MSc Program
Engineering Management

Innovation and Growth in Tough Times - A Case Study of Telecom Industry

A Master's Thesis submitted for the degree of
"Master of Science"

supervised by
Prof. Christian Wagner

Mohamed Temraz

0928614

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Affidavit

I, **Mohamed Temraz**, hereby declare

1. that I am the sole author of the present Master Thesis, “Innovation and Growth in Tough Times - A Case Study of Telecom Industry”, 93 pages, bound, and that I have not used any source or tool other than those referenced or any other illicit aid or tool, and
2. that I have not prior to this date submitted this Master Thesis as an examination paper in any form in Austria or abroad.

Vienna, ________________ ____________________________

Date Signature

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ABSTRACT

Uncertain economic times have substantial impact on organizations in both national and global markets. With economic recessions come drastic changes in business dynamics. Although last recession that started in 2008 has already begun showing signs of abating, its impact can still be seen in different markets around the world.

Through dissecting the recent recession, this thesis explores the effects of economic recessions on organizations and delineates practical aspects of innovation that can be effectively utilized to drive growth and boost profits in downturns.

This thesis presents operational strategies and practical insights for organizations across industries. Also in later sections of the thesis, it is described in detail how these strategies can be specifically tailored and deployed in telecommunications industry.

Distinctions and conclusions made are based on economic theory and other subordinate concepts. Furthermore, the findings described in this thesis stem from the innovation theory and the value chain framework.

The ultimate goal of the thesis is to link the pragmatic approach of employing operational strategies and best practices to the underlying theories and concepts. Organizations can then use these strategies and practices to not only survive, but also thrive in turbulent times.

Contents

1 INTRODUCTION

Over the years, industries and businesses change and take different forms. Some businesses become obsolete while others evolve and expand. Markets are constantly being shaped by global trends and technology evolution. What seemed to be constant though is that whenever there is a slowdown in economy, almost invariably, organizations pull their horn in and embrace themselves for the worst.

When the last recession started in 2008, many giants in the corporate world started panicking. Various organizations that were witnessing soaring growth and continuous expansions looked like as if they were built on loose ground all along. The crisis seemed to shake the confidence of many renowned organizations, when they saw some of their businesses go downhill. Soon enough, many organizations pleaded with the government for bailout. Later on, the crisis even caught up to some of the countries that ended up asking for financial aid.

Even in the daily operations of organizations, the recession impact echoed for considerably long time. Out of uncertainty and fear that things may get worse, managers started cancelling projects, freezing investments and cutting costs and resources, hoping that this crisis will soon end.

Yet, even when the economy was shrinking and everything seemed to only deteriorate, some organizations were thriving in these times. Some of these organizations were experiencing growth that is moderate, others were experiencing substantial growth.

Arnold Toynbee stated in his study of history, “Growth takes place whenever a challenge evokes successful response that, in turn, evokes a further and different challenge. We have not found any intrinsic reason why this process should not repeat itself indefinitely”.

This apparent anomaly in fact is not new in principle. It turns out that during almost every recession, some organizations, entrepreneurships and businesses were growing in times when others where trying to barely survive and stay in business.

What many organizations do not realize is that times of downturns do not necessarily mean end of growth. Instead, they mean that it is time for changing gears. The strategies that organization uses in good times will not essentially be effective in bad times.

Also, common recession-reactive measures are not effective either. Since these measures are not meant to position organizations for growth, rather, minimize their loss through these tough times. Evidently, many of these reactive measures have failed organizations that, in turn, had to downsize or ask for aid.

It may become possible, as more and more organizations start embracing operational excellence in their daily business, that economic downturns could be leveraged, if not potentially deterred.

1.1 Thesis Structure

This thesis comprises three main sections:

- Economic recession impact on businesses and organizations
- Strategies toward leading out of recession and achieving growth
- Specific strategies and cases in point in Telecom industry

The first section consists of chapter four, chapter five and chapter six. Chapter four and five describe the dynamics of economic recessions and delineate their impact on organizations and businesses. These chapters also offer a different perspective on economic recessions and distinguish between reactive measures and effective measures taken by different organizations and corporations during an economic downturn. Chapter six highlights the main impact of the recession on telecommunications industry

The second section consists of chapter seven which elucidates how innovation can be employed in boosting growth and explains specific strategies that organizations across industries can leverage to increase revenue and boost current and future profit.

The last section consists of chapter eight and chapter nine. Chapter eight delineates the different challenges that the Telecom market faces and also clarifies how these challenges can be turned into opportunities. Chapter nine translates the different strategies and tactics described in chapter seven into pragmatic operational strategies that are specifically tailored to the Telecom market.

1.2 Motivation

I decided to research this specific phenomenon of growth in downturns and the underlying concepts, since I have personally witnessed the negative impacts of recession on the operations of many organizations that I worked with. Many projects were cancelled and investments were frozen or altogether terminated.

What could be direr than the recession itself, is the lost potential of growth corporations could have experienced, had they taken different measures.

I believe organizations that are growing, even in tough times, are employing certain strategies and operational excellence that make them "recession-proof"

Through identifying why and how these organizations continue to grow during bad economic times, other organizations may adapt the same or similar strategies that are proven to be effective in combating downturns.

1.3 Research Questions

The following are the main questions that underlie the research approach. These questions are utilized throughout the different sections of the thesis to come up with targeted findings and desired conclusions.

- What are the main reasons that cause organizations to fail during recessions?
- What are the effective strategies that can be employed in economic downturns?
- How to boost organic growth and increase revenue during good and bad economic times?

- How to reduce operating expenses and manage cash flow in recessions?
- How to employ and manage innovation in daily operation to stimulate growth?
- How to create and add value to customers to enhance credibility and perception?

2 PROBLEM DESCRIPTION

2.1 Research Approach

Research methodology in this thesis is based on modeling the organizations that are successfully growing in recession times. The findings described in this thesis stem from the innovation theory and value chain framework.

In discussing the dynamics of economic recession, the conclusions made were based on literature review of the economic theory and many subordinate theories that underpin and support economic evolution in the modern world such as macroeconomic theories and globalization concept.

The research approach employs the best practices of successful organizations, case in points and case studies of current and previous successes in the same relevant situations.

In essence, the thesis aims to link the pragmatic approach of successful strategies and best practices to the underlying theories and concepts, such as innovation theory. Through the combination of both theory and practice, the findings described can then be tailored and employed to any organization across industries.

2.2 Working Definitions

The recession investigated and examined in this thesis refers to the most recent economic downturn that started in 2008. The dates of other recessions referred to in the thesis are specifically mentioned where necessary.

Throughout the thesis, the term organization is used in a comprehensive sense to refer to different types of entities such as companies, corporations, enterprises and entrepreneurships. Thus, the term organization doesn't denote the size or type of the established entity.

The strategies and innovation aspects that are studied and delineated in this thesis are applicable across industries and can be utilized and tailored to any organization.

In tailoring these strategies to the telecommunication industry, the thesis is focused primarily on Telecom operators in specific with secondary benefits to equipment vendors, suppliers, device manufacturers and content providers. In other words, in the chapters where Telecom industry is studied, it is discussed how Telecom operators in particular can thrive in the market.

The relationship between Telecom operators, suppliers and other entities that constitute the Telecom industry supply chain is investigated and explained. Also the Telecom market challenges are studied from the Telecom operators' perspective rather than suppliers' or vendors' perspective.

2.3 Collected Data

All the statistical data provided in the thesis is referenced. The numbers provided are either in absolute values or percentages that are calculated based on the absolute values quoted from the respective references.

The data collected to generate the charts, which are based on differential analysis, was gathered from the respective references. In developing the charts, some basic calculations and processing of the raw available data was necessary to generate the graphic charts, which are used to clarify and emphasize the points under discussion.

3 THE ECONOMIC RECESSION AFTERMATH

Throughout history, the world has witnessed times of stable growth as well as times of high turbulence. One of the most common misconceptions about the economy, though, is that it can be “stable”. The truth of the matter is, the world is constantly changing. In previous eras, the world has been majorly shaped by political powers and national and international wars.

In modern times, the forms of the shaping powers have been altered. Technological advancement and economy have stepped into the picture with a much more significant impact other than politics and resources. The information revolution accelerated the rise of a global economy. Communications costs plummeted and information became available everywhere (Zakari, 2008).

The world is steadily becoming connected into a large mesh network of fundamental structures that take form in politics, economics, technology, resources, environmental ecology and other facets that constitute the pillar of an integrated world. The age of territorial world is rapidly coming to an end. Nowadays when a crisis hits one country, almost all other countries are affected, directly or indirectly (Estrada, 2008).

Even when the seriousness of the impact depends on nature and size of the crisis along with the influence of the impacted country, that doesn’t change the fact that just as the network sustainability depends heavily on the status of its individual members, so does the world prosperity depends on the growth of its individual countries.

3.1 The Golden Era

Due to these factors and many others, change has been a constant phenomenon. Upturns and downturns in business and economy are inevitable, and therefore they were expected to happen even in the past. The difference, however, is that the recent recession that started in 2008 was preceded by a golden era of global economic growth.

The global economy grew from $31 trillion in 1999 to $62 trillion in 2008 (Zakari, 2008). To put this growth rate in perspective, the world economy grew only $19 trillion dollars in the period from 1980 to 1999 (IMF, 2010). This means that the growth of the world economy in 19 years ($19 trillion) was less than two thirds of the growth of the world economy in 9 years ($31 trillion).

In 2006 and 2007, 124 of the world countries, roughly two thirds of total countries, grow faster than 4% annually (Zakari, 2008). Comparatively, the recent slump in economic growth has had a strong impact on global markets.

3.2 Economic Recession Defined

Common perception, held by many, of the health of the economy would be that if many businesses are selling franchises or getting acquired then the economy is experiencing a slowdown. If organizations are cutting back on cost, laying off employees and facing the danger of going bankrupt, then it is an economic recession.

3.2.1 Two Consecutive Quarters of Negative Growth

One of the metrics used by many economists, among the various views and academic definitions of an economic recession, is that if two consecutive quarters of negative growth in the economy gross domestic production (GDP) (Smith, 2009).

3.2.2 Rise in Unemployment

Some economists prefer a definition of a 1.5% rise in unemployment within 12 months (Eslake, 2008).

3.2.3 Global Growth Rate

The International Monetary Fund (IMF) regards periods when global growth is less than 3% to be global recessions (Rogoff, 2002).

3.2.4 *Decline in Economic Activity*

In the United States, a recession is officially defined by the National Bureau of Economic Research as a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales (NBER, 2010).

3.2.5 *Is There a Prevailing Definition?*

In fact, there is no single commonly agreed upon, worldwide used definition for an economic recession. Neither is it guaranteed that these rules are infallible.

Despite the face that many countries doesn't have a recession-dating body equivalent to the U.S. NBER, it is considered as a rule of thumb that a recession is signified by a consecutive two quarters of negative growth in the GDP, and thus commonly used inside and outside of the US as well (Elsake, 2008). Apart from the fact that this rule is poor at forecasting potential economic recessions and practically indicates that a recession has commenced six months later, there are quite a few examples where the rigid definition of the rule failed.

3.2.6 *Where Definitions Fail*

Interestingly enough, In Australia, real GDP did not decline in consecutive quarters during the 1974 recession; and there have been periods of two or more quarters of negative real GDP growth which are not generally regarded as recessions (September quarter 1965 through March quarter 1966; December quarter 1971 through March quarter 1972; and the September and December quarters of 1977) (Elsake, 2008).

