socialism and capitalism. It is unique in that it stresses moderation and avoids excess, negligence, extravagance and parsimony. It adopts the useful features of the two conventional systems and discards their corrupt and unworkable features.

In this context the Sublime has said, "Thus we hare appointed you a middle nation, that ye may be witnesses to mankind, and that the messenger may be your witness."

Thus, Islam has embraced the best of capitalism and has rejected its defects and disadvantages. Then, it adopted the virtues of Marxism and protected people from its evils. The first thing we notice in the Islamic economic system is respect for individual property. However, Islam closely watches it, imposing on it several restrictions in order to avoid its harmful characteristics.

Some Islamic Practices

- Zakat: Islam makes Zakat one of the five pillars of Islam. Zakat is intended to provide for the needs of the destitute on one hand, and to evenly distribute wealth on the other. It is specified proportion of this wealth. and Zakat differs according to the type of wealth. Zakat is paid as benefit for the poor; the needy who own nothing; and the traveller away from his people who lacks necessities during his journey. It is also paid when requested by people in dire need, and to those in debt lacking funds to pay their debts. Zakat is also used to free captives, .The government levies Zakat and distributes it among those who deserve it as is done by current governments through the collection of taxes.
- Inheritance: Islam has ordained the law of inheritance to prevent the accumulation of wealth and social inequality. This law requires the distribution of wealth among as many of the descendents of the deceased as

possible. It widens the scope of benefits from this wealth since all the children of the deceased, male or female, inherit from his legacy after paying his debts. This is contrary to English and other national laws which allow certain children to be heirs, and deprives the rest of their legal rights.

- The Share of Booty and Loot for the Poor: One of the means the Quran has adopted in freeing; capital from despotism is that it obliges warriors and invaders to distribute loot to the weak of their nation who were unable to fight.

Prohibition of the Hoarding of Wealth

ISLAM clearly and explicitly prohibits the hoarding of wealth. Hoarding takes wealth out of circulation which is against the interests of the poor. Wealth should be used in economic production in various economic investment projects to increase the nation's resources. Therefore, Islam prohibits hoarding and warns those who hoard wealth that this wealth will become a fire that will burn their bodies and corrode their organs on the Last Day.

- Confirming the Foolish: The foolish are those who squander wealth by incorrect means either due to a corrupt character, a weak mind or due to mismanagement. In order to prevent squandering, restrictions are placed on the wealth of the foolish in accordance
- Examining Orphans before Giving Them their Money: This is another method of Islam to protect people's wealth be they individuals or groups. It legally prevents their waste of money, especially among minors. Before giving orphans their money Allah.
- Recording Financial Contracts: The recording of contracts in the present age is of great use. It enables parties to contract, their heirs or any person concerned with that relationship in the present or the future, to know their rights and duties. Time makes people forget and the death of witnesses might induce people to deny the truth. When financial transactions are not recorded, people have a chance to lie and thus extort poney from others. In order to prevent such occurrences, finances must record in case of debts, pawning, renting and etc. The recording of Contracts protects them from abuse. In this context the Supreme has said.

Security in Islamic System

It is clear from the previous Aayat that the following points should be observed in order to protect financial rights:

1. Recording debts whose payment is postponed to a specific date. This theory was adopted and made mandatory by French law in the late 8th century. Personal evidence was not accepted if the debt exceeded 10 dinar. This practice has been adopted by Iraqi civil law and by some European laws as well.

2. Vouchers of debts and financial rights should be written by a just person, experienced in the consolidation of debts and acquainted with the laws of Shari'a. Thus, this writer must have, in addition to experience, knowledge in protecting the people's rights ; this is what we are particularly calling for.
3. It is the debtor and not the creditor who dictates to the writer. This means that the debtor must be present and must dictate his confession so ihat the voucher can be a proof the creditor can present when payment or maturity date is due. If the debtor cannot dictate due to disability or ignorance in the affairs of transactions, his. supporter can represent him and fulfill this duty lest his rights be abused.
4. After finishing the recording of the voucher, at least two just men must be witnesses to it. If these are not two men, then one man and two women who are accepted for testimony, will suffice. The reason for having two women replace one man is that a woman can easily forget; if one of them forgets, the other can remind her. Besides, women are not accustomed to financial affairs.
5. The passage from the Quran does not refer to business debts. These can be proved through personal evidence other than writing, since business deals are hasty and cannot be delayed. If debts have to be written, the business transaction might be harmed and or delayed, or the buyer might lose a business opportunity. This idea has been followed in positive laws presently practised.
6. The Quran has indicated pawning as another means for protecting our rights. If a transaction takes place on a journey where there is no writer, then pawning may be substituted for the recorder (scribe) and the witnesses. The Quran, hence, says: lt (if one) cannot find a scribe, then a pledge in hand (shall suffice)." It is said that the Prophet (PBUH) had pawned his armour with a Jew as evidence of his debt.
7. The Quran prohibits any person from refusing to be a witness if he is asked because the general interest necessitates cooperation among people of a given society to protect their rights from abuse. A similar procedure is used in courts that practise positive law.

- Prohibition of Riba: Islam prohibited its followers from taking Riba (interest) in financial transactions as in "Allah permitteth trading and forbiddeth usury." (2: 275) This is because Riba kills in people the feeling of mercy and pity since the usurer becomes a ruthless vampire who does not hestitate to strip the debtor of all his money. Usury makes the usurer a cruel creature different from the customs of the group which is bound together by ties of pity, sympathy and compassion.

Harms of Riba

Islam prohibited Riba for many reasons, the following being some among them:

1. It causes enmity and hatred among members of society.

2. It prevents cooperation among diem. Cooperation is the basis of, the advanced society
3. Riba makes of those who take it, exploiting parasites who live by the toil of others. It prevents them from performing work useful to the whole group.
4. Islam prohibits Riba because it creates an affluent, exploitative and despotic class that controls the fate of others without doing any work beneficial to society.
5. One of the disadvantages of Riba is that it makes people take risks in large business deals. That is because the merchant, instead of limiting his business to the wealth he has, borrows from usurers money with interest in order to broaden his commerce. It might lead to a profit for him but it might result in devastation as well.
6. Riba is also harmful because it causes psychological trouble and continuous worry for both the usurer and the debtor.
7. Riba is a good and successful means for economic imperialism to invade poor countries explicitly and completely. How often hag a poor country borrowed money from a rich country and was unable to pay the interest? Debts increase with delays of payment which gives the lending country the opportunity to invade the debtor country under the pretext of getting back its loan.

CONCLUSION AND COMMENTS:

It differs from capitalism on the following points:

- It opposes the accumulation of wealth and it prohibits its monopolization by a small group. On the contrary, it tends to convert wealth into small shares of capital. Thus the words of the Supreme: "That which Allah giveth as spoil to His Messenger from the people of the townships, it is for Allah and His Messenger, for the near of kin and the orphans, and for the needy and the wayfarer; it must not become a commodity of the rich among you. And whatsoever the Messenger giveth you, take it; whatsoever heforbiddeth, abstain (from it)." (7-59)
- Through its laws, it protects state funds and the individual. It protects private property and ordains that this property may not be taken away except through legislation, with fair compensation and only if necessary. Necessity has its rules and as scholars say, "Necessity allows forbidden things and makes evaluations according to its own assessments." Islam has called for charity and benevolence towards the poor and destitute classes. It considered these acts as the heart of its worship. Hence, the Exalted has said, "They who hoard gold and silver and spend it not in the way of Allah, unto them give tidings (O Muhammad) of a painful doom." (9:34)
- In this context, the Prophet of Islam has said, "He who has passed the night with a free stomach, which his neighbour suffers of violent hunger, will not go to paradise; you are all the children of Allah and the most beloved of you

to Him is the most beneficial to his children." He also said: "One believer together with another believer is like a structure, they strengthen each other ...."

- Islam has developed wise economic and social policies, and developed wise economic and social policies based on distribute wealth and combat the accumulation of wealth by a few individuals.

READINGS:

1- On The Prohibition Of Riba (Interest) And It's implications For Optimum Economic Performance - By A. S. Mika'ilu - 30 Nov 1999

2- Islamic Economics Research Bureau, Bangladesh - By Shah Muhammad Habibur Rahman

3- Running An Economy Without Riba - By Dr. K.T. Hosain - 30 Nov 1999

4- Muslim Economic Thinking: A Survey of Contemporary Literature - Part Three - By Dr. Muhammad Nejatullah Siddiqi - 01 Sep 2002

5- http://islamiclawetc.wordpress.com/2007/02/22/islamic-economics-vs-global-capitalism/

6- http://en.wikipedia.org/wiki/Islamic_economics

7- http://www.sciencedirect.com/science/article/B6WHV-4J5TTN3-/2/9ab544bcb36aa74e238b6295c4596f58

8- http://www.informaworld.com/index/762946244.pdf

9- http/www.inomics.com/cgi/econdir?path=Science/Social_Sciences/EconomicsEconomic_ Systems/Islamic_ Economic_System

10- http://quranicteachings.co.uk/economy.htm

SE 307 Engineering Economics Survey Paper

WORLD OF CASH FLOW

Group #: 4

Member 1 (ID#233193), Member 2 (ID#235361), Member 3 (ID#246728)

Saturday, December 1, 2007

Abstract

This report discusses the uses of cash flow in business word. Some background is given. Then, rules of cash flow, classification and the activities. The main strategies that had been used by direct or non direct way. After that, we find the ways to improve our cash flow.

Introduction: It is often said that in business "Cash is King", this is said because cash is all important to businesses. Cash flow is the difference between cash coming into the business and cash going out the business during period of time. Cash flow which coming into the business does not depend to the same time as the cash goes out. Financial management people mention that cash flows in the business same as the blood in the human body because cash flow showing the life time of this business. So if the cash flow stops or finishes the business is stop. This is why we need good management people to take this problem and to be careful with handling with cash flow diagrams, activities, Rules, classifications and methods. (2)

Main body:

II. RULES OF CASH FLOW:

In stat of the complexities of dealing with cash flow, there are some rule-of-thumb items that can be considered (2):

1) **Decrease the amount of money that is owed to you**:

Get to pay your bills. Overdue accounts receivables can pull down a business. One way to address this problem is to keep credit current at a minimum limit. This is a bigger task than it may seem.

2) **Cut out excess overhead expenditures:**

Good spending way should keep unnecessary expenditures to a minimum, but good cash flow management should help to eliminate excess overhead expenditures. On other hand Bad spending habits are often picked up when cash is plentiful.

3) **Keep a close eye on inventory**:

A business needs enough inventories to fill orders in time. But sales are needed to minimize inventory. Inventory includes finished products for future sales as well as raw materials held for future production. Both types of inventory represent cash that has been spent but that has not generated a return.

4) **Continually update company procedures**:

A business should consider dropping or maybe having new payment procedures for customers who continually pay late. When taking on new customers consider implications on cash flow as part of the evaluation criteria, not just increased sales but also decreased in payment.

5) **Plan ahead**:

A projected cash flow plan should be developed. The business operating account in times of cash deficiencies should be made from a line-of-credit loan or from a savings account, which offers the lowest interest rate. Funds in the operating account should be quickly transferred to accounts that earn higher rates of interest. Electronic transfers help speed up this process as well.

III. CLASSIFICATION OF CASH FLOW:

After we take the rules in our way we should now that the Cash flow in the word of management can be classified into three cash flows (1):

1) Operational cash flows:

Which means that cash received and expended as a summary of the operation that the company's core business activities.

2) Investment cash flows:

This means that cash received and expended from investment and projects.

3) Financing cash flows:

That is the cash received or expended form financial work in the market.

IV. CASH FLOW ACTIVITIES:

We now that each classification of cash flow is the result from operation activity or from investment in a project and may be from financing work. From these we divided the cash flow activities into three kinds (1):

1) Operating activities:

Which include the production, sales and deliver of the items the company producing every year to get payment from their customers. This could be including raw material, building inventory and shipping the product.

2) Investing activities:

This kind of activity deal with the long term assets that the company need to get high number of sells. That includes collection on loan principal, investment return from other firms and expenditure for purchase of plant.

3) Financing activities:

These activities include cash from investors like banks and the financial companies, long term liabilities of the company also include in the financing activities. Also financing cash flow includes payment of dividends, from issuing shares and also from issuing short term debt.

VI. CASH FLOW STRATEGIES:

The cash flow activities is the main sources of cash inflows to a business are receipts from sales, increases in bank loans, proceeds of share issues and asset disposals, and other income such as interest earned. Cash outflows include payments to suppliers and staff, capital and interest repayments for loans, dividends, taxation and capital expenditure. There are three strategies to calculate the cash flows which are (3):

1) Single Cash Flow: This kind include to types simple interest and compound interest.

A) Simple Interest: the practice of charging an interest rate only to an initial sum and the formula is }F=P+(iP)N{ where P is the principle amount , I the interest rate, N number of years and F is the future amount.

1 Example:

P = \$1,000 ,i = 8% , N = 3 years

Ending Balance	Interest earned	Beginning Balance	End of Year
\$1,000			0
\$1,080	\$80	\$1,000	1
\$1,160	\$80	\$1,080	2
\$1,240	\$80	\$1,160	3

B) Compound interest: the practice of charging an interest rate to an initial sum and to any previously accumulated interest that has not been withdrawn. The formula is}F=P (1+I) ^N{
.

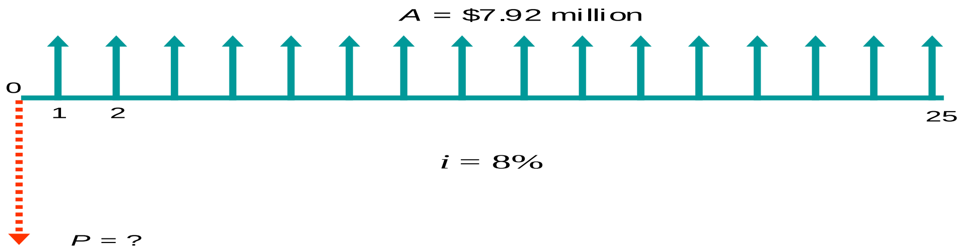
1 Example:

P = \$1,000 , i = 8%, N = 3 years

Ending Balance	Interest earned	Beginning Balance	End of Year
\$1,000			0
\$1,080	\$80	\$1,000	1
\$1,166.40	\$86.40	\$1,080	2
\$1,259.71	\$93.31	\$1,166.40	3

2) Equal Payment Series: that means we have an equal payment at the end of each year that start from the first year after the investment not from the year of where we got the money in. we have to kind of formula in this type of payment. One for the present worth (P) $=A*(1+i)^{N}-1/i\ (1+i^{N})$

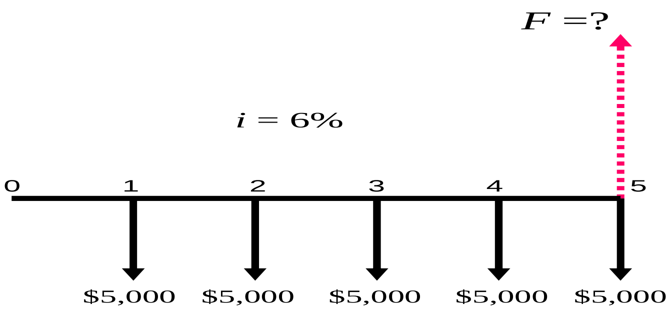
Example: A = \$7.92M i = 8% N = 25



Find: P ; P = 7.92(P/A,8,25) = \$84.54M

The other for the future worth (F) $= A*(1+i)^{N}-1/I$
Example:

1 Given: A = \$5,000, N = 5 years, and i = 6%
2 Find: F
3 Solution: F = \$5,000(F/A,6%,5) = \$28,185.46



3) Gradient Series: Here we deal with a situation that involving periodic payment that increase or decrease by amount G.
$P=G((1+i)^{N}-iN-1/i^{2}(1+i)^{N})$

P1=1000(P/A,12%,5)=3604.80\$, P2=250(P/G,12%,5)=1599.20\$
P=P1+P2= 3604.80+1599.20=5204\$

4)Geometric Gradient Series: Many engineering economic problems, particularly those relating to construction costs, involve cash flows that increase over time, not by a constant amount, but rather by a constant percentage (geometric), called compound growth.

P=A (1-(1+g)^N*(1+i)^-N/i-g) if I not= g
= N*A/(1+i) if I = g
Example:

1. Given: g = 5% i = 7% N = 25 years
2. $A1$ = $50,000
3. Find: P

P = 50000(P/A, 7%, 25) =582679$

V. PREPARATION METHODS:

The Strategies of cash flow Preparation by two methods that is direct and indirect method. Indirect method used in the all universe because of the require every details. In the other hand the direct method is easier to understand (2).

1) Direct method:

This method is to creating cash flow that shows the payment and the receipts. Also to show the taxes that has a direct link with the cash flow activities. This is an example of the direct method for showing the cash flow:

		Cash flows from operating activities
	$27,500	**Cash receipts from customers**
	(20,000)	**Cash paid to suppliers and employees**
	7,500	**Cash generated from operations (sum)**
	(2,000)	**Interest paid**
	(2,000)	**Income taxes paid**
$3,500		**Net cash flows from operating activities**
		Cash flows from investing activities

	7,500	**Proceeds from the sale of equipment**
	3,000	**Dividends received**
10,500		**Net cash flows from investing activities**
Cash flows from financing activities		
	(12,000)	**Dividends paid**
(12,000)		**Net cash flows used in financing activities**
2,000		**Net increase in cash and cash equivalents**
1,000		**Cash and cash equivalents, beginning of year**
$ 3,000		**Cash and cash equivalents, end of year**

2) Indirect method:

This method uses the net income as reference point (start point) then makes all the agreement and the adjustment for the operation of non cash items. This method converts net income into cash flow by additions and deductions.

Citigroup Cash Flow Statement (all numbers in thousands)			
12/31/2004	*12/31/2005*	*12/31/2006*	*Period ending*
17,046,000	24,589,000	21,538,000	**Net income**
Operating activities, cash flows provided by or used in:			
2,747,000	2,592,000	2,790,000	**Depreciation and amortization**
2,910,000	621,000	4,617,000	**Adjustments to net income**
--	17,236,000	12,503,000	**Decrease (increase) in accounts receivable**

37,856,000	19,822,000	131,622,000	Increase (decrease) in liabilities (A/P, taxes payable)
--	--	--	Decrease (increase) in inventories
(62,963,000)	(33,061,000)	(173,057,000)	Increase (decrease) in other operating activities
(2,404,000)	31,799,000	13,000	Net cash flow from operating activities
Investing activities, cash flows provided by or used in:			
(3,011,000)	(3,724,000)	(4,035,000)	Capital expenditures
(75,649,000)	(71,710,000)	(201,777,000)	Investments
(571,000)	17,009,000	1,606,000	Other cash flows from investing activities
(79,231,000)	(58,425,000)	(204,206,000)	Net cash flows from investing activities
Financing activities, cash flows provided by or used in:			
(8,375,000)	(9,188,000)	(9,826,000)	Dividends paid
133,000	(12,090,000)	(5,327,000)	Sale (repurchase) of stock
21,204,000	26,651,000	101,122,000	Increase (decrease) in debt
70,349,000	27,910,000	120,461,000	Other cash flows from financing activities
83,311,000	33,283,000	206,430,000	Net cash flows from financing activities
731,000	(1,840,000)	645,000	Effect of exchange rate changes
$2,407,000	$4,817,000	$2,882,000	Net increase (decrease) in cash and cash equivalents

VII. HOW TO IMPROVE YOUR CASH FLOW:

Once the cash flow projections have been prepared, they should be critically examined and used as a management tool to control and improve the business's expected cash position. Issues which might be examined include the following (4):

1. Increase sales (particularly those involving cash payments).
2. Reduce direct and indirect costs and overhead expenses.
3. Increase prices especially to slow payers.
4. Review the payment performances of customers - involve sales force.
5. Become more selective when granting credit.
6. Seek deposits or multiple stage payments.
7. Reduce the amount/time of credit given to customers.
8. Bill as soon as work has been done or order fulfilled.
9. Improve systems for billing and collection.
10. Improve systems for paying suppliers.
11. Generate regular reports on receivable ratios and aging.
12. Establish and adhere to sound credit practices - train staff.

Conclusion and Comments: Money has a time value because it can earn more money over time. The purpose of developing various interest formulas was to facilitate the economic equivalence computation and we must be able to compare the value of money at different point in time. So my opinion about the cash flow is that the cash flow is the most important factor in the cycle of project what ever the strategy that we use or the type or even in which active that means we have to understand it and improve the way that we use and try to develop new ways to make our live easier.

Readings:

1. http://en.wikipedia.org/wiki/cash_flow_statment

2. Holland, Rob "Understanding, Planning, & Managing Cash flow." (June 1999).http://cpa.utk/pdffiles/adc37.pdf

3. Fundamental of Engineering Economics.

4. http://www.planware.org/cashflowforecast.htm#3

SE 307 Engineering Economics Survey Paper

Topic- Economic Indicators

Group #: 05

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Saturday, December 1, 2007

Abstract

In this project report we will define the economic indicators and we will define the purpose and types of economic indicators. There will be also a list of key indicators and their definitions. The effect of the economic indicators in our country will be studied according to the economic indicators definitions and types.

INTRODUCTION:
An economic indicator (or business indicator) is a statistic about the economy. Economic indicators allow analysis of economic performance and predictions of future performance. The main purpose of any economic indicator is to measure economic growth from one year to another. The problem with this is that inflation creates what may be referred to as "phantom" economic growth.

Economic indicators structure:
Economic indicators include various indices, earnings reports, and economic summaries, such as unemployment, housing starts, Consumer Price Index (a measure for inflation), industrial production, bankruptcies, Gross Domestic Product, retail sales, stock market prices, and money supply changes. Economic indicators are primarily studied in a branch of macroeconomics called "business cycles".

The key statistics of the economy that reveal the direction the economy is heading in; for example, the unemployment rate and the inflation rate.

Economic Indicators types:
What is it? Being able to manage the economy implies the availability of useful and timely indexes of performance. Although there are hundreds of such measures, they are usually categorized as leading, coincident, and lagging indicators of performance.
Key statistics that indicate the direction of an economy they are of three main types:

(1) Leading indicators (such as new orders for consumer durables, net business formation, and share prices) that attempt to predict the economy's direction,

(2) Coincident indicators (such as gross domestic product, employment levels, retail sales) that show up together with the occurrence of associated economic activity

(3) Lagging indicators (such as gross national product, consumer price index, interest rates) that become apparent only after the occurrence of associated economic activity.

*** Economic indicators is in the Banking, Commerce, Finance and Economics, Politics, Society subjects, economic indicators appears in the definitions of the following terms: indicator and money neutrality.

*** Performance indicators, such as dollars, are after-the-fact measure of the outcome of previous decisions; they are useful primarily for scorekeeping and to justify past decisions.

*** Management indicators are leading indicators of performance; they are useful primarily for making decisions and for allocating spending to achieve the greatest level of performance.