Another example is the recession in the U.S. in 2000-2001, which had three quarters of negative growth, but none of them was consecutive, yet many economists agree that the U.S. experienced a recession in this period (Eslake, 2008). This rule is not also inclusive of other factors that can indicate or predict a recession.

For example, for countries with high rates of population, such as chin, with high rates of population growth and/or high rates of productivity growth, real GDP does not need to be negative for conditions that consistently arise with recessions to develop, such as high level of unemployment (Eslake, 2008).

This brings up many question marks about how accurately starts and ends of a certain downturn can be determined. Nowadays many analysts suggest that the current recession is over with the conditions of the stock market slightly improved and the GDP growth rate is picking up. Observing the choices made by organizations over the world, it certainly tells you another story. The majorities are still bracing themselves and anticipating that the worst is still yet to come.

This doesn't necessarily indicate that things can or will go downhill, but it supports the perspective that in the business world nowadays many organizations are still operating in the reactive mode. They have been trying to negate the effects of the economic recession instead of dealing with the cause, which is one of the reasons that led to the recession in the first place and certainly is one of the factors that can delay the recovery.

Since many organizations rely solely on official announcements of the market conditions and its stability in defining their own business strategies, making investment decisions and entering new markets, this alone provokes the idea of the need to have a closer independent and unbiased look on the dynamics of the market.

3.3 The Impact of Economic Recession

The one thing that economists and professionals alike seem to agree upon is that the world has experienced a global recession over the past two years. Invariably, developed as well as emerging markets have been affected by the downturn. Although varied in severity, the Impact of the recession has had the same aspects almost all over the world.

3.3.1 Global Instability

Long gone are the times where only specific industries like exporting and importing where affected by global markets. Over the past two decades, globalization has been widely spread across the nations and in almost all industries (Sabri, 2006). No doubt that one of the reasons that the impact of this economic recession has been hard felt by many is that their business is tied in one way or another with partners overseas.

The effect of economic waves in one country is rapidly spread through international trade exchange and investment relationships to other countries as well. The recent recession has been a prime example of this strong relationship. Although many believe that the recession started first in the U.S., shortly afterward the slump affected big players in the global markets such as China, Japan and the whole European Union (Estrada, 2008).

National economies do not grow in a vacuum. Their performance is strongly influenced by the opportunities or constraints, which arise from relations with other countries. These are of several kinds: Trade, capital flows, foreign exchange mechanisms, migration, transmission of fashion in economic policies and ideology and many other influential factors that constantly tie different national markets together (Maddison, 1989).

As mentioned earlier, the proliferation of information technology and constantly adjusted trade policies are accelerating the transformation of national markets into one giant global economy of the world (Zakari, 2008). Even as we speak, trends of globalization are playing a strong role in shaping the global economy. Outsourcing to China and India has started to take a back seat compared to outsourcing to Vietnam.

For example, Developing software in Vietnam is estimated to be 90% cheaper than in the United States, and between one third and one-seventh the cost of developing in India (Gallaugher and Stoller, 2004). Choices of qualifications and capabilities are no more limited to one country or region.

Globalization has undoubtedly boosted the growth of economies, both developed and emerging, over the past years. The upsides are qualitative, such as knowledge transfer, as well as quantitative, such as increase in foreign trade (Dreher, 2003).

For instance, Dreher found out that in the period of 1975- 2000 globalization contributed an increase of 2.14 points to China's economic growth rate index (Dreher, 2003).

Despite the fact that governments are regulating the globalization effect to a certain extent through different laws and policies, globalization has transformed the world economy into interdependent financial markets.

In tough economic times, however, globalization becomes a double-edged sword. Other than tying the conditions of one market to many others, it certainly affects the internal dynamics of the same market. From a governmental perspective, suddenly cash becomes too valuable to be precariously spent and driven out to foreign markets through global deals, especially when cash flow becomes an important side of the liquidity crisis equation. This certainly affects the stability of economic markets over the globe.

With fewer limits to foreign markets, competition has also intensified. Business opportunities are pursued by organizations from all over the world. Each competes for securing business deals through presenting their own unique selling proposition (Zakari, 2008).

Over the past couple of decades, some countries have been able to set themselves apart through competitive advantages that resonated in customers' perception for years to follow. Chinese organizations for example positioned themselves in the market as the lowest price provider. Japanese organizations conveyed the message of highest quality products to customers.

Nowadays, after the effect of customer perception residues has almost completely faded, no pre-assumptions can work in favor for organizations anymore. Organizations subsidiaries have been constructed across the continents, and the halo-effect no longer withstands. Competitors from across the globe are now accessible to customers. If business deals are to be won, companies must be able to compete globally and provide the same quality, performance and price levels regardless of the location of their subsidiaries.

Undoubtedly, globalization has been one of the greatest leaps into the future of economic evolution in the 20th century. It established strong relationships between countries through international trade and investment deals. Organizations were able to pursue opportunities overseas to fill international as well as local demands. Businesses were established, having globalization as strong pillar in their foundation. Yet, organizations also were definitely hit by the side effects of globalization during the economic downturn.

3.3.2 The Stagnant Market

Once an economy entered a recession, there are far more dangerous factors that can prolong the recession other than liquidity traps or accumulating dept. Almost in all recessions, and most notably in a recessions of credit crisis such as the most recent one, most organizations enter a “winter-freeze” operational mode.

The problem with recessions is that they are self-reinforcing. If most investors believe that the climate is hostile for growth and for risky business, they will make fewer investments in new firms. Established firms also will be less adventurous when organizing new projects (Greenstein, 2001).

If fewer firms are visibly growing, it fosters the perception of un-rosy future, reinforcing the hesitation to make investments. After a while, the recession feeds on itself.

Indeed, it may eventually become difficult to identify causality-are the bad times causing low investments or is it the other way around? The danger this poses is that once an economy sinks into a self-reinforcing downward spiral, it’s difficult to overcome (Greenstein, 2001).

Now this view doesn’t imply an open invitation to take the concept to the extreme and spend extravagant amounts of cash on new investments, but rather sheds light on the core of business development in any economy, which is measurable progress. This is only viable through investment in innovative products and services that meet the customers need as they arise.

The times of monopoly markets are long gone and even in these times organizations would find it extremely difficult to sustain their businesses by providing the same product and/or service over and over again, which is the inevitable result of lack of investment in business development. Eventually the commoditization effect will catch up to long overused, worn products and services. Customers will not be willing to pay the same price for them, leading the organization into the same downward spiral of stagnation.

Unfortunately, the resolution to a recessionary economy is the very same thing that is viewed by many as the approach to be avoided in tough times. What organizations must realize is that investment in its nature involves a risk factor and undertaking investments in times of credit crunch doesn't necessarily mean carrying out reckless business endeavors.

Markets cannot recover on their own, and stock market indicators will not rise in a stagnant market where organizations are crippled by fear of capital expenditure on investment, lest they go bankrupt. With well-directed investments based on calculated risks, investors will secure their return on investment and organizations will carve their way out of recession back to times of sustainable economic growth.

3.3.3 Crippled Organizations Means Crippled Business

In good times business failure comes about for an assignable reason. There is someone or something to blame and lessons to be learned. When firms fail in good times it's easier to identify why. Reasons could include a business plan that was too optimistic about a specific customer's needs, a chief financial officer who set up an inept cash-flow tracking system, or a product whose second generation simply did not work (Greenstein, 2001).

During a recession, in contrast, firms can ostensibly do many right things and still fail. It seemingly becomes acceptable to many to blame external factors. It is as if success or failure is out of the firm's control and placed solely in the hands of market conditions.

Missed by many, what underlies the seemingly less controllable factors of success and failure in bad times, though, is that the margins for mistakes become much smaller than in good times (Greenstein, 2001). What could have been a tolerable error in good times can become fatal in tough times. Competitors sit on the edge of their seats, anticipating every potential business venture and eagerly competing to secure business with their customers in "buyers" times, when price discounts are a presumed given.

To complicate the matter, many organizations follow the steps of other organizations just to conform to the norm and "play it safe". They start taking "general recession" measures, even if their conditions were much better than their rivals.

In a market where some organizations facing difficulties and others are bracing themselves for the worst, a psychological vicious circle starts to spread among organizations. They resort to commonly followed strategies that are not necessarily based on actual conditions of the market, rather on precautionary measures. Often times these measures are unnecessary and can as well backfire.

3.3.4 Fear of Unemployment

One of the economic recessions ripple effects, which could qualify as the worst, is the frenzy of fear of unemployment. Time and again, recessions have been marked by the cutbacks in the employment force. Considered the easiest and simplest measure in the desperate attempt of saving costs and maintaining profit margins levels, blind lay-offs is probably the first counterproductive measure corporations resort to.

Some of the consequences that result from large-scale lay-offs may be temporary. Yet, the psychological side effects of lay-offs have grievous impacts on productivity. These side effects hang over the employees at work for a longer period of time. According to Maslow, productivity and innovation take a back seat when people are concerned with their safety needs (Maslow, 1954). The down sides are largely overlooked because they are typically hard to measure.

Bigelow and Chan Indicate that the substantial decrease in productivity, which is common after layoffs, can be traced to two main causes: worker morale and worker overload.

Furthermore, they describe the psychological effects on the remaining employees after a layoff, “Survivors of a layoff usually have low morale. Their friends and fellow workers are gone and face uncertain futures. The remaining workers often fear further layoffs and resent management highly. Even those workers who do not have strong resentments may be totally confused about what is expected of them or where the company is going. Managers facing a recession tend to forget the human factor in their frantic search for ways to improve the bottom line. The result can be a general lowering of effort and productivity.”(Bigelow and Chan, 1992).

The second main cause of productivity problems, worker overload, occurs because managers tend to concentrate on cutting people without a corresponding cut in the workload. Employees are now expected to take on more tasks for the same pay, if not less sometimes. Fewer people are left to do the same amount of work. People become overworked, lowering productivity as a result. Work often does not get done, or it gets done hurriedly and poorly.

In 2009, a recent poll of over 1,000 senior executives was conducted by the Chartered Management Institute indicated that only 57% of UK managers were ready to accept extra work with 60% admitting they would be “tempted to move if the right offer came along”. Other significant finding was that only one in five indicated that their organization is developing skills of core internal staff (Altman, 2009).

Bigelow and Chan mentioned a good case in point when it comes to restructuring the workload after a lay-off. The food company Heinz responded to competitors in low-wage countries by laying off 5% of its workers in its Puerto Rico and American Samoa tuna canning factories. However, the overworked fish processors wasted large amounts of fish in their attempts to keep up with the processing line. Heinz eventually slowed down the existing production lines, added new lines, and added workers. Their $5 million investment saved $15 million a year in wasted fish (Bigelow and Chan, 1992).

Most accept the notion that the cut jobs are not coming back which intoxicates the work place even further. Employment analysts usually estimates nine-month lag between the time a company announces job cuts and the time when people actually leave (Keaton, 1993). This exacerbates the situation when employees are working in fear of being laid off for even longer duration of time.

Job cuts may have other easier-to-swallow reasons such as product restructuring, attracting different skill set or outsourcing certain operations. For example, at the time of Apple Computer's much-publicized layoff of 600 employees in 1990, it had 700 other openings at the same time. The reason behind this apparent anomaly is that Apple was changing its skills mix by laying off workers in some areas while hiring in others (Keaton, 1993).

On the other hand, massive lay-offs in times of recession are negatively perceived since they are mainly indifferent. Executives, juniors and experts alike are laid off regardless of their qualifications and contribution to the business. Even though the GDP started rising again and the severity of the recession has begun to subside, unemployment rates are still high in many countries. Unfortunately, many started to believe that organizations are making more money in bad economic times through leveraging the cash streams of job-cuts rather than through selling their products and services.