Now we will talk about every type in detail

●Leading

Leading indicators help to predict what the economy will do in the future. Leading indicators are often the most useful for an investor. An example of a leading indicator would be hours worked per employee. If the hours are rising, firms should increase hiring some point in the future. Other Examples of leading:

- Stock prices
- Average work hours in manufacturing sector
- Housing Markets
- Inflation
- Interest rates

●Lagging

Lagging indicators confirm what leading indicators predict. Lagging numbers change a few months after the economy does. For example, the unemployment rate is a lagging indicator. Generally, the unemployment rate will fall after a few months of economic growth. If the leading indicator of hours worked is increasing, after a few months the lagging indicator of unemployment should fall. Other Example of lagging:

- Savings bank deposit levels
- Consumer debt levels

●Coincident

Coincident indicators mirror what the data is saying. Coincident indicators are generally what are happening right now, for example the jobs report. If a leading indicator is predicting future job gains, a lagging indicator is saying unemployment is falling, a coincident indicator will tell you the current employment number. How the Federal Reserve interprets all this data is a mystery to everybody but the fed governors. Some economists think the fed is a lagging indicator institution while others believe it mostly watches leading indicators. One clue could be the beige book. The beige book is a bunch of economic data, such as housing starts and construction activity that is published by The Fed. The Fed releases the beige book eight times a year, just before their decision on interest rates. The public has a chance to read over the report and predict what the controller of rates has in store.

Other Examples of Coincident:

- Manufacturing Output
- sales of consumer durables
- Retail sales
- Unemployment levels
- Interest rates
- Growth of real GDP

Economic indicators study in Saudi Arabia:

From the mentioned types of the economic indicators we can take the gross domestic product pr capita as an example.

GDP per capita: Gross domestic product divided by midyear population. GDP: The sum of value added by all resident producers in the economy plus any product taxes (fewer subsidies) not included in the valuation output. It is calculated without making deductions for depreciation of fabricated capital assets or for depletion and degradation of natural resources. Value added is the net output of an industry after adding up all the outputs and subtracting intermediate outputs.

Year	**1975**	**1980**	**1985**	**1990**	**1995**	**2000**	**2002**
GDP per capita (PPP-dollar)	**7 920**	**12 080**	**8 520**	**9 580**	**11 380**	**12 580**	**12 650**

Comment:
From the chart and the table it is obvious that the GDP per capita in Saudi Arabia is increasing yearly. The GDP per capita is related to the national income which depend on many financial resources in the kingdom such as the oil, commercial trading and many others resources. The main relationship here is obviously built on exchange for the sake of increasing income. Many economic indicators come from this process of exchange. The main four indicators are: unemployment, economic growth, inflation, and the balance of payments. These indicators determine the status of the economy of the country.

Conclusion:
An economic indicator is simply any economic statistic, such as the unemployment rate, GDP, or the inflation rate, which indicate how well the economy is doing and how well the economy is going to do in the future.

References:

1. http://globalis.gvu.unu.edu
2. http://www.socialstudieshelp.com/Eco_indicators.htm
3. http://education-portal.com/articles/College_Finance:_The_Three_Types_of_Economic_Indicators.html
4. http://www.businessdictionary.com/definition/economic-indicators.html
5. http://www.politicalglossary.net/definition/947-Economic_Indicators.
6. http://www.ecosystemvaluation.org/Indicators/conbenind.htm
7. http://en.wikipedia.org/wiki/Economic_indicator

SE 307 Engineering Economics Survey Paper

Topic- Cash Flow Strategies

Meaning, Importance and managing

Group #: 06

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Saturday, December 1, 2007

Abstract

The launch of a new confectionery brand after a lot of market research, this brand had an additional quality of being a snack. Different project screening tools are used to evaluate company's progress with this launch. Was the company being able to achieve what she wanted among the target consumers, is figured out with the help of consumer reviews.

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1. INTRODUCTION

Cash Flow is a word that consists of two parts, cash and flow. So, from the these two words you can understand that there is a cash, which is a money in a business or bank language and flow, which means there is a money that goes or spend and comes or receive! So, when we combine both of them in a "Cash Flow" then, we simply mean the receiving and spending of money. According to Wikipedia, Cash Flow is a term that refers to the amount of cash being received or spent by a business during a defined period of time and sometimes tied to a specific project. So, how the company is going to manage its cash flow? Is it important actually to manage cash flow? What will happen if we don't look out to our shortage and surplus in cash flow before it happens? Nowadays, a lot of these questions and more are asked by different companies and banks. In this report, we are going to see how importance is cash flow and what are the strategies that companies use in order to manage their cash flow?

2. Importance Of Cash Flow

It is obvious at least just form the introduction how importance is cash flow. In addition, we need to know how does it important from the practical part and that's why is this section is written. Firstly, cash flow helps profit companies to evaluate the state or performance of their business or project. Secondly, it determines problems with liquidity. Thirdly, it helps companies to know their future problems by projection or predicting the outcome and income for months. The reason of this because it helps companies to know where it will have a shortage and where to have surplus, which leads them to take different strategies or actions according to each future cash flow problem. Finally, managing cash flow is important because it can affect the companies not just from money or cash part, but also sometimes it may affect by reducing their stock or managing them. We are going to understand more about cash flow in the next chapter when we deal with different strategies of cash flow.

3. Cash Flow Strategies

In this part, we are going to talk about different strategies of cash flow. Of course we are not going to talk about them all in details. Only three of them are going to give some details about them.

3.1 Shortage and Surplus in Cash Flow

The point of this section is to deal with any expected of extra money or shortage in cash flow. Managing or the projection of Cash Flow in each company must be the first step to a successful cash flow. That's should be done by using the actual financial information such as:

1. Receipts.
2. Checks.
3. Bills.
4. Account figures.

The idea is that the projection or forecasting of cash flow that includes the anticipated income and expenditures from month to month will help definitely in taking action and choosing the right strategy to deal with shortages or surplus. Second step is to see the cash balance or the money that you have in your hand or in account. As a result of the previous two steps, you can identify the shortage and surplus in your cash flow and deal with each as the next strategies.

There are different strategies to deal with cash flow shortage. First, obtain a short term loan, usually from a bank or an individual such as a board or staff member. It is usually for non profit from profit and it should be less than 90 days because of grants. Second, arrange for a line of credit from a bank and it is the most useful and common strategy. It is an arrangement in which a bank extends a specified amount of unsecured credit to you for a specified time period. It smooth over fluctuations in cash flow, but preferable when surplus happens in cash flow. Moreover, you should apply it once and well good in order to close it for once. Another strategy is to speed up the collection of receivables, which is the money owed to you. That should be done by rescheduling the payment that other owe you and be frank with them or by using electronic processing. Electronic processing helps you in:

1. Process your customer's check electronically.
2. Will reduce your payment processing costs.
3. React quickly to bad check writers.
4. Reduce data entry time.

In addition, Moving up the fundraising event or campaign you are planning is another effective strategy to deal with shortage. You can do it by rearranging and rescheduling your activities to gain money earlier. Also, finance the purchase of equipment by leasing it or paying for it over time, cut expenses and that’s by looking out for the outpace projects, which means get rid of the projects that is overtaking your budget. Another strategy is to liquidate your investments by using from the beginning the certificate-of-deposit which is the document which shows that a deposit has been made, certificate which shows that money has been deposited in the bank. Finally, delay payments to your vendors, but don't ignore the bills, explain your situation honestly with them or request a revised payment schedule between 30 days to 60 or 90 days.

For the other problem which is the surplus in cash flow, there are also different strategies to deal with it. Actually, the problem in surplus is because you are losing the time of using the extra money or cash. One of the strategies is to pay off your all money and close your credit line if there is any. Another one is to invest in short-term instruments because it is safe, low risk and the interest income can be added to your bottom line. Also, investing in liquid instruments such as money market is another good strategy. Finally, purchase whatever can help you to improve your cash flow projection in the future.

3.2 Inventory Management Strategy

The problem with inventory is the cost that it includes the products that have not sold yet! The reason is because of the cost of holding these products in your shelves. So, in order to deal with it, you should use some strategies in managing your stock. One of these strategies is to use the forecasting techniques by analyzing the pattern of your demands from your historical data and see how the pattern goes and ask yourself if it shows a seasonal pattern, trends or just random. In case you don't have historical data then, you should some subjective methods in order to forecast. Another way is to use the idea of Just in Time. It simply means that you should make when order comes or in the other words, pull system not push system! Moreover, dealing with the dead inventory is another issue so; creating some promotions or arranging with you distributors to deal with the dead inventory can help to solve your inventory problems. Different sources show a lot more ways of dealing with inventory. They are:

1. Base Cycle Stock on Economics: For purchased products, getting a handle on your acquisition transaction costs will either reduce average inventory or allow for reducing purchasing and receiving labor.

2. Control Order Transaction Costs: In the office, use the computer to generate purchase orders for PO transmission, advance shipping notices to reduce expediting, and historical vendor performance to prioritize expediting to lower purchasing costs.

3. Lower Inventory Holding Costs: Improve space utilization in leased, contract, or public warehouses (or to minimize or delay expansion of owned facilities) through narrow aisle handling equipment, mezzanines, layout, or more appropriate storage modes.

4. Base Safety Stock on Customer Service: Using the appropriate number of product classes, setting the dividing lines between each class in the best manner, updating safety stock levels dynamically, and basing the service levels for each class on the financial goals of the business all serve to either reduce safety stock inventory or reduce out-of-stock situations and increase revenue.

5. Use Routine Demand Forecasting: Using manually edited arithmetic forecasting models to reduce forecast error will reduce overstocking, backorders, and DC returns from stores, holding inventory levels closer to only that required to support the desired customer service level.

6. Purchase Minimums: Compare the total cost of ownership for purchased products as quoted prices with no minimums to reduced prices with minimums to determine if the reduced prices really provide savings.

7. Extend Payment Terms: When negotiating long- term purchase agreements, getting the best payment terms at a given unit price is the most direct way to increase the portion of inventory funded by the vendor. If improving payment terms can be coupled with increased turnover, then the improvement in working capital effectiveness is significant

8. Don't Stock It: Manufacturing or purchasing to order when the acquisition and customer lead time relationships and order quantity relationships allow it is a very direct way to reduce inventory, providing that the acquisition capacity exceeds the potential short-term demand rate.

Inventory management is playing a really core roll in the supply chain, even though it our concern was about cash flow. Generally, dealing with inventory management is really worth in order to manage our cash flow effectively.

3.3 More strategies and Prompt Payment Strategy

In the cash flow there are many problems, one of them is the disability to match between the money comes into a business and that flows out the door. This dislocation because of many reasons which are:

1-coustomers do not pay the bills

2-the company does not have especially in small business.

3- The high expenses of the business.

To avoid this problem, the measuring and managing cash flow is the solution. The operation cash flow (OCF) ratio uses to measure the cash flow and company's liquidity or in other word its ability to pay its bills.

The next step after measure the cash flow is mange it. There are some steps to manage the cash flow:

1-map out expenses in as much detail as possible. That starts with listing recurring expenses — insurance, utilities, lease payments, rent, payroll, capital goods, inventory — and, just as importantly, noting when they are due.

2-rank this expenses depending in its priority.

These two steps is very important to manage the amount that flows out the door, but we need also to manage the other side of cash flow which is the amount of money that comes into a business.

How can we receive the bill in the due date without any delaying?

This is the challenge question. One way to control about the money that comes in is try to encourage the customer to pay the bill in the due date by make a discount for who unanticipated the bill, on the other hand charging delinquent accounts hefty late fees. Other strategy which is use to save the remain of cash from who unpaid the bills is withholding new merchandise or service. If all else fails, try to get a least a partial payment. These strategies seem a harsh method to receive the bill, for this reason the care must be token unless your customers will be send across the street if you are in a competitive industry. There is also preventive strategy like know the customer's payment history.

4. CONCLUSION AND COMMENTS

Among all research and reads, we found that it is really important that the company manage its cash flow in order to get the best usage of money for investments and so on. Cash flow strategies, such as, inventory management or shortages and surpluses are really important to deal with them as soon as you plan or project your cash flow in for months earlier. Finally, cash flow is something that is going to face it as an organization and the strategies are the key to deal with cash flow problems.