Were the impacts of the most recent economic recession on employment as severe as commonly perceived? Employment and unemployment rates are not affected solely by economy. Many factors can affect the unemployment rates of a country, such as political stability, corporate laws, foreign trade policies and specific conditions of the market, such as supply and demand for different industries.

In addition, the rise and decline in unemployment are governed by certain dynamics that may not necessarily be directly linked to economic conditions.

For example, the rise in unemployment in the U.S. from December 2007 to May 2008 was not entirely due to the rise in employed persons who lost their jobs.

According to U.S. Bureau of Labor Statistics (BLS), the number of persons who left or lost their jobs in that period rose by 0.2% to 1.4%. The fact that contributed largely to the rise in the unemployment in that period, however, was the increases in individuals from outside the labor force that became unemployed, who increased by 0.2% to a total of 2.6% of the workforce (BLS, 2008).

These individuals when they first join the labor force, they are expectedly looking for employment, after recent graduation or after taking sabbatical year for example, and therefore they belong to the unemployed category.

Yet, through inspecting the change in unemployment rate, considering only the effects of the economic recessions as the major event in that period, we will find out that unemployment has indeed risen across the continents between 2008 and 2009, covering the time period when the recession started and reached its peak in early 2009.

Is it truly the worst slump in employment rates? The numbers tell a different story.

The differential analysis conducted on unemployment annual rates shows that Europe experienced the sharpest rise among continents of 2.34% in unemployment rates, followed by Africa with 0.95% increase, and Asia and the Pacific with 0.75% increase The Americas came last with an increase of only 0.36% (WCO, 2010). Figure 1 shows unemployment trends across continents over the past decade.

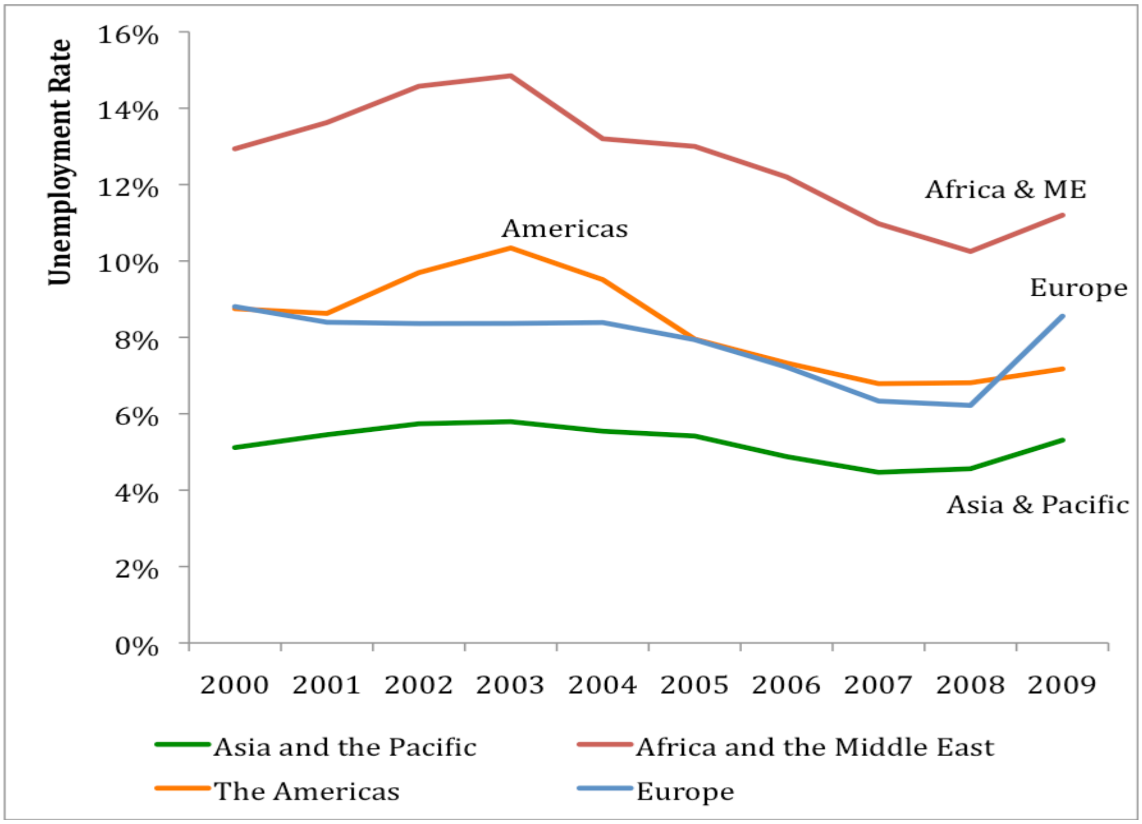

Fig. 1. Unemployment trends across continents 2000-2009 (World Competitiveness Online, 2010)

The increase in unemployment due to the recent recession isn't necessarily the worst over the last decade. For example, Africa and the Middle East experienced another 0.95% rise in unemployment from 2001 to 2002 (WCO, 2010).

Surprisingly enough, in the Americas region, the increase in unemployment from 2001 to 2002, which was largely due to the recession in 2001, exceeded the increase rate in 2008-2009 at a rate of 1.07% compared to only 0.36% (WCO, 2010).

When considering the absolute unemployment rates, conclusion varies for different countries. For example, the absolute unemployment rate in the US has reached 9.3% in 2009, which is the highest since 1940 with a rate of 14.6% (BLS, 2010).

For other countries, however, the rates in 2009 has been lower than previous years, such as Germany with rate of 10.6% in 2005 compared to 7.6% in 2009, and Australia with a rate of 6.83% in 2001 compared to 5.65% in 2009 (IMF, 2010).

The differential analysis, on the other hand, focuses on the impact of the recession year-to-year regardless of how high or low the unemployment rate was in previous years, which helps evaluating the sole effect of recession on unemployment and putting it in perspective.

Considering the impact of the recession on individual countries, Latvia came on top of the top ten list of unemployment increase with an increase of 9.5% from 2008 to 2009. The U.S. came ninth with an increase of 3.5%. Other major economies, such as UK with an increase of 2%, France 1.7%, Germany 0.4%, Japan 1.1%, didn't make it to the top-ten list (IMF, 2010). Figure 2 shows the top ten increases in unemployment rates.

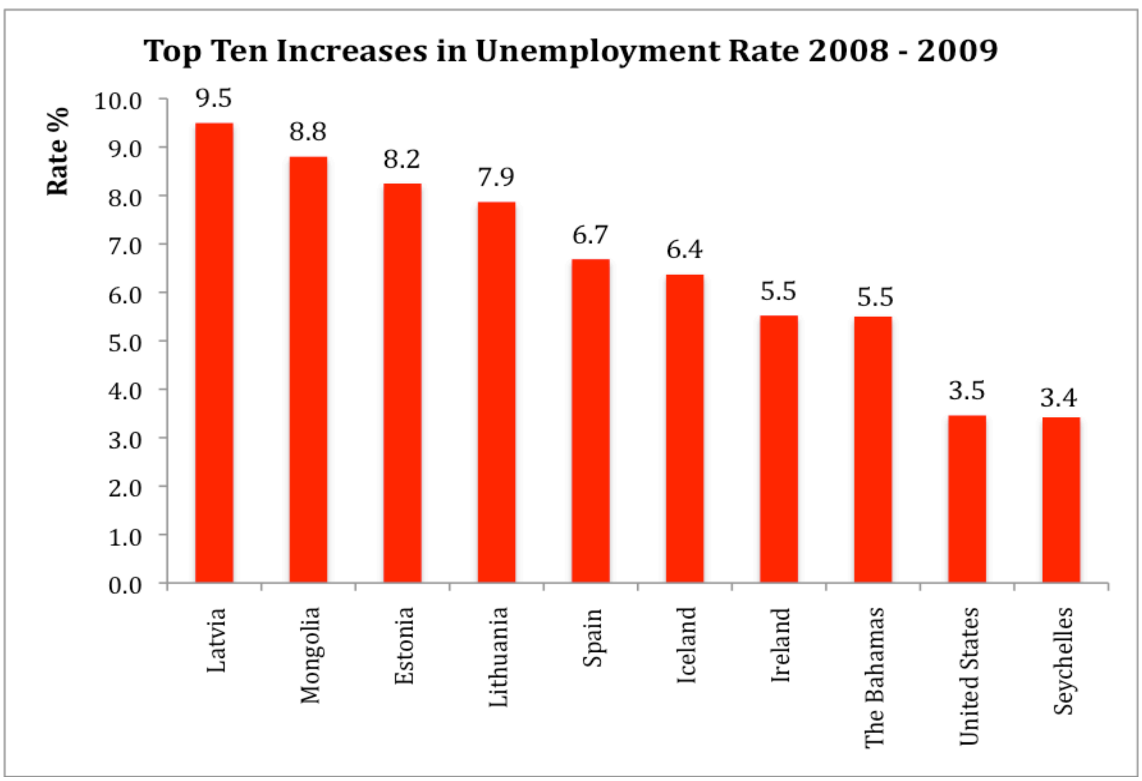

Fig. 2. Top ten increases in countries unemployment rate (2008-2009) (IMF, 2010)

While the statistics indicate that impact of the recent recession on unemployment may not be dire compared to impact of previous recessions and previous unemployment rates, the common perception remains the same and the psychological effects, no matter how subtle, are still hindering the success of organizations and, thus, the recovery of the economy.

Managing the effects of downsizing is critical to the success of the company after the downsizing is undertaken. Companies must have a fundamental understanding that improper downsizing can destroy the corporate culture and employees' spirit. The firm must appreciate further the fact that the ability of the company to survive will depend on the very people that downsizing is demoralizing (Croft, 1990).

Therefore, organizations must make preparations for dealing with the difficulties of those who were not laid off. Bigelow and Chan state that measures that should be taken to contain the damage of downsizing should even go as far as having a plan to assist those who are being laid off.

Their companies may even help them find a new job or receive job training as a sort of lay-off compensation. Productivity, feelings and loyalty of the survivors toward the company are determined largely by how well or poorly the company treats the laid-off workers (Bigelow and Chan, 1992).

The company must then communicate its mission, goals, and strategies to the workers, and entrust them with the power to achieve those goals (Bigelow and Chan, 1992). No one likes downsizing; that includes both employees and managers, who are forced to lay off their employees.

When employees who haven't been stepping up to the mark are leaving, the layoff is well placed. Soon afterward employees, or many of them, realize that the layoff in this case has made the workplace much healthier and has possibly boosted productivity as well.In the case of large-scale indifferent layoffs, however, the situation is much more tricky. The company needs to reinstate its employees' faith in it. A lot of damage needs to be contained and mitigated.

When goals and strategies are transparently communicated, the employees will then have a clear vision of where they are going, how they will get there, and what they can do to ensure success.

Gradually they will start again believing that this was just a setback. When companies start taking these measures toward its most valuable asset, its employees, they will start believing they indeed are. Productivity rates will go up again and the workforce energy will steer in the proper direction.

4 ECONOMIC RECESSION: A CLOSER LOOK

4.1 Economic Recession is No New-News

Throughout the history, economy has been experiencing repetitive cycles of growth and decline. It has been constantly occurring that many economists nowadays have incorporated some hypothesis of predictions for recession to immediately follow rapid and prolonged durations of growth, even though it is difficult to accurately know when a recession may occur or if it will necessarily follow periods of growth.