5. READINGS

1. http://www.investorwords.com/2830/line_of_credit.html
2. http://www.bdc.ca/en/my_project/Projects/articles/working_capital_inventory.htm?cookie%5Ftest=1
3. http://www.allbusiness.com/2975663-1.html
4. Improving Cash Flow: What's Your Prompt Payment Strategy? *By Keith Girard,* Allbusiness.com.

SE 307 Engineering Economics Survey Paper

Project Evaluation

Group #: 07

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Abstract

This paper is aimed to provide insight into some of the most common approaches used in project evaluation performance. This includes two main parts: the structure of the project evaluation, main aspects of project analysis.

The framework used in project evaluation emphasizes the key elements that must be considered in every project evaluation program. Such key elements explains the steps required to initiate an evaluation process, the role of management in conducting the evaluation, budgeting for an evaluation, how to choose the evaluation team and what are their typical responsibilities, and the role of the project manager.

Project analysis emphasizes different types of analysis that must be considered in any project. This includes market analysis, risk analysis, technical analysis, environmental analysis, economical analysis, and financial analysis.

Applying these two methods will guarantee that the project design will be optimum, and the project will have a significance economical impact in markets.

Introduction:

Evaluation is the first step in improving any project performance. Such evaluation must be carefully planned for it to be effective as it provides advice and links to sources that help the evaluation team to carry out the evaluation from data collection, analysis, to reporting the findings. In addition, it will enable the other working teams to refine and optimize their designs and work efficiency.

The nature of projects varies considerably from educational and agricultural projects to service and engineering projects. This diversity of projects means that no one single evaluation method can be used in all of these types- rather there is a need to match the methods with the particular project that is the focus of evaluation. Moreover, due to diversity in groups of stakeholder involved in any project this will influence evaluation methodologies and techniques to be used.

This paper will discuss two common approaches used in project evaluation performance. These include: framework used in project evaluation, and main aspects of project analysis.

Main body:

Framework used in project evaluation emphasizes the key elements that must be considered in every project evaluation. It includes evaluation process, design and management, data collection, analysis and reporting, the role of project manager in evaluation process, and evaluating the project evaluation method.

The first step in the evaluation process is to clearly define the beginning and end of the project, with identifiable stages between. Secondly, the project objective must be specified initially and modified accordingly as the project goes on. Third, performance measures must be established to be used in evaluation. Then, planning and designing an evaluation take place with keeping into consideration feasibility in term of budget, time, available resources and expertise. When the evaluation plan is ready, data gathering methods must be develop in order for the evaluation team to know who is responsible for providing the required data and how to access it.

Managing the evaluation

Evaluation of a project is a project in itself, and requires a management plan. The major role of the management plan is to track all the major tasks required to complete the evaluation on time and budget. In addition, to schedule those tasks to ensure that there is a smooth flow of activities. Evaluation management is also responsible for selecting evaluation team, negotiating contract for external consultant, monitor budget expenditure, and purchase resources.

Budget for project evaluation

A common 'rule of thumb' is to allocate around 10% of the total project budget to evaluation costs. The cost percentage may be higher for complex evaluations using a raft of data collection techniques and with a heavy reliance on outside consultants. Alternatively, the cost percentage may be lower than 10% if the evaluation is quite modest, with only internal staff involved.

Typical expenditure will include:
- Salaries of external consultant(s) and/or internal staff (if not funded from else where)
- training/staff development costs associated with data collection and analysis methods and overall evaluation strategies
-costs of developing or purchasing evaluation softwares and instruments.
- Miscellaneous office costs – telephone, fax, administrative support.

Who should be involved in organizing an evaluation?

Ideally, all major stakeholders (i.e. those who have investment in the outcomes of the project) should be involved—particularly in framing the evaluation objectives and evaluation questions. This helps create a sense of ownership and makes more likely that the findings will be acted upon. Certainly, professionals whom will execute the recommendations of the evaluation are expected also to plan for the evaluation.

The evaluation could be carried by an individual or a number of people either from inside or outside the project team or both. The factors that must be considered to decide who should carry the evaluation includes degree of objectivity, time, logistics, and expertise.

Degree of objectivity mainly relies on whom the evaluation is for. If it is for someone who is a part of the project, then the evaluation is a research action and an insider evaluator is appropriate. In the other hand, if the evaluation is for an external funding agency then a more independent analysis is required.

Cost, time, and logistics are also of high importance in determining who will carry the evaluation. In order for the internal project staff to do the evaluation, they should have a time release and be logistically feasible. For example, if a chemical engineer is an evaluator and a designer of a gas plant. He must given enough time to design the process of the plan and then to evaluate it at the end. Also, the engineer supervises the operations taking place in the plant so he also needs a permission to move from one location to another to do the evaluation.

However, if the external evaluator is able to develop or apply a method more efficiently due to long industrial experience and higher qualification, it is recommended that the evaluation responsibilities are splitted between the internal team and the external partners, with the project team largely responsible for formative evaluation and the external party largely for summative evaluation. Then work closely and cooperatively together.

The typical responsibilities of an evaluator include:
-specifying required information for program planning and evaluation
- Develop a plan or evaluating specified questions
- Specifying evaluation objective
- locate, read, and integrate relevant research, measurement, and evaluation literature.
- Critically evaluate a given evaluation research design
- Relate theoretical evaluation models and real life requirements
- Demonstrate appropriate interpersonal relationship skills in working with evaluation team and program staff.
- Design an effective measurement-management system
- Describe evaluation design and analysis requirements in computer programmer or data processing terms
- Specify criteria for selection or development of evaluation instruments.
- evaluate information to make decision about projects
-Redesign and refine evaluation systems based on data implications of previous cycle.

In engineering projects, most of the time the project manager takes the role of the evaluation team. Project manager is responsible for the leadership of the project from inception to completion. The project manager leads the team and helps negotiate the multiple relationships within any project—whether with clients, team members, firm principals or any variety of partners and functions as the hub of a project. Once the contract is signed with the project manager, he will assemble a project team, considering the multiple dynamics and logistics that go into any mid-to-large-sized project. Skill sets are important, but personalities are just as vital. Personality management is a huge part of any project manager's job, and it's crucial to assemble a team that can play well together.

Once the team is assembled, projects can take any number of directions. Although most projects start with a team kickoff meeting, that may differ depending on the goals and scope of the work. It is up to the project manager—with the team's input—to decide what the best approach to the work should be and to make sure it is an effort he or she can own or direct. Although the project manager needs to be careful to lead and not dictate (especially with senior team members), he needs to have a vision and an approach decided before the project starts, as well as have a thorough understanding of the goal in sight.

The role of project manager in managing personalities.
A project manager can facilitate this harmony in multiple ways. One tactic is to take extra effort to make sure that every member team feels valued and that they are an important part of the overall process. This includes making sure that team members are effectively coached and praised throughout their work, especially during challenging phases. Regardless of how challenging certain situations or work may be, it is the project manager's job to care about the quality of work and the quality of the working environment, even when no one else seems to.

Sometimes tensions require the project manager to conduct challenging conversations between team members and the client. It's not that team members always have to go through the project manager. But it may make those tough discussions more palatable, knowing that they have a person to help facilitate. Although this can often be the most difficult aspect of client relations, it is key to keep relationships positive—because no one wants to work with someone that they don't feel respected by, and the quality of the work will suffer along with the working environment. Maintaining a positive working environment also builds rapport among the team and keeps enthusiasm levels high, which is crucial on a challenging project.

Project managers are strategic leaders.
A project manager must have a vision for the course and goals of the project. This should apply not only to the process, but also to the strategy. Because the project manager keeps an eye on the big picture from day one, he or she should be able to effectively lead the project's strategy as well. And the advantage that the project manager has over any other team member is that he or she is not participating in the creation of the work. For the hands-on designer, the profession and the work consist of big ideas and small details. It is not enough to have a great concept—you have to be able to execute against it, and this often means sorting through hard times and multiple iterations of a concept until you get it right and the work sings. It is up to the project manager to keep an eye on the goals and objectives of the project—both for the client and the design team.

Another way in which the project manager holds the team to its objectives is through documentation of the creative process, which can take many forms. Concepts are developed in many ways, but there is always a source: a client interview, a hands-on collaborative team session, industry research. Once this information is gathered, designers start and use their creativity. Where the project manager helps is by producing the documentation behind the big ideas. These documents can help demonstrate the thinking behind the big ideas without creating obstacles the designers to document their process every step of the way.

When project manager is a must?

An experienced project manager is required if the firm has few principles and creative directors, and these people usually have such multi-faceted roles that they have little time for creative guidance or perhaps not as much guidance as projects usually need. This is where an experienced project manager, especially one with design experience, can help. Although there is still a need for creative direction or support, particularly at the inception, a project manager can provide the additional steering and/or hands-on guidance required for a project to meet its objectives. The creative director may be involved in the beginning, for assistance with conceptual development, but once a project has this general direction the project manager can step in to continue to steer it in the right direction.

Project Manger's qualification

Different firms will require different types of project managers, but some skills are inherent.

- Have a sense of ownership/leadership. When it comes down to it, the project manager is the person most responsible for the project's success or failure. It can be a weighty burden to shoulder, but it is important for this sense of ownership to occur in order for the project to have direction. With multi-faceted, compartmentalized teams and/or skill sets, the project manager needs to be the one person to bring everything together and take responsibility for the work's success. This also requires tenacity, determination and confidence—all essential traits in a project manager.

- Use both sides of the brain. Because the project manager needs to balance the details and the big picture, he or she needs to have creative problem-solving skills as well as a head for numbers and schedules. The best project managers usually have hands-on creative experience—either as writers or designers—and understand how to work through project challenges based on past experiences. When faced with difficulties, the project manager needs to guide the team to make adjustments or changes with all of the pieces in perspective. Be creative, analytical and tactical.

- Have writing and design skills (and a technical understanding). The project manager does not need to be an award-winning writer or designer, nor does one need to be a programmer, signage fabricator or printing press operator. But he or she needs to have a strong understanding of all of the roles in the process, particularly those most related to the skills of the core team. And it helps to have direct experience in these areas, even if it is minimal. If the project manager does not have a strong design sensibility or is unable to communicate, he or she will not be able to judge the success of the project in meeting its objectives.

Usually the previous framework is used when the project is approved. The information needed to make a decision whether to approve or disapprove a new project is provided by project analysis. Project analysis is divided into five main types: market analysis, technical analysis, financial analysis, economic analysis, environmental analysis and risk analysis.

A. Market Analysis
Market analysis is concerned primarily with two questions:

- What would be the aggregate demand of the proposed product/service in future?
- What would be the market share of the projects under appraisal?

To answer the above questions, the market analyst requires a wide variety of information and appropriate forecasting methods. The kind of information required is:

- Consumption trends in the past and the present consumption level (for telecommunication companies the number of telephone lines, mobile subscribers,etc are important factors to be considered)
- Past and present supply position (Who supplies what services?)
- Production possibilities and constraints (In telecommunication industry, bandwidth and regulatory framework matters a lot)
- Structure of competition (the regulations regarding competitions)
- Cost structure (Cost models used in costing variable and fixed costs, direct and indirect costs)
- Elasticity of demand
- Consumer behaviour, intentions, motivations, attitudes, preferences, and requirements.(e.g. on telephone accessories and types of telephone products)
- Distribution channels and marketing policies in use (Should the company use a pre-paid service or billing system?)
- Administrative, technical, and legal constraints.

B. Technical Analysis

Analysis of the technical and engineering aspects of a project needs to be done continually when a project is formulated. Technical analysis seeks to determine whether the prerequisites for the successful commissioning of the project have been considered and reasonably good choices have been made with respect to location, size, process, etc. The important questions raised in technical analysis for the ICT projects are:

- Whether the preliminary tests and studies have been done or provided for?

(For example, when buying equipments, engineers from both selling and buying companies should test the performance & specification of equipments)

- Whether the availability of human resources, power, and other inputs have been established?
- Whether the selected scale of operation is optimal?