4.1.1 How Many is Too Many?

Other than the great depression, the world has experienced many periods of recession in the 20th century. Southeast Asia underwent a strong recession in 1998, exerting sharp falls in GDP rates in some countries such as the Indonesian GDP that had an 18% decline during 1998, Thailand's GDP with a 15% over the course of two years that ended in September quarter 1998, and the 11% decline in Malaysia's GDP over the year that ended in December quarter 1998 (Eslake, 2008).

Finland's economy shrank by 10.6% between 1990 and 1993, largely as a result of the collapse of the Soviet Union, which was Finland's major trading partner at the time. And most of the constituent republics of the Soviet Union experienced even greater economic contractions at that time, including Russia itself by almost 50% between 1990 and 1995.

Japan experienced the aftermath of the collapse of its stock and property market bubble in early 1990, exerting the largest peak-to-trough decline in GDP of 3.4% over the two years that ended in March quarter 1999 (Eslake, 2008). According to economists, since 1854, the U.S. has encountered 32 cycles of expansions and contractions, with an average of 17 months of contraction and 38 months of expansion (NBER, 2010). The U.S. experienced at least 21 recessions in the past century (NBER, 2010).

In fact, by inspecting the GDP of 183 different countries over the past decade alone, excluding the recession that started 2008, 58 countries had a negative GDP growth for at least one year. That is about 37% of sampled countries (IMF, 2010). Some countries experienced negative GDP growth for more than one year, some for two years in a row such as Uruguay and Argentina.

While these periods of GDP contraction may not all be considered as an economic recession according to the most common definition and/or other definitions, they certainly indicate that the economy had slowdown cycles and that even in the period of upward growth, countries may still experience variation of economic cycles for many different reasons. Quick examples can be identified in the period from 2001-2007, which is considered by most economists as a golden era of growth for the world economy, such as Germany and Switzerland, both had 0.20 % decline in GDP in 2003 and Italy with 0.02 % in the same year. (IMF, 2010)

4.1.2 What the Numbers Tell Us

Due to the major contribution to world economy the advanced economies make, some of the major economies came on top of the top ten GDP declines in terms of absolute cash value, even though they experienced a comparatively slight decrease in GDP from 2008 to 2009.

The United Kingdom, representing 4% of world economy, came first with a 500 Billion US dollars decline, having only 4.9% decline in GDP (constant Prices), in 2009 and the United States, representing 24% of world economy, came fourth with a 250 Billion dollars decline, while experiencing only 2.6% decline in GDP (constant prices) in 2009 (IMF, 2010).

Other major economies, such as Russia with a 435 Billion US dollars and France with a 209 Billion US dollars decline, were among the considerably substantial declines that added up to the 3.3 Trillion US dollars, 0.6% GDP negative growth (constant prices), decline in the world economy (IMF, 2010). Figure 3 shows the top ten declines in GDP in current prices in US dollars.

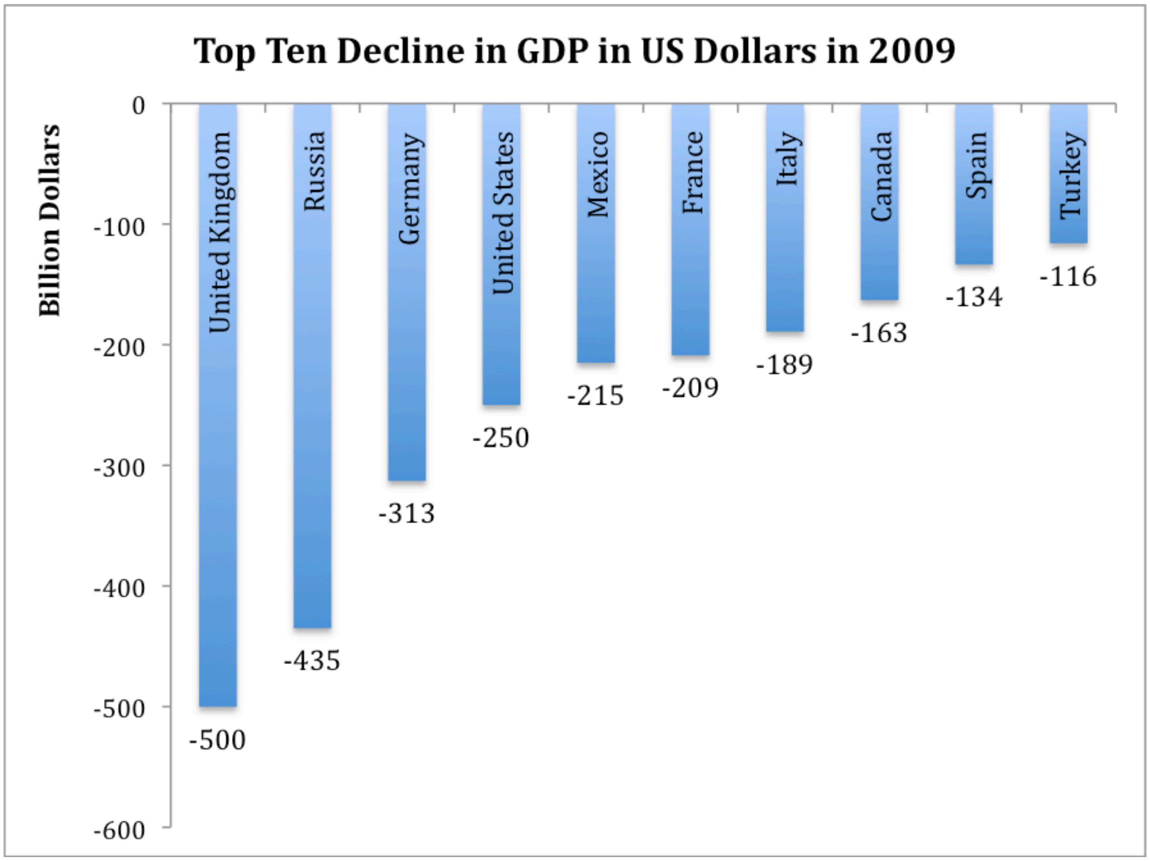

Fig 3. Top ten declines in GDP in US dollars (GDP current prices in US dollars) (IMF, 2010)

Yet, after evaluating the impact of the recent recession in terms GDP decline rather than current prices, only two major economies, Finland and Russia, made it to the list of top ten declines in GDP in 2009. This analysis is a differential analysis that rules out the effects of inflation and exchange rates of currencies by measuring the GDP decline in 2009 compared to GDP rates in 2008. Figure 4 shows the top ten declines in GDP in constant prices.

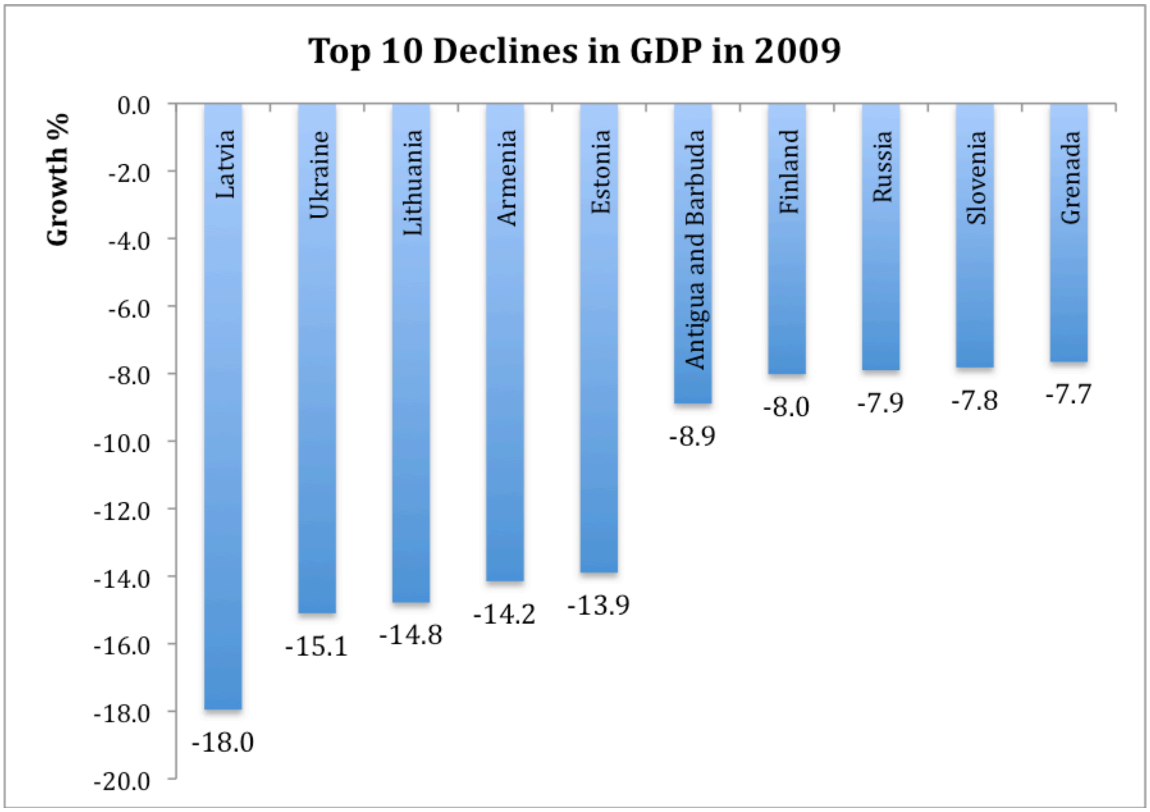

Fig 4. Top ten declines in GDP in 2009 (Constant Prices, National Currencies) (IMF, 2010)

In fact, out of 183 countries, only 20 countries had negative GDP growth in 2008 and 92 countries, about 50%, in 2009 (IMF, 2010). What came out of the statistics, as even a more interesting finding was that some countries had exploding growth rates in 2009. Afghanistan had a shocking 22.5% increase in GDP despite the political situation there.

The Asian power horses expectedly maintained a relatively high growth rates even during the recession. China had 9.1% increase and India had 5.7% increase in GDP in 2009. Surprisingly though, smaller economies had competitive growth rates during recession such as Lebanon and Qatar with 9% and 8.6% growth rates respectively (IMF, 2010)

Comparatively, countries of the emerging and developing economies have been maintaining higher GDP growth rates than countries of advanced economies. In 2009, the GDP growth rate of emerging and developing economies dropped to 2.5%, yet the world economy shrunk by 0.6% due to 3.2% negative growth in advanced economies (IMF, 2010). Figure 4 shows the trends of GDP growth in advanced and developing economics over the past decade.

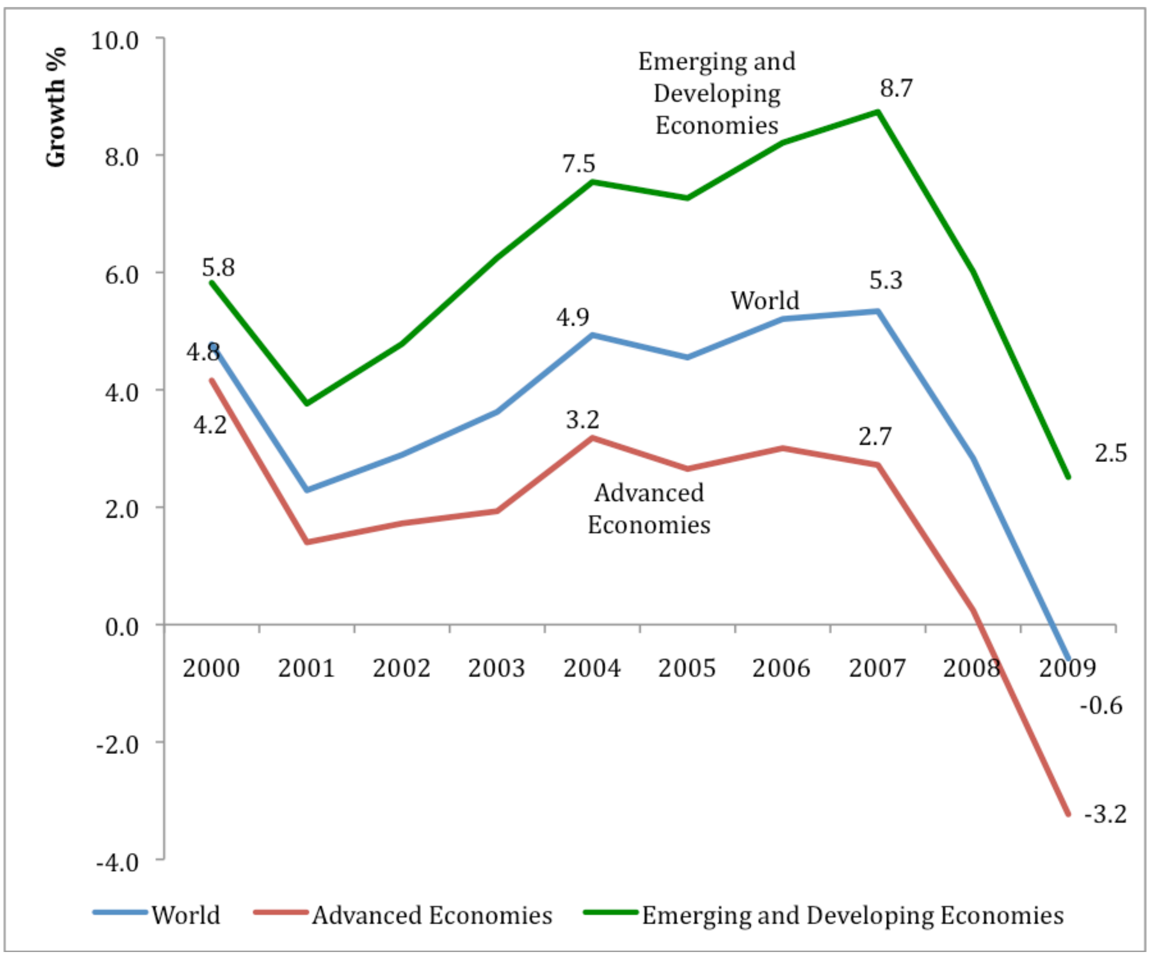

Fig 5. Trends in GDP growth in advanced and developing economies. (Constant Prices) (IMF, 2010)

The engineering company A E Harris, founded in Birmingham in 1880 by the great-grandfather of the current chairman, Russell Luckock, reckons to have survived ten recessions. “It’s important to realize,” says Luckock, “that you get a recession about every ten years and each and every one you go through will be different (Atlman, 2008).

The truth of the matter is that countries have experienced different economic slowdown periods and recessions over the years. Some recessions were triggered by capital liquidity crisis such as in Southeast Asia (1997-199) when most of the currency and asset value in Asia dropped by 30-40%. Some were triggered by the variation of the foreign exchange rates such as the Japanese yen appreciation in 1980 through 1990 when Japan’s real economic growth fell from 4.1% to 3.1 % (Zhang and Ma, 2009).

Some were triggered by the rising ratios of dept such as the recent recession that started in early 2008. Others were triggered by imbalance in total supply and total demand, lack of the economic system vitality, which is the ability to convert resources into economic output, and many other factors (Zhang and Ma, 2009). It is often the case that once a recession is triggered by one factor, other symptoms start to surface as well.

So why has the recent recession been claimed by the media as the worst recession in 80 years, labeled as economic meltdown, and even taken to the extreme by some as the potential end of economic empires as we know it? Compared to previous GDP declines over the 20th century, the decline of the recent recession is certainly not the worst for many countries.

4.1.3 Synchronized Recessions

One distinctive difference between the recent recession and the previous downturns is that, as mentioned earlier, the recent recession was preceded by a golden era of global economic growth.

It can be argued that it is relatively a strong recession if compared to preceding years of soaring growth rates for most countries rather than other recessions. After steady growth experienced by many countries in the world for 7 consecutive years, the recent slump in economic growth has left such a strong mark on global markets.

Another underlying reason behind the global unsettlement is that the recession hit many countries all over the world at the same time. As explained earlier, national markets over the globe are becoming more and more tied together. IMF describes this phenomenon as synchronized recessions, which caused decline in GDP growth rate for 92 countries in the same year in 2009 (IMF, 2010).

Developed and emerging markets alike are affected when one of either is experiencing tough economic conditions. No doubt, the impact of future economic slowdown cycles will definitely become even more pervasive than they have been. This is a collateral side effect of technological and economic advancement that corporations and governments should account and accommodate for from now on.

This, on one hand, sheds light on the situation, putting in perspective and stripping it from all external face-level issues that, in many cases, result out of psychological rather than practical crisis. On the other hand, some corporations and entrepreneurs are still struggling with day-to-day operations. This analysis doesn't refute the impact or deny the obvious, and is not meant to project an optimistic take on the situation. It rather inspects the situation at a much deeper level beyond the surface issues that are rarely the cause of problems.

Practical and effective solutions to problems cannot be found at this shallow layer either. This perspective invites organizations to start laying their hands on the real causes that cripple growth and make their businesses more vulnerable to external economic conditions, rather than dealing with mere effects.

4.2 Desperate-Measures are not necessarily Effective-Measures

The first reaction companies to economic recession is cutting costs across the organization. Followed by that, companies usually resort to lay-offs. Then, they decide to sell franchises or sell whole potions of the business portfolio. Cost cutting in times when organizations need to tighten their belts is legitimate if done properly after giving it its due thought. Predictably, many organizations take swift decisions as part of cutting costs measures, which they come to regret later.

4.2.1 *Is Cost Cutting an Effective Measure?*

Like the Chartered Management Institute, management consultants McKinsey urge looking at cost cutting and the consequences that results from it. "Economies around the world are slowing down and companies are looking for ways to trim spending and improve the bottom line. Although information technology often represents a small fraction of the corporate cost base," a spokesman for Mckinsey says, "senior executives inevitably turn their attention to IT budgets for substantial contributions. IT capabilities have fostered sales channels, defined new customer segments, and even helped to create new sales models. Thus simplistic cuts, applied across the board may endanger critical business priorities, from sales support to customer service- a message that should resonate even among corporate officers anxious to find quick savings" (Altman, 2009)

In the same poll that was conducted by the Chartered Management Institute indicated that only one in three managers agrees that the best response to recession is to cut costs (Altman, 2009).

Even though these strategies haven't paid off in the past, many companies still resort to knee-jerk reactions, exemplified in intense cost cutting, in desperate attempts to improve the short-term bottom line. Expectedly, some companies have already gone through rigorous cost cutting in order to remain competitive in the market, leaving little room left to cut. These traditional measures have typically targeted research and development, customer service, IT, advertising and even process improvement departments (Bigelow and Chan, 1992). Almost all support departments become the first targets for cost cutting, regardless of how critical to the success of the business they may be. These traditional strategies have proven to be questionable rather than effective over and over again.

4.2.2 *Going Back to What Really Matters*

Bigelow and Chan suggest that instead of cost cutting across the board, it should be conducted while having two main goals in mind. The first goal is protecting market share so that economies of considerable scale and market penetration effects are not lost to competitors.

The second goal is positioning the company such that it is highly competitive when the recession ends, ensuring that the company at least maintains its position when entering good times once again (Bigelow and Chan, 1992). Many companies tend to drain the company assets and resources during tough times that they are in impoverished state when good times return once again.

The criterion that Bigelow and Chan suggested to be employed during cost cutting is examining each cost cutting measure to determine whether the cost and price changes will help to protect the market share or do the opposite (Bigelow and Chan, 1992). This criterion is highly reliable since it prevents losing revenue streams and preserves the company's position in the market.

For some companies, it may be a little difficult to employ this criterion when forced to downsize under imminent, overdue obligation. In these cases, companies find themselves desperate for cash to pay debts and keep the nightmare of filing for bankruptcy at bay. Yet, even in those cases companies should clearly distinguish between core business activities and complementary ones.

When companies find themselves in the position where selling franchises or downsizing is a must, complementary products and revenue streams should be the target for cutting. This is when knowing the business proves most essential. Cost cutting should never touch those areas that are critical to business continuity and/or core competencies of the organization. In every department there are functions that serve business ventures of different priorities. If the business streams are intermingled across functions, then restructuring the organization functions and their responsibilities must follow cost cutting.

4.2.3 Opportunities for Becoming Lean

In good times, many companies tend to lavishly spend capital across the board and pursue many business leads despite the fact that some of those leads may not prove solid enough. The lesser control over capital expenditure is easily justified in good economic times, since most of these spending initiatives are claimed attempts to expand the business to hunt potential customers or investigate new products. At the same time, a lot of waste is created along the way when business deals are not sealed or product investigation leads to dead ends.

Organization can find legitimate cost cutting opportunities by inspecting different initiatives and activities and ruling out those that do not fit into the business value chain. "Discipline," Mckinsey warns, "tends to slip during a lengthy upturn in spending. Reducing pockets of unproductive expenditure will bring savings that help meet corporate cost targets." (Altman, 2009).

4.2.4 Fail to Plan, Plan to Fail

Downturns are inevitable and good times do not last forever. In this light, just like companies plan for good economic times, it makes sense for companies to plan for recession measures before they even occur. This allows organizations to put into place actions and contingency plans that can be effectively implemented when bad times hit. For example, Delta Airlines builds recession contingencies into ten-year plans. This planning effort has allowed Delta to position itself for growth while the airline industry is in period of recession (Dumaine, 1990).

Bigelow and Chan emphasize that cutting cost and other recession contingencies must be planned before the recession hits. Otherwise these measures may be impossible to implement for the company that waits until hard times begin before it starts planning recession strategies (Bigelow and Chan, 1992). The reason behind that is that organizations will enter the reactive mode once a recession hit and eventually resort to traditional measures. It is harder to think out of the box and plan how and what to do than to firefight when a fire breaks out.

4.3 Businesses and Organizations Can Grow Even in This Economy

CNN, FEDEX and Southwest Airlines were created in times of recessions. Disney and Microsoft grew strong in economic downturns along with many other organizations that continue to grow regardless of market conditions.

In fact, some organizations find times of recession an opportunity that is hard to come by in good times. Companies that have cash and/or low debt rations are in position to invest to grab market share that their cash deprived and high debt counterparts may not be able to compete for (Bigelow and Chan, 1992). The market share that is acquired during recessions is likely to remain when markets recover.

In times when performance is scrutinized, quality is indispensable and error is rarely tolerated, companies can set themselves apart from their competitors by offering competitive prices and products to customers.

It is fairly easier for customers to change their business partners and suppliers when prices slump and negotiation favors the buyer. Companies that have available cash can even negotiate better prices and delivery dates since they can afford to pay up front. This can substantially reduce time to market their products and allow them to reduce costs even further (Bigelow and Chan, 1992).

In downturns there are also unique opportunities that do not exist in other times. When panicked companies are selling off franchises and cutting products off their portfolio in their attempts to raise cash, other companies that are on the lookout for expansion can enter new markets and diversify their business through well-selected business bargains (Meeks, 1990).