- Whether the production process chosen is suitable?
- Whether the equipment and machines chosen are appropriate?
- Whether the auxiliary equipments and supplementary engineering works have been provided for?
- Whether work schedules have been realistically drawn up?
- Whether the technology proposed to be employed is appropriate from the social point of view?

C. Financial Analysis

Financial analysis seeks to ascertain whether the proposed project will be financially viable in the sense of being able to meet the burden of servicing debt and whether the proposed project will satisfy the return expectations of those the shareholders (owners of the firms).

The aspects which have to be looked into while conducting financial appraisal in ICT projects are:

- Investment outlay and cost of project
- Means of financing
- Cost of Capital
- Projected profitability
- Break-even point
- Cash flows of the project
- Investment worth wholeness judged in terms of various criteria of merit.
- Projected financial position.
- Level of risk

D. Economic Analysis
Economic analysis, also referred to as social cost benefit analysis, is concerned with judging a project from the larger social point of view.
The questions sought to be answered in social cost benefit analysis are:

- What are the direct economic benefits and costs of the project measured in terms of shadow (efficiency) prices and not in terms of market prices?
- What would be the impact of the project on the distribution of income in the society?
- What would be the contribution of the project towards the fulfillment of certain merit wants like self-sufficiency, employment, and social order?

E. Environmental Analysis
In recent years, environmental concerns have assumed a great deal of significance and rightly so. Investment in the ICT/Telecom industry should give much consideration on the environmental aspects. Among the question to be asked include:

- What is the likely damage caused by the project to the environment? E.g. how used prepaid vouchers/cards affect the environment? How installation of transmission stalls affect the environment?
- What is the cost of restoration measures required to ensure that the damage in the environment is contained within acceptable limits?

F. Project Risk Analysis

In the project management, the parties involved in the implementation of the projects should look to among other thing on the risk management measures. Projects should not be moved forward to implementation stage without proper risk analysis and mitigation measures. When analyzing a project, the below mentioned risks need to be considered and included in the analysis. Risks in consideration may change the decision made on the project.

Market risk
Where there is no enough information on the market of the product/services the project is intended to offer. This will cause decline of the project return.

Human resource
Some of the projects requires highly specialized people who might not be obtained in the home country or who are not obtained easily. So there is a risk that the project will not

deliver its best in terms of human resources consideration. This applies to the technical related projects such as ICT projects.

Financial resources
In most cases, projects can be financed by the use of various sources as discussed in Module 2. However, the financing sources of the project can not be raised easily or the sources can be very expensive than expected.

Technology risk
In the ICT industry, innovation on the various projects to be implemented may be associated with the available technology. ICT industry is one of the dynamic industries of which changes in the technology experienced occasionally. So the issue of technology should be analyzed fully in terms of its availability and sustainability.

Management risk
Sometimes the management for the project can be a risk of itself. Management requires special skills to be developed and maintained. The successful management of the project will lead to the desired results and the vice versa is also true.

Timing
Timing of the project is very important to its success. Timing is important in the exploring the opportunities which are not always in place. Poor timing may result to the copying of the project idea by the competitors in the market.

Intellectual property right issues
The consideration of the intellectual property rights is very important in projects. This is because some of the resources for the project may be subject to the intellectual property rights and thus making the company incurring extra costs for this purpose.

Regulation risks
Changes in regulations can also be regarded as risk component in the implementation and survival of ICT projects. For instance in the telecommunication regulations, if the regulatory body changes the policies regarding to pricing and trafficking, this has effects on the some of the telecom projects in the country. Another set of regulation risk is tax changes on the pricing of the ICT products/services.

Conclusion and Comments:
For a project to be successful and meet its objectives. A project analysis must be maid before the implementation phase take place. Project analysis is done be participation from different teams performing different tasks such as marketing analysis, financial analysis, economical analysis, environmental analysis, technical analysis, and project risk analysis. Then, when the analysis is made and the stakeholder decided to start the project, an evaluation plan must be made under the supervision of project manager or professional consultants. The evaluation structure assures that the design of the project is optimum and the designers, workers and management have the required knowledge and the skills to handle and solve the problems faced during the implementation phase and to meet the project's objective at the end.

Readings:

[1]. University of Tasmania , “Project Evaluation Framework”, November 2005, pp. 1-22
[2]. Washington State University, “Introduction to Project Evaluation and Analysis ”
[3]. Washington State University, “Project Risk Considerations”
[4]. American Institute of Graphic Arts, "why a project manager".
http://www.aiga.org/content.cfm/why-a-project-manager

SE 307 Engineering Economics Survey Paper

Topic- The Islamic Economy vs. Capitalism

Group #: 08

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Abstract

This report is a detailed study and a comparison between the Islamic economic system and capitalism. It starts with an introduction to the topic of the study and then there will be four major parts that talk about capitalism and what it does involve, its relation to social justice, and its view on interest. The report then is divided into other six major parts that introduce the Islamic economy system, state its goals and objective, define ownership in Islam, and then define and explain the concepts of Zakah and Riba. The report will then end with a brief conclusion that shows our views on the two systems and clarifies which one we think is more suitable for mankind.

INTRODUCTION

Islam uniquely considers distribution as the economic problem, and Muslims do not share the obsession of capitalists and communists with production because Islam differentiates between the basic needs and luxuries. There exists no concept of relative scarcity of resources in Islam. The resources available on earth are sufficient to secure the basic needs (food, clothing, and shelter) of six billion human beings. Such a misunderstanding has concealed the reality that starvation, poverty, and economic backwardness result from misdistribution exasperated by man-made laws and systems. Under the Islamic system, Nigeria alone could support the whole of Africa, as occurred in the past when, under the system of Islam, Africa sent food to relieve the famine in Madinah during the rule of Omar bin al-Khattab.

In this report we will give general idea about the Islamic and capitalism economics. Then we will give our view in the conclusion. We will try, after understanding these two systems, to clarify which one we think is more suitable for mankind. First we will give short discretion and general idea about the capitalism economics. Then we will do the same thing for the Islamic economics. At the end we will state our conclusion.

I. INTRODUCTION TO CAPITALISM ECONOMY

A. *What Do We Mean By Capitalism Economic System?*

Capitalism Economy generally refers to an economic system in which the means of production are all or mostly privately owned and operated for profit, and in which investments, distribution, income, production and pricing of goods and services are determined through the operation of a market economy. It is usually considered to involve the right of individuals and groups of individuals acting as "legal persons" or corporations to trade capital goods, labor, land and money. Capitalism has been dominant in the Western world since the break up of feudalism. But some feel that the term "mixed economies" more precisely describes most contemporary economies due to their containing both private-owned and state-owned enterprises. This is by Combining elements of capitalism and socialism, or mixing the characteristics of market economies and planned economies.

B. History Of Capitalism

Capitalism system derives from the mid-nineteenth century. In the late 19th century some German and Austrian theorists began developing concepts. Theses concepts studied by two men Marx and Engels. In the early 20th century Max gave the term a more positive connotation. During the Cold War, theories of capitalism continued to be developed and elaborated in order to explain, justify or criticize the private ownership of capital to explain the operation of capitalistic markets. We can say that Capitalism economic system is a difficult, problematic term; it applies to a diversity of phenomenon spread across disparate historical cultures with substantially variable world views, so the term "capitalism" means more than just a body of social practices easily applied across geographical and historical distances, it is also a way of thinking and as a way of thinking does not necessarily apply to earlier European origins of capitalism or to capitalism as practiced in other cultures.

Marx

II. WHAT DOES CAPITALISM INVOLVE?

1- Capitalism as a way of thinking is fundamentally individualistic, that is, that the individual is the center of capitalist endeavor. This mean that the person who pursue their own interests should be free to pursue their own interests, this is what they called economic freedom.
2- The large-scale social goal of unregulated capitalism is to produce wealth, that is, to make the national economy wealthier and more affluent than it normally would be. The purpose is for nations to grow steadily wealthier.
3- Capitalism as a way of thinking divorces the production and distribution of goods from other concerns, such as politics, religion, ethics, etc.
4- Economic behavior can be rationally calculated, and these rational calculations are always future-directed .
5- The fundamental unit of meaning in capitalist and economic thought is the object, that is, capitalism relies on the creation of a consumer culture, a large segment of the population that is not producing most of what it is consuming.

A. Individual Ownership

Individual Ownership is the state or fact of exclusive rights and control over property, which may be an object, land/real estate, intellectual property or some other kind of property. It is embodied in an ownership right also referred to as title.

Ownership is the key building block in the development of the capitalist socio-economic system. The concept of ownership has existed for thousands of years and in all cultures. Over the millennia, however, and across cultures what is considered eligible to be property and how that property is regarded culturally is very different. Ownership is the basis for many other concepts that form the foundations of ancient and modern societies such as money, trade, debt, bankruptcy, the criminality of theft and private vs. public property.

III. CAPITALISM AND SOCIAL JUSTICE

A. Capitalists' View on Social Justice

Capitalists believe that capitalism is a just social system and say that capitalism is the complete embodiment of social justice. From their point of view, a capitalist society is a just society because all individuals are considered equal under the law. Capitalism recognizes that it is just for a man to keep what he has earned and that it is unjust for a man, or group of men, to have the right to what other people have earned. Since all people must live independently under capitalism, all of the material values that a person acquires must be earned. Thus, the expression of social justice under capitalism is that what a man earns is directly proportional to what he produces, with no antitrust laws or progressive income taxes stifling his achievement for the sole fact the he did achieve. All other forms of government, such as the welfare state, institutionalize injustice by legally expropriating the property of some men and giving it to others.

B. Anti-Capitalism' View on Social Justice

The theory of the German political economist and sociologist Max Weber, who is considered one of the founders of the modern study of sociology and public administration and one of the main critics of Karl Marx's ideologies, says that there are three main factors that control the emergence of social classes. These factors are wealth, power, and social standing. When we look on the first factor, it is obvious that in all the capitalist countries especially United States there is an unfair distribution of wealth between all individuals, and statistics show that more than 50% of the overall wealth is possessed by only 1% of the populations. This shows that there is a lack of social justice because the possession of the wealth means the control of the abilities of the social and political system of the country.

Another factor that divides classes of society is power, and by looking at United States as the biggest capitalist country, we see that power is concentrated mostly on the hand of rich white people who follow the Protestant doctrine, while more than fifth of the populations are deprived from the political, economical, and social power. This shows that the factors that control power acquiring, which refers here mostly to the political power, in capitalism are the wealth, religion, and race of individuals.

C. Differences Between Islamic and Capitalists View

Islamic economy view on social justice has many differences from capitalism's view. Capitalism defines humans as sources of production, gaining, and consumption, while Islam message came to the organization of social life and stabilize the foundations of justice and the reconstruction of the land so people could devote themselves to worship God. In capitalism all individuals have the ultimate freedom of ownership without limitations on gained wealth. Capitalism also put few restrictions on earning ways, one example is that capitalism allows usury and consider it as a legitimate way of trading and earning. The allowance of these principles led to the existence of economic inequality between the different segments of society, because as the riches get richer without any limitations, the poor get poorer without the existence of any rules or principles that fight poverty and give rights to the poor segment of society.

On the other hand, Islam's look for the poor is based on its consideration of compassion and unity and social solidarity, and that it is a duty on the whole society to look after the poor people by giving the Zakah which is one of the fundamentals of Islam.