5 IMPACT OF RECESSION ON TELECOM MARKET

The Impact of economic recession affected the Telecom industry among others. Even though the impact has not been as adverse as it was feared (Seka, 2010), like other industries, Telecom market fell a victim to the previously mentioned repercussions of recession.

The downturn combined with the very nature of the telecommunications industry, the kinds of services it offers, and the large amount of investment capital required to sustain and grow the industry has created some opposing forces in a constantly changing market.

Industry players must now pay strict attention to the dynamics of market tensions if they are to sustain their business during and after recessions.

This chapter highlights the main two eminent consequences of the recession that impacted the Telecom industry. Later, the specific challenges and market dynamics of the Telecom industry will be covered in detail, while explaining whether the recession impacted each of those respective issues.

5.1 Recession-Accelerated Commoditization

The advancement of technology in the Telecom world has been shaping the industry since its inception. At the same time, it has been setting the standards. While many Telecom operators have been focusing on maintaining and operating the infrastructure of the network, they may have overlooked the fact that technology is making a commodity of more of its services (Hasbani et al, 2009).

Lowering prices that is almost mandated by economic recession cannot be good news to an industry, which is constantly under the threat of commoditization. Telecom operators need to determine whether they have the scale to compete by offering the lowest possible cost.

Similarly, suppliers of network equipment have long struggled with the rapid commoditization that is trigged by new technologies. Converging standards make network components an increasingly undifferentiated commodity, forcing suppliers to reduce prices on a regular basis and bringing on severe global price wars (Hasbani et al, 2009).

For example, the rapid progress in technology introduced many ventures of services such as smart phones and the use of mobile applications, which has made network bandwidth a commodity (Guerin et al, 2003).

With bandwidth available from a number of sellers at almost the same price, getting connected and isn't where the profit margin is. Instead, opportunities for driving profit lie in providing services that customers value and are willing to pay for.

Like in any other industry, the move is upward in the food chain (Guerin et al, 2003). Those who still cling to conventional operational strategies cannot cope with the constantly changing market conditions and will eventually lag behind the dynamic players. Quite often when there is a shift in customer's needs, a similar parallel shift in business model is necessary.

5.2 Investments in Technology and Infrastructure Set On-Hold

Along with cost cutting, investing in new technologies has noticeably slowed down during the recession. Some operators have had to postpone or revise their plans to upgrade existing networks or deploy Next-Generation Networks (NGNs) because of the sizeable investment required and uncertain return on investment.

Others such as Telefonica cut capital expenditure by 10%-15% in 2008. Nonetheless, some operators like British Telecom and Telecom Italia planned to carry on with their investment plans regardless of the economic downturn (Seka, 2010).

Companies of Industries that have technology at the core of its existence, such as telecommunications, require continuous investment in order to stay competitive. Operators that decided to postpone investments, being skeptical about the return in uncertain economy, may lose some of their market share to those companies that transitioned to newer technologies first. Other companies decided not to invest because of their debts and/or low cash level.

Now, as the recession impact subsides, the race for 4G and NGN is back on. Suppliers and operators alike will need to come up with transitioning plans to be carried out in the near future. Sprint in the US have already released the firs 4G HTC phone (Shauri, 2010).

Certain segments of the information and communication technology (ICT) industry products and services, such as smart phones and voice over Internet protocol (VoIP), rode out of the recession relatively unscathed. VoIP in particular attracts an ever-increasing number of users, and has benefitted from the credit crunch by offering a cheaper, yet arguably less reliable, option to consumers looking to cut spending wherever possible (Seka, 2010).

Even though the effects of the economic downturn on the (ICT) industry were milder than anticipated, some companies called for public support to stimulate the industry and some governments even stepped in to ensure that telecommunications companies kept investing in deploying broadband networks and Next Generation Networks (NGNs) (Seka, 2010).

As the global downturn begins to abate, forward-looking players in the Telecom industry must begin to focus on the strategies that will ensure their success in transitioning from slow to a more stable and growth-oriented economic environment

6 LEADING OUT OF RECESSION

6.1 Innovation is No Longer a Choice, Rather a Necessity

One of the common misconceptions about innovation is that it is rather an esoteric trait that eludes the masses and is only available to those with the right talent and genius. Many also believe that it is a nice to have concept rather than an essential one. The truth of the matter is that in today competitive markets, innovation has become an instrumental pillar of successful businesses. It has become critical for companies to employ a successful differentiation strategy and set themselves apart from competitors.

6.1.1 What is Innovation?

Considering the definition of innovation can help demonstrate its necessity for companies that want to thrive in challenging markets. In his work on the theory of innovation in services, Barras defined innovation as, “A change in the thought process for doing something, or the useful application of new inventions or discoveries. It may refer to an incremental emergent or radical and revolutionary changes in thinking, products, processes, or organizations.” (Barras, 1984).

Drucker describes innovation as “work rather than genius. It requires knowledge. It often requires ingenuity. And it requires focus” (Drucker, 2002). Drucker’s definition implies that innovation is a planned endeavor that is deliberately created rather than stumbled upon. In the light of this understanding, innovation cannot be any longer considered an elusive idea or immeasurable halo effect that is attained by only some individuals or corporations.

A simplified definition of the concept that takes a pragmatic approach is “Innovation is creating simple ideas that add value”.

Whether it is business model innovation, product innovation, operational innovation or service innovation, it is always created based on developed ideas. These ideas often stem from the need for improvement. This doesn’t indicate that only corporations that suffer from underperformance can innovate. On the contrary, innovation in that sense is a cumulative improvement effort that should be embraced as an everlasting value and work ethic.

Another finding of the poll of over 1,000 senior executives was that nearly 70% of Managers say that organizations should focus on product innovation and service to stay afloat in recession times. (Altman, 2009)

6.1.2 *The Differentiating Factor in Performance*

In a five-year study of high growth companies and their less successful counterparts Kim and Mauborgne found out that the difference in performance was not due to the size of the organization. Entrepreneurs and startups have an edge over large or incumbent organizations. The seniority of management team wasn't the differential factor either.

The organizational and industrial patterns didn't stick out as in a systematic way in either one of the two groups, high growth and less profitable companies. The interesting finding that came out of that study was that although none of these factors mattered in a consistent way, the differentiating element was the way the management in the two groups approached strategy (Kim and Mauborgne, 1998).

The less successful companies took a conventional approach. Their strategic thinking was dominated by the idea of staying ahead of the competition.

In stark contrast, the high-growth companies paid little attention to matching or beating their rivals. In stead, they sought to make their competitors irrelevant through a strategic logic that they call value innovation (Kim and Mauborgne, 1998).

When the business is revolved around innovation, it is much easier to maintain growth and sustainability of that business regardless of external factors. One of the most powerful characteristics of innovation is that it substantially enhances the agility of business and its ability to adapt.

The moment business stressors change, organization that runs with innovation at the heart of their operations will not struggle with finding ways to adapt and create a competitive advantage while other organizations find themselves challenged by changed market conditions, dwelling on stagnant parts of their business (Govindarajan and Trimble, 2004)

6.2 Conventional Logic VS. Innovation Logic

In another part of the same five-year study of growth, it was found out that 86% of the business launches of 100 companies business were line extensions, which is incremental improvement, and accounted for 62% of total revenue and only 39% of total profit. While the remaining 14% of the launches, which were directly associated with value innovation, generated 38% of total revenue and an overwhelming 61% of total profits (Kim and Mauborgne, 1998).

Over and over again, companies that have achieved proportional growth have proved to be not following the herd and consistently employing a different logic rather than conventional logic. In conventional logic, companies seem to be trapped in the tunnel vision of hoarding customer masses and operating within the industry boundaries.

Common operational strategies are built around embarking on endless battles against the competition while draining the current assets to their maximum potential. It is almost as if companies en masse are working in a monotonous rhythm, feeling secure about the potential growth of their current businesses and satisfied with their current capabilities.

Virtually, in fast paced markets, any business can be rendered obsolete after a while. Technology advancement and the dynamic shift in customers needs are accelerating commoditization of products and services as mentioned earlier.

Expectedly, competitors start copying what other companies are offering to customers and soon enough the profit margins on offered products and services start falling rapidly. Suddenly companies cannot charge a premium for their services or gain market share using their unique products, now that many other competitors are offering the same products and services, even if they are offered with subtle variations in quality and price.

Nowadays customers have a large range of choices and if the differences between products and services are not prominent enough, many customers, especially new customers, will choose the lowest price in the market. Some customers will go with the brand out of loyalty or habit. Fewer customers who are informed will probably choose the better quality.

The result in all cases is the same: revenue remains at the same level or begins to slightly decrease while profits start gradually plummeting. After a while, inevitably both revenue and profits will start rapidly decreasing.

Value innovation logic on the other hand calls for different strategies that seem to be counter-intuitive on the surface, yet highly effective when employed. Companies that embrace value innovation logic have a different take when it comes to competition and the market dynamics. In value innovation, companies do not focus on competing, rather, they concentrate on providing unique value to the customer.

The interesting concept in value innovation is that companies target the needs that most customers share instead of trying to accommodate the need for each and every niche group. In this way, companies are in fact willing to let some customers go.

This is the part where this logic may seem counter-intuitive. Although some would think that it may hurt their market share if they let some customers go, the gain of new customers will not only make up for that "apparent loss" but it will also differentiate the company from its competitors.

Organizations that employ value innovation logic also realize that they are not limited by their current assets or the industry boundaries. These organizations seem to be also willing to reinvent themselves in the way they run their businesses and also reinvent their products and services when the situations calls for it. The following table points out some of the main differences between conventional and innovation logic.

Table 1. Conventional Logic VS. Innovation Logic (Kim and Mauborgne, 1999)

The Five Dimensions Of Strategy	Conventional Logic	Value Innovation Logic
Industry Assumptions	Industry's conditions are given	Industry's condition can be shaped
Strategic Focus	Company should build a competitive advantage. The aim is to beat the competition	Competition is not the benchmark. Company should pursue a quantum leap in value to dominate the market
Consumers	Company should retain and expand its customer base through further segmentation and customization	A value innovator targets the mass of buyers and willingly lets some existing customers go. They focus on key commonalities in what customers value
Assets and Capabilities	Company should leverage its existing assets and capabilities	Company must not be constrained by what it already has. It must ask, "What would we do if we are starting anew?"
Products and Service Offerings	An industry's traditional boundaries determine the products and services a company offers. The goal is to maximize the value of these offerings	A value innovator thinks in terms of the total solutions customers seek, even if that takes the company beyond its traditional offerings

Kim and Mauborgne summarized the concept of value innovation logic in fours questions that should be often asked and used as guideline by companies. These questions are:

- Which of the factors that our industry takes for granted should be eliminated?
- Which factors should be reduced well below the industry's standard?
- Which factors should be raised well above the industry's standard?
- Which factors should be created that the industry has never offered?

The first question instigates managers to consider whether the factors that companies compete for actually deliver value to consumers. Often times, those factors are taken for granted even if they provide no value, or the value they provide has become commoditized and no longer in demand (Kim and Mauborgne, 1999). Over time, customers may change what they value and companies that are focused on benchmarking one another do not perceive these changes.

The second question forces managers to consider whether products and services have been over-designed in the endless race to match and beat the competition.

The third question pushes managers to uncover and eliminate the compromises their industry forces customers to make.

The fourth question helps managers break out of the industry's established boundaries to discover entirely new sources of value for customers. Often times these value sources are overlooked or mistakenly ruled out (Kim and Mauborgne, 1999).

6.2.1 The Three Platforms

Organizations may wonder what parts of their business they need to innovate in so that they can maximize their profits and boost their growth. Virtually innovation can be employed in almost all arrays of business lines. From marketing to operation to production, the opportunities for innovation are numerous. Yet, in the context of providing value to the customer, innovation can be directed and focused in the areas that represent direct interaction with customers. These areas are products, services and delivery.

The precise meaning of the three platforms varies across industries and companies, but generally the product platform is the physical product. The service platform is support such as maintenance, customer service, warranties, and training for distributors and retailers. Delivery platform refers to the logistics and the channel used to deliver the product to customers (Kim and Mauborgne, 1999).

Ideally, companies that achieve high rates of growth target innovation in all three platforms. Unfortunately, managers tend to create a value innovation focus on the product platform, ignoring the other two. In doing so, they miss the opportunity for maximizing profits and for repeated value innovation. As technologies and customers change, these platforms present new possibilities. The most effective approach is to apply innovation across them all to create new business ventures that are holistic, robust and well integrated.

An even more powerful approach to innovation is to innovate in business model. Organizations that innovate in one or all of the three platforms may encounter the need for innovation in business model, yet it is not necessarily the case. On the other hand, when organizations innovate in their business model, it mandates that they also innovate in one or all of the three platforms.

Business model innovation practically means innovating in the way organizations go about conducting their business which has a much more pervasive effect. There are not many organizations that favor the idea, however, due to many reasons such as entrenched reluctance to change in the culture or due to the organizations structure itself.

For instance, functional organizations tend to be less mobile and hard to restructure than matrix or project based organizations. Since innovation needs to be a continuous effort, these less dynamic organizations will struggle to keep up with the value curves of the industry other proactive organizations create through consistent value innovation.

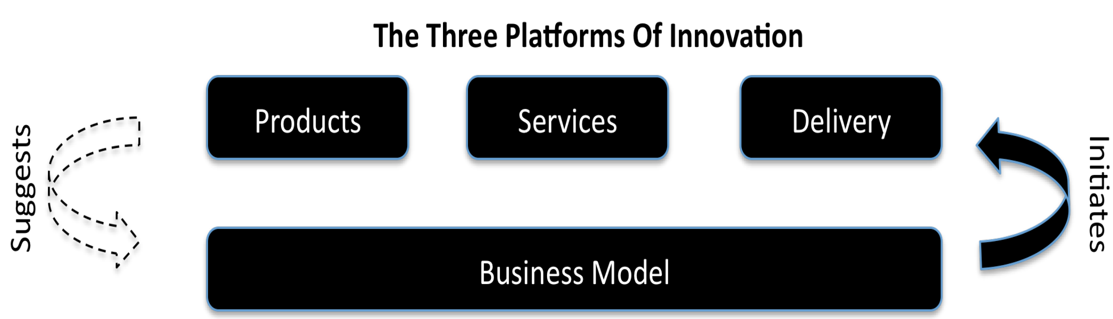

Fig 6. The Three Platforms of Innovation

6.2.2 *Pioneers VS. Settlers*

Kim and Mauborgne found out that businesses and organizations can be charted into three different categories in terms of realized growth. At the high end of growth lie the pioneers of the industry.

Those are the organizations and businesses that offer unprecedented value to customers and take their products and services to new frontiers (Kim and Mauborgne, 1999). These organizations employ the value innovation logic regularly to shape and remake the industry's value curve.

At the low end of growth reside the settlers. These organizations are those who mimic what other organizations do in their attempt to compete. Settlers follow the basic shape of the industry's value curve and do not generally experience high levels of growth.

In between lies the migrators with the potential to become pioneers. These organizations provide incremental value improvements in the products and services they provide to the customer (Kim and Mauborgne, 1999). They adapt the approach of providing more for less to customers but they don't alter the shape of the industry's value curve.

The following figure describes the Pioneers-Migrator-Settlers map that can be used to analyze the performance of different organizations. This map can also be used to identify the businesses that have high potential for growth and other businesses that are not as profitable.

The figure indicates that the highest leaps of organic growth occur when an organization ascends the levels from being a settler to migrator or migrator to pioneer. This tool too requires a regular application to keep the managers informed of how their organization performs in the market.

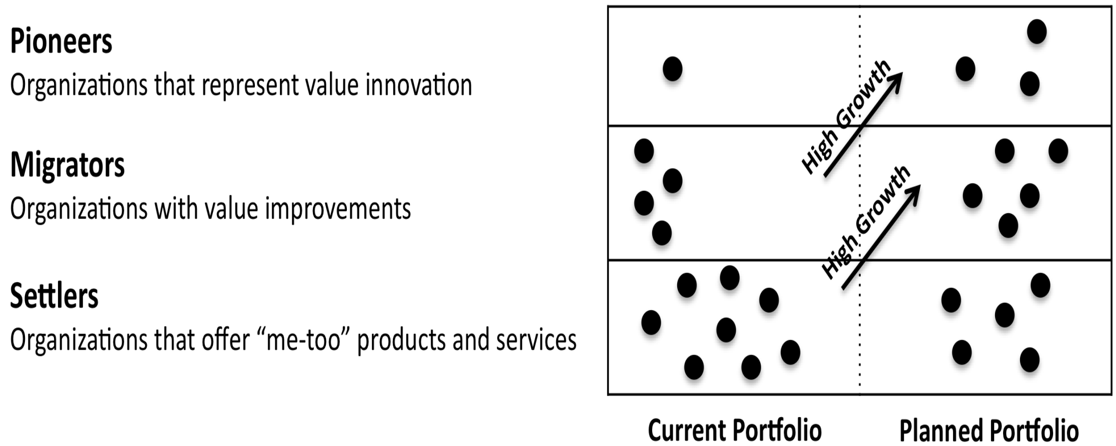

Fig 7. The Pioneer-Migrator-Settler map (Kim and Mauborgne, 1999)

6.2.3 <u>The Paradox of Competing</u>

Striving to be competitive in the market and try to overtake the competition is a legitimate desire. After all if companies do not feel the urge to compete, they would have little or no incentive to excel and improve their operation. In monopoly markets, this is quite often the case and eventually organizations have monopoly control over the market become complacent. Eventually it leads to frustrated customers and a huge market share loss at the introduction of a new competitor.

At the same time, when companies fall in the trap of competing, they are diverted away from focusing on achieving growth and providing value. As a matter of fact, even when a company starts innovating and creates a new value curve, sooner or later other companies will try to imitate it.

In many industries, value innovators face the challenge of not only shaping the industry's value chain, but also defending its earned growth and profit from the competition's attacks that attempt to imitate their products and services.

Quite often, the value innovators in their attempts to defend their hard-earned customer base, they launch offenses. This is when the value innovators fall back in the trap of competing in endless race against the competition and revert back to conventional logic that is followed by the masses (Kim and Mauborgne, 1999).

Companies that strive to grow will have to realize that the value they provide to customers will always be under attack by the competition. This mandates the necessity for continuous value innovation endeavor.

When the organizations value curve starts to look like the competition's, it is the cue to realize that the profits out of this business line will begin to decrease and it is time to reshape the value curve.

A good example of how to embrace the concept of value innovation to consistently shape and alter the value curve is how Compaq stayed on the top of the server industry.

In late 1989, Compaq introduced its first server, the SystemPro, which was designed to run five network operating systems and many applications. Like the SystemPro, most servers could handle many operating systems and application programs at the time.

Compaq observed that the majority of customers, however, used only a small fraction of a server's capacity. After identifying the needs that cut across the mass of users, Compaq decided to build a radically simplified server, ProSignia, which was optimized to run one operating system and file and print only.

They Launched Prosignia in 1992 which was a value innovation on the product platform. The new server gave buyers twice the SystemPro's file and print performance at one-third the price.

The new server achieved value innovation mainly by reducing general application compatibility, which was translated into much lower manufacturing costs (Kim and Mauborgne, 1999).

As competitors tried to imitate the ProSignia and value curves in the industry began to converge, Compaq took another leap. This time they innovated on the service platform.

Viewing its servers not as stand-alone products but as elements of its customers' total computing needs, Compaq saw that 90% of customers' costs were in servicing networks and only 10% were in the server hardware itself. Compaq redeployed its resources to bring out the ProLiant 1000, a server that incorporates two innovative pieces of software.

The first, SmartStart, configures server hardware and network information to suit a company's operating system and application programs. It slashes the time it takes a customer to configure a server network and make installation virtually error-free so that servers perform reliably from day one.

The second piece of software, Insight Manager, helps customers manage their server networks by, for example, spotting overheating boards or troubled disk drives before they break down (Kim and Mauborgne, 1999).

By innovating on the service platform, Compaq created a service value curve and expanded its market.

Then in 1994, Compaq came up with another value innovation on the product platform. As more and more companies acquired servers, Compaq observed that its customers often lacked the space to store the equipment properly. Stuffed into closets or left on the floor with tangled wires, expensive servers were often damaged, certainly not secure and difficult to service.

By focus on customer value, not on competitors, Compaq introduced the ProLiant 1000 rack-Mountable Server, which allows companies to store serves in a tall, lean cabinet in a central location. The product makes efficient use of space and ensures that machines are protected and are easy to monitor, repair and enhance.

Compaq designed the rack mount to fit both its products and those of other manufacturers, attracting even more buyers and discouraging imitation. The company's sales and profits rose again as its new value curve diverged from the industry's (Kim and Mauborgne, 1999).

Compaq's repeated value innovations allowed the company to remain the leader in servers manufacturing and deploying and their overall sales almost quadrupled since then. Figure 8 shows the difference between the industry's value curve and Compaq's at the times of introducing the three servers.

Based on the industry's parameters, the need for repeated value innovation varies. In some cases, companies can reap the fruits of their innovation for longer time, especially when the new value curve is radically different and hard for incumbent competitors to imitate.

For instance, in airline industry when Virgin eliminated first-class service and used the cost savings to enhance the business class service, this value innovation separated Virgin from the pack for many years before the competition began to imitate its service channels (Kim and Mauborgne, 1999).

In other industries, companies need to remain on their toes, always on the look out for potential value innovations.

Generally, industries that depend heavily on the sale of technological devices have value curves that tend to expire rather quickly, since the advancement of modern technology has allowed many companies to imitate the innovation of others in shorter time periods.