IV. HOW DID CAPITALISM VIEW INTEREST

The justification for charging interest evolved historically in works promoting capitalism. One recurring theme was to attack Aristotle. Francis Bacon's Works (1610) thrashed the Scholastics. In William Petty's 1682 book, usury is redefined as: "A reward for forbearing the use of your own money for a term of time agreed upon...". Also Adam Smith's 1776 The Wealth of Nations, capitalism's "bible", justified usury in economic terms: "The interest or the use of money…is the compensation which the borrower pays to the lender." This is how interest is popularly viewed today. But Smith overlooked that the lender gets his profit even when the enterprise loses; he ignored the successful business structures used by Venice for centuries, where the lender's return was based on actual profits. Smith's endorsement did not remove the stigma against usury; and the debate continued. Jeremy Bentham's In Defense of Usury (1787) created the present mis-definition of usury as: "The taking of a greater interest than the law allows." He dismissed the harmful effects of usury on the common man.

The various justifications for usury proved inadequate in 1836 when John Whipple, an American lawyer wrote: "If 5 English pennies had been at 5 per cent compound interest from the beginning of the Christian era until the present time, it would amount in gold of standard fineness to 32,366,648,157 spheres of gold each eight thousand miles in diameter, or as large as the earth." Whipple knew that answering the usury question required an accurate view of the nature of money. One can imagine how advanced the world of finance would be today if someone like Whipple were present at the Constitutional Convention in 1787. Had his viewpoint been distilled into law many unnecessary hardships could have been avoided. Instead the delegates operated under a primitive commodity concept of money, similar to that of the ancient oriental system, and ignored the crucial monetary questions

V. INTRODUCTION TO ISLAMIC ECONOMIC SYSTEM

From the time of the prophet, peace be upon him, till two hundreds years ago there was nothing called the Islamic economic system. At that time the finance treatments and basic economics rules were parts of Islamic Fiqh (laws of Islam) books. After the great advancement in the economics at the beginning of this century, the Muslim scientists have started creating the Islamic ideology of economics by studying all concepts of the modern economics and making laws and judgments depending on Qur'an, Sunnah and fundamental rules of Islamic Fiqh (Asoul Al-Fiqh).

VI. ISLAM AND ECONOMY

A. The Comprehensive of Islam.

Islam is a comprehensive religion that covers all aspects in the Muslims life; including the economy. However, the ideology of the economic system in Islam is built on the judgments of the Qur'an and Sunnah and the opinions of Islamic scientists who have a strong background in the general economics.

B. Objective of Islamic Economic System

The most important reason for studying and improving the Islamic economic system is to increase the level of the nation's welfare. The Islamic economic system, however, tries to reach this goal by working to achieve some minor goals. Understanding these goals leads to understand the nature of the Islamic economic system.

VII. GAOLS OF ISLAMIC ECONOMIC SYSTEM

A. First Goal: Universal Brotherhood and Justice.

A coherent, cooperating and safe society can be made by applying the concept of the brotherhood and ensuring that all member of the society are treated in the same manner with.

B. Second Goal: Equitable Distribution of Income

Economic justice implied a fairness distribution of the wealth and income. However this doesn't mean that everyone is rewarded equally, although Islam aims to let all the society members above a certain standard of income.

Some mechanisms of redistribution of wealth are found by the economic system of Islam to guarantee justice of the distribution. The first technique is making solutions of unemployment problem. The second one is redistribution some of the wealth by obligating the payment of Zakah. Finally, the distribution the inheritance is done according to some specific rules.

C. Third Goal: Freedom of the Individual within the Context of the Social Welfare.

All Muslims believe that the god is the only creator and the only owner of the universe. As a result, they mustn't exceed the limits that are put by the god.

Muslims jurists have created some basic rules to regulate the relations of the individual's rights and his society's rights. First one is considering the behalf of the society takes precedence over the behalf of the individual. In the same manner relieving hardship also takes precedence over the promoting benefit Last rule is that "a bigger loss can not be inflicted to relieve a smaller loss".

VIII. OWNERSHIP IN ISLAM

A. Private Ownership

The omission of the individual's right of ownership or bounding it by very narrow ring causing a weak economic system. However, this weakness happens because the canceling of the rights of ownership is against the human nature. The abolition of private property curbs the enterprises smothers real talents and turns the producer of the wealth into slaves of those who control government.

B. Public Property

Public property is all the resources of nature which are meant for common use and convenience of a particular community of people and which, if allowed to pass into private hands, would make it difficult for community to stay together. Imponderable and inexhaustible quantities of minerals or other deposits are examples of public properties.

IX. ZAKAH

A. First Universal Welfare justice System

The Prophet Muhammad achievements were based not on ephemeral but on the permanent values of the Quran. He brought about the greatest revolution, even an economic and political miracle in human history. In a very short time after the prophet migrated to Medina and implemented the Islamic regulation. The economic condition of the people changed.

B. What is Zakah?

The Arabic word Zakah, with its root Z -K -W means growth and development. A tree is nourished and grows in the presence of Allah-owned resources such as the soil, the rain, the sun, and the air. Also it means purification and growth. The Islamic meaning of Zakah is a part of riches' wealth which is taken from them to spend for the poor. The dispensation of Zakah is regulated by different rates (nisaab) for different items whose details are given in books of hadith and Fiqh. For example, Zakah on money is 2.5% of the savings over a period of one year according to the Shari'ah.

C. Benefit and Justice of Zakah

The term "giving Zakah" means making available to all human beings the provisions of growth and development by providing equal opportunity within its jurisdiction and Zakah is also an important tool that Islam uses to redistribute the wealth and cover the basic needs of the poor. Also Zakah is a good motivation for the investments; because the owner will not keep his money in banks for example and see it decreases every year by paying the Zakah without trying to at least keep it in the same level by investment.

X. RIBA

A. Meaning of Riba

Riba in Arabic means the increasing in any thing i.e. an addition. However, to know how much strong the prohibition of Riba is, we have to refer to Qur'an to read:

> O ye who believe! Observe your duty to Allah and give up what remaineth (due to you) from usury, if you are (in truth) believers. And if ye do not, then be warned of war (against you) form Allah and his

messenger. And if ye repent, then ye have your principal (without interest). Wrong not, and ye shall not be wronged.

B. Types of Riba

Basically, there are two types of Riba. First type is Fadl Riba which means the debtor gives back an addition amount in the same kind of the credit. For example, if some one gets from other one kilogram of wheat, then he must return the same amount with additional according to a previous agreement. The other type is the Nasi'a Riba. This type was well known in the pagan time.

C. The Interest and Riba

The literal meaning of interest it is used in the Arabic language means to excess or increase. In the Islamic terminology interest means effortless profit or that profit which comes free from compensation or that extra earning obtained that is free of exchange. Debend on this we can say that there is no difference between saying interest or Riba.

D. Some Effects of Riba

Riba has a lot of bad effects on the economics. First, Riba contradicts with the goals of Islamic economic system; because Riba increase the inequality of the income distribution.

This leads to concentrate the wealth in a few hands and give them a chance to control the society by controlling its wealth resources. Riba can cause an inflation which lowering the real wages. Also the increasing of prices and percentage of an unemployed are other effects of treating of Riba.

Riba or interest is same as a guarantied return to the lender regardless the borrower makes a profit or not. The Islamic view is truly just and humanitarian. It requires a lender to participate in the profit as well as loss of the borrower if any.

E. Prohibition of Riba

Allah, the Most High, has strictly prohibited Riba. Yet the world today, including the Muslim world, is saturated with Riba. This has confirmed the ominous prophecy of Prophet Muhammad who prophesied, in a hadith received from Abu Hurairah the following:

There will come a time, he said, when you will not be able to find a single person in the world who will not be consuming Riba. And if anyone claims that he is not consuming Riba then surely the vapor of Riba (In another text the dust of Riba) will reach him. (Abu Daud, Mishkat)

the prophet mentioned explicitly in a hadith reported by Imam Bukhari and Muslim, "Avoid the seven destructive sins", then he mentioned one of them as, "and dealing with Riba.

CONCLUSION

When the poor are permanently poor, and the rich, permanently rich, that is oppression! All around the world today that economic oppression exists, and is constantly increasing, - the poor grow poorer and the rich, richer. Riba is the cause. A predatory global elite, centered in the West, but also present around the world, is constantly sucking the wealth of mankind and impoverishing the masses through Riba. Their ultimate objective is to utterly enslave all of mankind in a new sophisticated slavery. Legislative, judicial and legal systems, the media etc., are all created by the oppressor, and all function to preserve the system of economic oppression.

The capitalist New World Order of the West actively seeks to control the natural resources of weaker nations under the guise of "global economic security." Using the United Nations as a tool, the weak are intimidated into submission either through economic sanctions or military force

This is the true hidden of the western capitalism economic system. To know the difference between the Islamic and western system we need to know what happened before thirteen hundreds years ago, when the Islamic World that was very big county. At that time the Islamic county had no any needy poor person. All people had enough money to support their needs. As an evidence of this, the public servants went to all cities and villages with the money of Zakah seeking and asking about poor and needy men, but they couldn't spend the majority of the money because they found few poor men. Still, we have to know that this happened in the time of Omar Bin Abdul-Aziz who was one of the best leaders of the Islamic World. And who, with his assistants, applied the instructions of Islam perfectly in a country which isn't wealthy but not poor. This shows how much strong is the applying of the concepts of Islamic economic system like brotherhood and Zakah to produce very considerable excellent results.

REFERENCES :

1. Chapra, Umar. The Economic system of Islam. Karachi: University of Karachi, 1971.
2. Hasan, Najmul. Security System of Islam with Special Reference to Zakah. Jeddah: King Abdulaziz University, 1984.
3. Iqbal, Munawar. Distributive Justice and Need Fulfillment in an Islamic Economy. Islamabad: International Islamic Unifersity, 1985.
4. Qureshi, Anwar. Islam and the Theory of Interest. Lahore: SH. Muhammad Ashraf, 1971.
5. Yusuf, S. M. Economic Justice in Islam. Lahore: SH. Muhammad Ashraf, 1971.
6. Bevir, Mark. Social Justice and Modern Capitalism: Historiographical Problems, Theoretical Perspectives. Berkeley : University of Californiam, 2001.
7. Loh, Christine. "Capitalism With Social Justice". Kuala Lumpur : The World Economic Forum. Nov. 2002.
8. Bhm-Bawerk, Eugen von. Capital and Interest: A Critical History of Economical Theory. London : Macmillan and Co. 1890.

SE 307 Engineering Economics Survey Paper

Islamic economics versus Capitalism

Group#:09

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Abstract

As students in the economics analysis class we were asked to write about the Islamic economy system and the Capitalism economy system and that is the project assigned to us. The Islamic economy system should be defined. Moreover, the main characteristics of this system should be present in this report. On the other hand, a definition of the capitalism economy system should be given and some of the main characteristics of this system should be present in the report. Finally, a comparison should be made between the two systems regarding their positives and negatives. Tasks were assigned to each one of the group members to read some of the sources that we agreed on reviewing them in the sake of getting general information about our subject. Then, each student wrote about the part he was assigned. Some of the main differences, advantages and disadvantages were listed for both systems and a final opinion regarding this subject was also made.

Introduction: a lot of economic systems are considered by different countries all over the world. Some of which are based on religious rules and some are based on ideas created by individuals. These economic systems have a vital rule in people's daily lives and affect the whole community. Two of these systems are the Islamic and the capitalism economy systems which are considered to be the most important economy systems and are used in today's financial transactions. In the following both the Islamic and capitalism economy system will be introduced and compared.

Islamic economics: it is economics with accordance to Islamic laws. It can be defined as the application of Islamic law to economic activity either where Islamic rule is in force or where it is not, that is, it can refer to the creation of an Islamic economic system, or to simply following Islamic law in regards to spending, saving, investing, giving, etc. where the state does not follow Islamic law. Some of the terms that are in relation with Islamic economics are as follows.

- Zakat which can be defined as the taxing of certain goods, such as harvest, with an eye to allocating these taxes to expenditures that are also explicitly defined, such as aid to the needy.
- Gharar which is known to be the interdiction of chances, that is, of the presence of any element of uncertainty, in a contract (which excludes not only insurance but also the lending of money without participation in the risks).
- Riba, which is referred to as usury.

All of the above terms, along with al other Islamic economics terms, came from prescriptions, anecdotes, examples, and words of the Prophet, all gathered together and systematized by commentators according to an inductive, casuistic method." Sometimes

other sources such as al-urf, (the custom), al-aql (reason) or al-ijma (consensus of the jurists) were employed.
In addition, Islamic law has developed areas of law that correspond to secular laws of contracts and torts.

Features of the Islamic Economy: When we study the Islamic economy as a way which Islam prescribes for individual and social behavior in the economic field and examine Islam's rules in this area, we can conclude that its most important attribute is social justice. The Islamic economy resembles all other systems that claim to be serving human being and realizing his social aspirations but it differs from them in the details of its conception of social justice. Justice cannot emerge unless the following requirements are present: first, believing in the private and social property on an equal and advanced level in a way that the private property acts on the fulfillment of man's natural demands for possessing the result of his effort and obtaining the benefits of his business. While the public property aims at guaranteeing that social action enjoys a social product through which the provision of some needs and shortages would become possible. Second, faith in individual economic freedom as a general, continuous, comprehensive principle which stems from the nature of the ownership along with the belief in the existence of some limits at which this freedom ends. This is for the purpose of either guaranteeing individual's interest as in the case of objects the use of which was outlawed because of the physical or moral damage that they could inflict upon the individual, or to secure others' rights and liberties which is also a natural guarantee admitted by all religions and human affiliations. Third, faith in the principle of mutual responsibility. Islam guarantees, for every individual in the Islamic society, the *subsistence* level, i.e., provision of his natural needs. The government is obliged to provide this minimum for all and it is absolutely impermissible that even a single needy person is found in the Islamic society. Fourth, belief in the principle of social balance and refusal of the class system in the Islamic society. We came to know through the third point that the required minimum is to provide subsistence for all individuals. As far as the maximum is concerned, it may be assumed through the following factors:

1. The prohibition of *tabdhir* and *israf* [wasting and squandering] in all areas, therefore, an individual cannot possibly trespass to the line of *israf*.

2. The prohibition of every action that leads to misuse of particular properties, and of *lahw* [amusement] and *mujun* [impudence].

3. Rejection of all social and economic privileges which discriminate between different groups of people which, in turn, eliminates all the grounds for the emergence of the class system.

The Flexibility of Islamic Economic System: This subject is, in general, related to the flexible character of Islamic rules but we will show it from the economic angle. Briefly, Islam supplied this system with all necessary elements which enable it to accommodate the vital changes which occur frequently and rapidly in the economic field. The reason is that economy is a field related to the complexities of man's social life as well as to nature's ability to provide, and the proper environmental conditions, and so on. Therefore, with respect to land distribution and ownership, there is a great difference between the situation of land's perfect abundance and man's insufficient physical power and the situation of scarcity and increasing shortage resulted from human growth rates on one hand, and man's immense technological power to reclaim the land. This difference may affect the issues of *hiyazah* [occupancy] -which is considered as an ownership factor-, social development, mines' ownership, vertical ownership -both in depth and in altitude-, energy's ownership, etc.

Popularity and availability: Today there are many financial institutions, even in the Western world, offering financial services and products in accordance with the rules of the Islamic finance. For example, legal changes introduced by Chancellor Gordon Brown in 2003, have enabled British banks and building societies to offer so-called Muslim mortgages for house purchase. In 2004 the UK's first stand alone Sharia'a compliant bank was launched, the Islamic Bank of Britain. They offer products and services to its UK customers that utilise the Islamic financial principles; such as Mudaraba, Murabaha, Musharaka and Qard. The Islamic finance sector was worth between 300 and 500 billion dollars (237 and 394 billion euros) as of September 2006, compared with 200 billion dollars in 2004. The number of Islamic retail banks and investment funds number in their hundreds and many Western financial institutions offer products that comply with Sharia law, including Citigroup, Deutsche Bank, HSBC, Lloyds TSB and UBS.

Capitalism economics: Capitalism is usually known as economic theory which serves as economic system that is applied to most modern nation economic system. The theory of Capitalism is simply an economic system in which the means of production are all or mostly privately owned and operated for profit, and in which investments, distribution, income, production and pricing of goods and services are determined through the operation of a market economy. So the profit, supply and demand are the main drivers of the economy and so the relation between people running the system. Also, the profit is generally what relates people to gather and not what is usually relate them which are ethics. Although, the principals of capitalism are found in ancient world the capitalism as theory and political principal is the result of the European Renaissance that was argent need for European nation to go ahead with development. So the main concept of Capitalism economy was developed to suit the needs of emerging western economy with disrespect of religion and ethics. Capitalistic act becomes institutionalized in Europe between the 16th and 19th centuries. Since, that economical theorist began to put economical theories about capita and interest which are the major concepts of Capitalized economy.

Development of the capitalization theories: The first classical theories of capitalism were developed in the 18th centuries by Adam Smith who wrote the book of "The Wealth of Nations" in (1776) in which he attack the idea of mercantilism which was the main economic principal in Europe un tell his time. Mercantilism idea is based on that prosperity of a nation depends upon its supply of capital (which is gold, silver, and trade value), and that the global volume of trade is "unchangeable. Smith's approach was different and his concept of the wealth of nation depends on the free hand theory which suggested that each individual maximizing revenue for himself maximizes the total revenue of society as a whole, as this is identical with the sum total of individual revenues. That theory changed the Mercantilism economy for good and gives the way for the free market. Anther classical theorist were

Dived Ricardo who in "*The Principles of Political Economy and Taxation*" (1817) he evaluated the triad and he assumed that it is beneficial for every trader to trade, even if one of the trading partners is more efficient in every type of economic production. This principle supports the free trade idea. Ricardo was a supporter of the idea that demand is there even if there no supply Say's Law and held the view that full employment is the normal equilibrium for a competitive economy. He also argued that inflation is closely related to changes in quantity of money and credit. Karl Marx the will known philosopher considered western capitalism is the thing that make capital as mode of production with out any consideration of the thing that really producing in the economy which is people. His idea even though it was fare from classical Capitalist idea but make marginal different between what is the modern idea of capitalism and what is not. In the late 19th century the German social theorist Max Weber but the theory that will be considered to be the rout of modern concept of Capitalism. In his theory he considered market exchange, not the production, as the defining feature of capitalism. The previous economical theorists were considering productivity as the fundamental economic driver. According to Weber, workers in pre-capitalist economic institutions understood work in terms of a personal relationship between lord (owner of capital) and peasant (the worker). The theory and philosophy of Weber were based on Christian believe of Protestantism, particularly Calvinism. The German Historical School, define Capitalism as the organization of production for markets. In this school that is similar to Weber theory markets and money lends it are different focuses. So this school sees that the different between the medieval economy –that is restricted- and the modern monitored economy is the motive of profit. The German Historical School was diverging it influence on western economics and the Austrian School took it place in the beginning of 20th century. The Austrian School sees that "creative destruction" is part of capitalized economy that is at any time there is rising and declining industries due to the rabid change in the social and economic factors and the resistance of change by the state or community is slowing the development and health of Capitalized economy. In 1936 John Maynard Keynes says that even with height unemployment the economy will stay in indefinite equilibrium while savings aren't liquefied and invested in the economy were the with time the savings will loose there value. His theory was the key idea to get over the grate the Great Depression in the thirties. The Chicago School of economics, which is Neoclassical, is now the best known economic school. Its explanation for the Great Depression is the most accepted one it says that the lake of money supply was the cause. Neoclassical economists, which today are the majority of economists, consider value to be subjective, varying from person to person and for the same person at different times, and thus reject the labor theory of value.

Globalization: The Globalization is as some people say the end result of the new western economic theory. After the fall of the Soviet Union Capital economy is the dominating power that governs most of the world wealth, goods and then the people in the capitalized community. So that we must know that the principals of that Globalized world until this moment come from western world which is totally different from our Islamic world ether in ethics, culture and religion. So we must deal with it wisely.

Islamic economics vs. capitalism: although capitalism is considered as the economy system which is widely used in almost all over the world, it has failed to satisfy the needs for all individuals. It is reasonable to expect that some disparity in wealth and income among individuals would exist in a capitalist system as this is determined through market forces rather than by centralized governmental authority. Some view a significant disparity and concentration of wealth to be a problem and that such is endemic to capitalism, while others do not have such egalitarian concerns. Some opponents of capitalism assert that there should be no inequality in wealth and earnings among individuals commensurate to their inheritance, skills, abilities or efforts. Defenders of capitalism respond that since free market capitalism distributes wealth and earnings among individuals commensurate to their inheritance, skills, abilities and efforts, it provides inherent incentives for human beings to hone their skills, improve their abilities, and make strong efforts to meet the needs of each other, incentives that are missing or significantly less present in any other type of economic/political system. On the other hand, justice is the main pillar of Islamic economics. Justice is the heart of all financial transactions in Islam and it depends on the idea of the individual property, production and gaining wealth according to the Islamic regulations. Moreover, Islam is the religion of innateness. So, it doesn't contradict any of the innate things that a person desires. Also, the Islamic laws of economy can be applied whenever. The evidence is that Islam has been there for 14 decades and the rules of it are very flexible and it has been applied during this long period of time.

Conclusion: in conclusion, Islamic economics can be defined as the economy with accordance to the Islamic laws. It is the application of Islamic law to economic activity either where Islamic rule is in force or where it is not, that is, it can refer to the creation of an Islamic economic system, or to simply following Islamic law in regards to spending, saving, investing, giving, etc. where the state does not follow Islamic law. On the other hand, Capitalism is usually known as economic theory which serves as economic system that is applied to most modern nation economic system. The theory of Capitalism is simply an economic system in which the means of production are all or mostly privately owned and operated for profit, and in which investments, distribution, income, production and pricing of goods and services are determined through the operation of a market economy. Islamic economics has a lot of the terms that are attached to it which are the following.

- Zakat which can be defined as the taxing of certain goods, such as harvest, with an eye to allocating these taxes to expenditures that are also explicitly defined, such as aid to the needy.
- Gharar which is known to be the interdiction of chances, that is, of the presence of any element of uncertainty, in a contract (which excludes not only insurance but also the lending of money without participation in the risks).
- Riba, which is referred to as usury.

Capitalism theories, on the other hand, have been developed started from the 18th century up until nowadays and it is the system that is used in almost all over the world.

Having read a few numbers of articles about the subject of capitalism and Islam, we were able to conclude the following. Although it has been the most widely used economy system, capitalism has failed to fulfill the needs of all individuals. See the homeless people problem in the US for example which is caused mainly by applying this economy system. The wealth is confined in one portion of the community where all the wealth is controlled. In the Islamic economy laws, however, everybody has the right to own. They claim that they have this in capitalism economics, but the way it is applied doesn't show that. Moreover, Islamic laws are innateness as stated earlier in this topic. This means that it is impossible that you find a contradiction to innate things that a person desires. The main and the only problem that the Islamic system faces, in our opinion, is that it hasn't been given the chance to be applied in a wide way as in all the other systems. Even in the countries that claim to apply Islamic rules, capitalism is taught in the universities and it is considered in almost all of the banks in all of the Islamic countries. For this reason, I think that as soon as the Islamic economics spread it will prove that it is better, practical, and flexible than any other economy system.

References:

- http://en.wikipedia.org/wiki/Islamic_economical_jurisprudence
- http://al-islam.org/mot/default.asp?url=20Islamc.HTM
- http://al-islam.org/mot/default.asp?url=20Islamc.HTM
- http://en.wikipedia.org/wiki/Islamic_economical_jurisprudence
- http://en.wikipedia.org/wiki/Critique_of_capitalism
- http://en.wikipedia.org/wiki/Capitalism

SE 307 Engineering Economics Survey Paper

Topic- Project Evaluation- Cadbury Schweppes: The Launch of a New Brand.

Group #: 10

Member 1 (ID#), Member 2 (ID#), Member 3 (ID#), Member 4 (ID#)

Saturday, December 1, 2007

Abstract

The launch of a new confectionery brand after a lot of market research, this brand had an additional quality of being a snack. Different project screening tools are used to evaluate company's progress with this launch. Was the company being able to achieve what she wanted among the target consumers, is figured out with the help of consumer reviews.

II. Introduction.

Cadbury Schweppes is a one of the world's largest confectionary Company, it has strong beverages business in north America and Australia. Cadbury Company was established in the year 1824. Its business started with just one shop and grew worldwide. The company has annual revenues of more than $12 billion[9] and 60,000[9] employees in 200[9] countries. Till the end of year 2006, Company was managed by four regional operating units supported by six global functions. Every function has a team in each region with these regional groups coordinated by a small central team. This structure allows the functions to develop and implement global strategies and processes while remaining closely aligned with the regions' commercial interests[1].

In this report we will discuss the key concepts of project evaluation by using a case study and by taking Cadbury Schweppes as a whole and one of its chocolate brand (Snaps) as a general example. Emphasis will be given to concepts of project screening like present and future worth, payback period, customer and critics' reviews etc. All these concepts will be explained by the use of relevant case studies, statistics and reviews. We will mainly try to find out what the company wanted to achieve with a launch and has she achieved what she wanted. Different project screening methods will help in determining company's overall performance in the past 5 to 6 financial years.

III. Initial Project Screening

(i) Pre launch preparation and market research.

Launch of a new product gives a company competitive advantage over its competitors. A lot of pre launch methods are used in order to know weather this launch will be fruitful to the company or not. There is always risk involved with every launch since 40% of all products fail at the launch. Before the launch company gathers information using market research, like what is the latest demand and how could it be best satisfied. Could this be done with the modification of an old product or there is need to bring in a new product into the market. Who will be the target customers, what will be the suitable time of launch and what are the risks involved[3,4].

We will explain this with the example of the launch of Cadbury snaps in the Irish market.

Figure 1

The time for proper meals have been replaced by snacking, people like to eat snacks in the evening. In Ireland an average person eats 8 kg of chocolate and 6 kg of snacks every year. Now, they needed something that could be shared with family and friends during a party or while at home entertaining informally, particularly in the evening. Chocolate bars were not good for this purpose. Therefore, there was a need to launch a product which could be shared as well as eaten as a snack. To satisfy this cause snaps were made available in packs with approximately 40 curves in each pack[3,4].

The time for launch was also taken into consideration. Cadbury coincide the launch with important dates like Christmas, Easter, mothers day, fathers day or with any other calendar landmark. Cadbury snaps were launched at the time of Easter in 2005. Advertising is used extensively to maintain brand equity and strength. Although there are different objectives associated with different advertising campaigns it could be either to educate customers about new product or to increase seasonal sales.

After all this in order to know if the particular brand has generated profit and satisfies customers. Companies relay herself on business figures, stats as well as reviews[3,4].

(ii). Present and Future worth.

In this section we are estimating the PW (10%) of the company for the year 2001.We are trying to know how much did the company invested in order to achieve what she earned at the end of 2006. These years included many projects including the launch of Cadbury snaps[8].

Years	2002	2003	2004	2005	2006
Net Income	820.0	600.4	789.2	1,416.9	2,135.9

Table 1 Note: all number ($ mil)

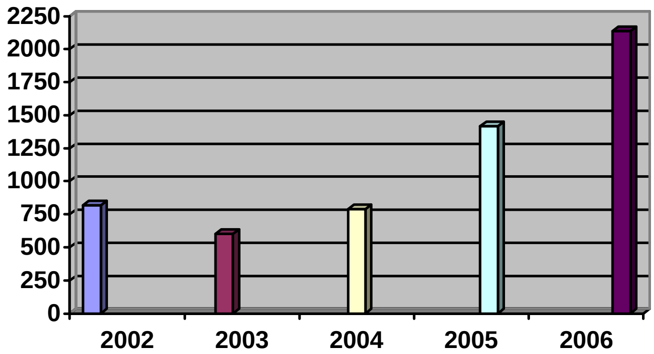

Figure 2

PW (10%) $_{inflow}$ = $ 4128.57 millions.

According to this estimate they invested $ 4128.57 million in the year 2001. Following the same criteria we can estimate the future worth at the end of financial year 2011.

The following table shows the net income from the year 2002 to 2010[8].

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010
Net Income	820	600.4	789.2	1416.9	2135.9	n\a	n\a	n\a	n\a

Table 2

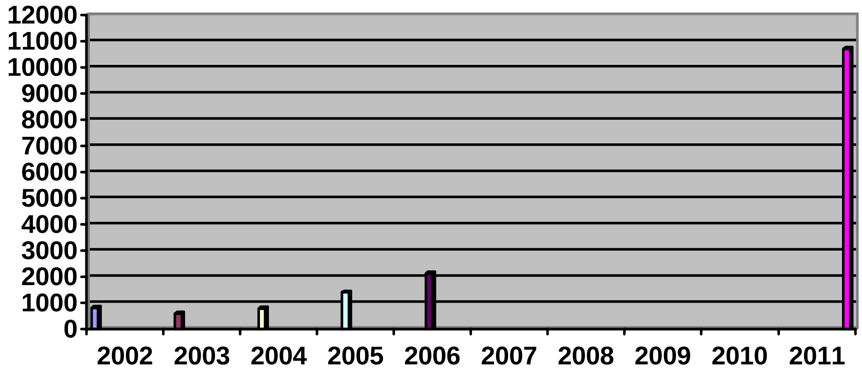

Figure 3

FW(10%) = $10708.47 millions.

According to this estimate the future worth would be $10708.47 million in the year 2011.

(iii). Payback Period**:**

This payback method will help us figure out how long it took for the company such that net receipt became equal investment outlay. We will find this out by adding the expected cash flows for each year until the sum becomes equal to or is greater than zero. This can either be done using conventional payback method or discounted payback method.

It is important to remember that payback screening is not an end in itself, but it is a method of screening out certain obviously unacceptable investment before progressing. These methods further help in decision making. We will calculate the conventional payback and discounted payback for the period in which new brands including snaps were launched. If any product was launched in 2002 or later before the launch of snaps its payback periods would have been the following[8].

Years	2002	2003	2004	2005	2006
Net Income	820.0 mil	600.4 mil	789.2 mil	1,416.9 mil	2,135.9 mil

Table 3

Project started with, P = 4128.57 million. Observing the data given in the following table[8].

Period	Cash Flow	Cumulative Cash Flow
0	-4128.57	
1	820	-3308.57
2	600.4	-2708.17
3	789.2	-1918.97
4	1416.9	-503.7
5	2135.9	1633.8

Table 4

Therefore the payback period would be 4.2 years. Figure 4 explains the above information in a more detailed graphic format.

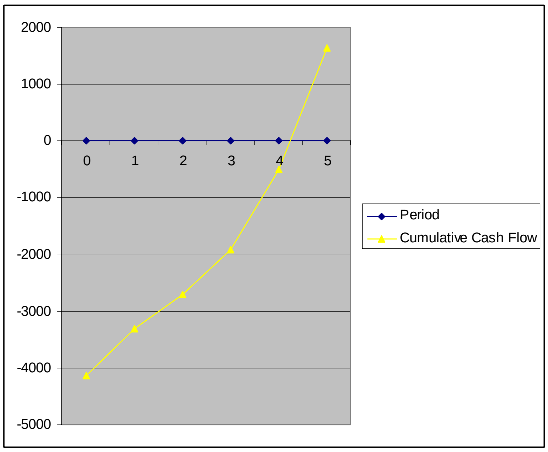

Figure 4

It can be seen that the cumulative cash flow (the yellow line) reaches $0 at the end of 4.2 years.

(iv). Discounted Payback Period:

The company had a discount rate of about 8% for the last 5 years:

Year	2002	2003	2004	2005	2006

Net Income	820.0 mil	600.4 mil	789.2 mil	1,416.9 mil	2,135.9 mil

Table 5

The project started with, P = 4128.57 million.

Period	Cash Flow	Coast Funds (8%)	Cumulative Cash Flow
0	-4128.57		-4128.57
1	820	330.3	-3638.87
2	600.4	291.1	-3329.57
3	789.2	266.4	-2766.77
4	1416.9	221.3	-1571.17
5	2135.9	125.7	493.0

Table 6

Therefore the discounted payback period would be 4.7 years.

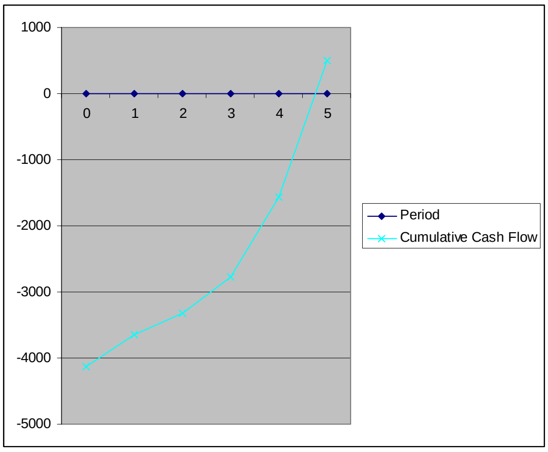

Figure 5

The cumulative cash flow (the light blue line) reaches $0 at the end of 4.7 years.

IV. Reviews.

Reviews help a company know how well their product has done among the target customers, are all requirements satisfied and defined goals achieved. This is a summary of some reviews by the customers posted online[7].

Product: Cadbury Snaps.

Region: Europe.

Weak Points: Most of the reviews have quoted that they are way expensive from the reach of a middle class man. One pack costs something from £1.75[7] to £1.79[7]. Cost is one of the main reason why they are not popular in average income neighborhoods. Other reviews said they are less in number in a 136g pack. Packing is less attractive and the case design is somewhat unsophisticated. Packs give a little trouble while opening[7].

Plus Points: They are lightweight with a great smell. They are tasty and delicious[7].

Overall Customer Satisfaction: Above average.

Product Quality: High[7].

V. Conclusion and Comments.

In this section we will basically summarize our entire research. In the beginning we gave a brief introduction about Cadbury Schweppes. Next, we stated our objective and the different methods that will be used to fulfill the objective. After that, we discussed the pre launch preparation and market research done by the company in order to bring their launch to life.

Later, we calculated the present worth and future worth of the company before the launch of Snaps in the financial year 2001 and ten years later in the financial year 2011 respectively. After that little bit more research was done with companies cash flows in the form of payback period and discounted payback period. Results found with these calculations went in favor of the company. With the help of customer reviews we tried to find out consumers opinion about the product, which led to mixed reactions about the product.

We can conclude by stating that although this product did not do any harm to company's profit, but was not a mammoth success as compared to the overall profit made by the company which includes all the brands.

V. Works Cited.

1. "Invest Innovate Execute." 2006 Interim Report. 2006. pg (1-4).
2. "Cadbury Schweppes Corporate and Social Responsibility Report 2004" Company Review Report. 2004. pg (4-7)
3. "Cadbury Snaps new product development with a twist" www.business2000.ie. 2006. pg (1-2)
4. "Brand development by identifying brand values." www.business2000.ie. 2006. pg (1-4)
5. "A passion for winning annual report and accounts" Cadbury_Report_LoRes 2006. pg (73-99).
6. "Project evaluation toolkit" full contents.
7. "Cadbury Snaps reviews." www.ciao.co.uk/cadbury_snaps_5738098.
8. "CSG Cadbury Schweppes Stock report" http://quicktake.morningstar.com/stocknet/cashflow10.aspx?Country=USA&Symbol=CSG.
9. "Food and beverage case study" Cadbury_casestudy_2 (pg 1-2).

Note: A soft copy of all the sources is available with the hard copy of the main report.