Competitors in these industries are able to come up with similar products and services in fairly shorter period of time, compared to other industries, given that these competing companies have sufficient capital and manufacturing capabilities to come up with similar innovations

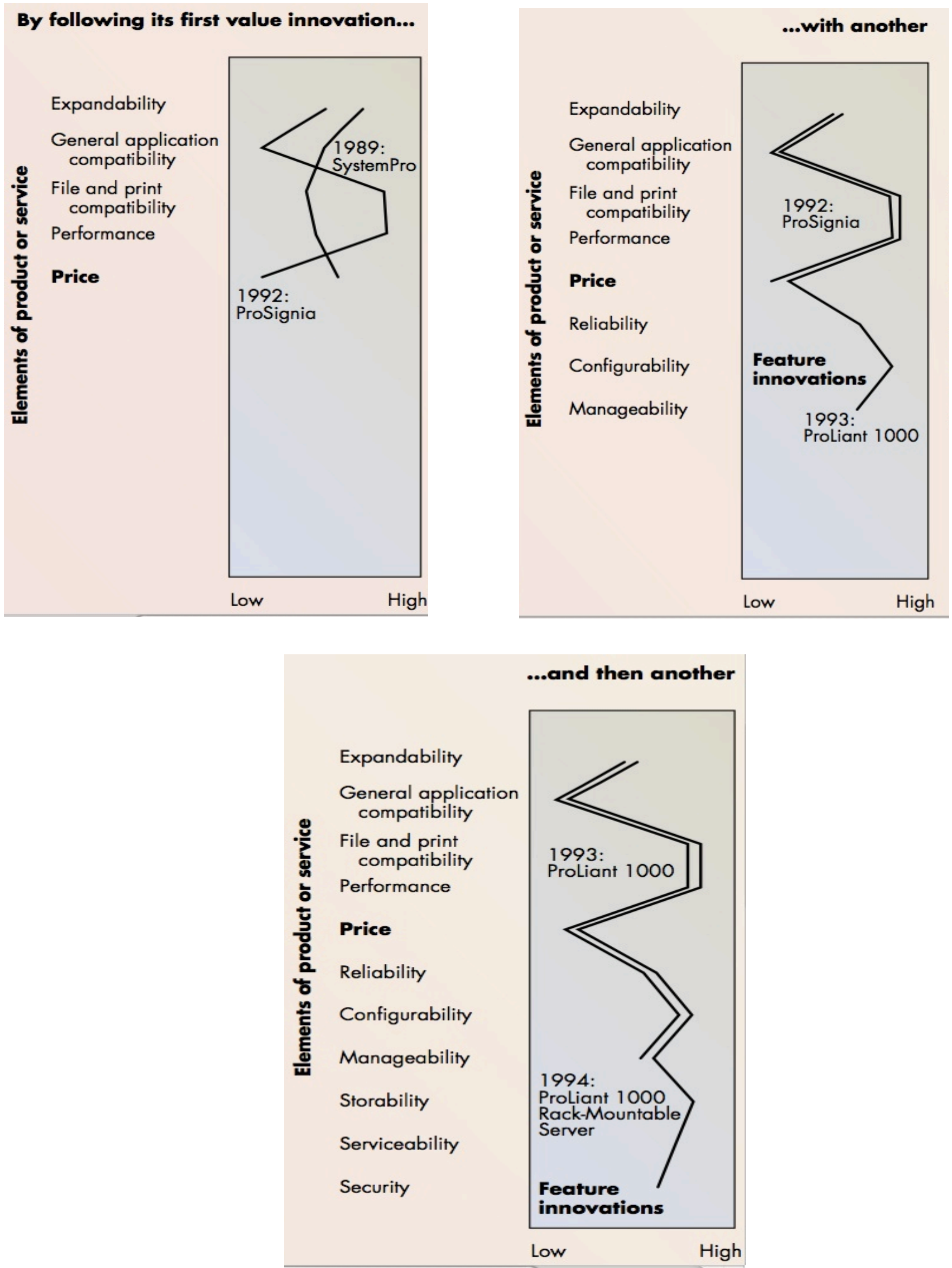

Figure 8. How Compaq stayed on top of the server industry (Kim and Mauborgne, 1999)

6.3 Playing Chess VS. Poker

Innovation boosts organizations' capability of producing more with the resources at hand. It often doesn't require costly expenditure to innovate, rather willingness to explore new ventures and employ strategies that may not have been tested before.

As a matter of fact, agile organizations are those who are not only open to innovative change, but they also intentionally create it to leverage opportunities that emerge every time the market shaping factors change.

Although, many would argue that it is easier grasped and executed conceptually to manage innovation, there are effective methods that make managing innovation practically viable.

The dynamics of managing daily operations and managing innovation are geometrically different in nature. Successful commercialization of a new technology or product, discovered through innovation, requires dealing with both technical and market uncertainty.

Chesbrough describes managing innovation as managing "false positives" and "false negatives" which refer to the error in measurement that arises from early judgments about the commercial potential of early stage projects (Chesbrough, 2004).

Many projects fail to achieve their early-perceived commercial potential, even though they were ostensibly promising which makes them false positive.

Similarly there are projects that are deemed a failure before putting them to the test in the market, which makes them false negatives.

Unlike false positives, false negatives are much more important in value and provide real opportunities for growth. False positives are projects that proved to be false leads and, thus, the only loss at hand is the time and capital spent on these projects.

False negatives, on the other hand, are projects that seem unpromising inside a company due to the lack of fit with the company's business model. The project may offer a primary or secondary product that is offered by the company to its customers. As a result, these projects receive no further support.

Justifiable as it is, companies cannot continue to support unpromising initiatives, or else nothing will get out into the market and sales will decline. Yet, the dilemma that presents itself is how can a company determine whether or not an unpromising project truly lacks value? (Chesbrough, 2004).

To make matters worse, some companies that made significant long-term investments in research found that some of the resulting output, however brilliant, wasn't useful for them.

They found ways to gracefully exit from further funding of these projects and moved on to more promising work. Then, to their amazement, some of those abandoned projects later turned in to valuable companies.

This was the experience of the Xerox Corporation, for example, with its Palo Alto Research Center (PARC). Numerous important computer hardware and software innovations were developed at PARC, but few of them made any money for Xerox and its shareholders (Chesbrough, 2004).

Innovation involves uncertainty in outcome to a certain extent. Yet many companies still manage the technical and market uncertainty of innovation the same way they manage the situation in main business (Chesbrough, 2004).

Managing established business streams is like playing chess. Rules are rigidly defined and outcomes are limited and can be calculated to a fair degree of accuracy. Several moves ahead can be planned.

Successfully managing innovation, on the other hand, is similar to playing poker. While big gains are at stake, there is a considerable amount of uncertainty and risk involved. Flexibility is critical to adapt and pursue potential leads.

Xerox was actually very good at chess, at finding technologies to advance its copier and printer business. However, it was a poor poker player, unable to explore the potential options of computing technologies in new markets (Chesbrough, 2004). Table 2 shows the inherent differences between playing chess and playing poker.

To play poker, companies need to meter their capital carefully and to stage their investments in projects upon the receipt of new information. Some projects will have their funding terminated. But now companies must observe what happens after that decision.

How researchers are responding to the decision to terminate certain projects can leave clues. Is it possible that the project could prove successful in other areas that may be currently unconsidered due to rigid operational model or limiting processes?

Table 2. Managing innovation: Chess vs. Poker (Chesbrough, 2004)

Chess	Poker
- Must plan several moves ahead	- Must adapt and adjust as new information arrives
- Your resources are well defined	- Your resources emerge over time
- Your competitor's resources are well understood	- Your competitor's resources emerge over time
- No new information arrives during the game	- New information arrives regularly

Organizations can use the same strategy in transitioning new innovations in their internal structure as well as their products and services.

New operational models of high potential can be run and tested on certain departments to determine how successful they are before they can be fully transitioned across the whole organization.

6.4 Strategic Investment While Maintaining Lean Operation

Recession-induced decline in demand along with the associated reduction in prices have forced corporations to go for the default reactive action, which is cutting cost across the organization, freezing investments and reducing capital expenditure.

What the situation really calls for is excellent management of cash flow and balance sheets (Hasbani et al, 2009). By thorough inspection of the value chain, corporation can find many gaps and weak points that may affect their performance or cause cash leaks.

Lean operation ensures that every resource is fully utilized as part of the processes that add tangible value toward producing the organization's products and services. As mentioned earlier, small errors may become intolerable in tough times, which emphasize the fact that scrutinizing the value chain can help eliminate waste, streamline processes and ultimately increase productivity.

Although it may be counter-intuitive to spend any form of capital in times when most corporations pull in their horns (Altman, 2009), those corporation that can successfully use the value released from cost-optimization to smartly invest will find themselves in a position of strength as the downturn abates (Hasbani et al, 2009).

Corporations tend to forget, especially in times of economic downturn, that strategic investment creates a sustainable competitive advantage that opens new doors of business opportunities and sets them apart from the competition, as long as it is not undertaken at the cost of burdening the balance sheet with unnecessary excessive debts.

Strategic investments are targeted at a certain aspect of the business. They are made for a specific purpose to produce a measurable result, which is expected to come to fruition in a defined timeframe.

Strategic Investments should be essentially linked to increasing the bottom line. They are also smart which means they are executed at a calculated risk and backed by thorough study of return on investment.

While many corporations prefer fast pay off, smart investments are not necessarily short-term based. Ideally, they stem from the corporation's roadmap for business development that is designed to position it for thriving in the market.

It is time for corporations to start taking measures to address structural cost drivers and reconsider their operating models so that they can strike the winning balance of sustainable lean operation while making the right investments.

6.5 A Strategy Standoff: Concentrate on Core or Diversify

Questions about which strategy to follow often arise in times of recession. Examining the top level strategy of company's operation during bad times usually happens because companies realize that they need to take precautionary and/or corrective measures.

At the same time, organizations that are hit hard by the recession often start questioning their operational strategies as in why they haven't been recession-proof. The truth is the choice of core versus diversification will not only have a strong effect on a company's performance during a recession, but it will have a long-term effect in both good and bad times (Kanter, 1990).

In this context, a diversification strategy refers to a company that is spreading into several, sometimes unrelated fields while a core strategy refers to the concentration of a company's resources on one or a very few businesses.

6.5.1 The Pros and Cons

Many researches argue that focusing on core competencies is the prevailing strategy (Peters and Waterman 2003). Embracing the core strategy builds internal strengths within the organization. Companies develop solid understanding of their products and services. Committed to particular field or few fields, companies can venture into research and development to create competitive products and build on their core competencies.

If the company has well-established competitors who are growing the market and taking on new customers, the core strategy is no longer an option, rather a must if the company wants to remain competitive and protect its market share.

The researchers also point out that firms managing what they know are more likely to be successful than firms who diversify into areas that they know little about (Bigelow and Chan, 1992). In addition, companies that attempt to diversify often pay a premium for the new acquisitions (Duffy, 1990).

Many perceive the diversification strategy as dabbling in the market and muddling through business ventures rather than mastering them. Favoring core strategy by many organizations have many successful case in points such as Ralston Purina and TRW which attempted to diversify only to be forced to refocus later (Waddock, 1989).

The opposite view that supports diversification strategy highlights that diversification typically lowers the overall risk that corporations need to take (Bigelow and Chan, 1992).

When company embraces core strategy, the business is substantially impacted when one area is performing poorly. This results from the fact that all businesses areas that are encompassed by a company, following a core strategy are absolutely critical to profitability and revenue generation.

Diversification proponents also argue that in recession times companies that follow diversification strategy can easily downsize in order to increase liquidity and fulfill obligations. In contrast, companies that follow core strategies have no margins for downsizing since all their business units contribute to core competencies of the business. Losing one field of the business can bring the curtain down on the business for good.

6.5.2 What is the Best Approach?

The key to solving this apparent dilemma is thorough analysis of the individual markets. Companies must evaluate their positions in their industries whether they are major or minor players. Also the expected growth in the industry and the company's ability to compete in that area must be diligently studied (Porter, 1979). Organizations typically need to combine both strategies to thrive and grow their businesses. Core strategy is best suited for corporations that are major players in a growing field and has competitive advantages in market sectors.

Whereas, diversification is ultimately effective when the corporation is a new entrant and/or a minor player in the market, operating in a declining field in the industry or has few competitive advantages (Bigelow and Chan, 1992). In this case companies may also consider core strategy in another field to operate in parallel with the diversification strategy in the declining field.

6.5.3 When There is No Choice

In some cases, the market condition may force organizations either one of these two strategies. Followers of core strategy choose a limited number of businesses on which they focus all their resources and management effort. The inevitable result is that they constantly develop their products and internal processes. A diversified company cannot afford to concentrate all of its resources in one area. In this case, when a company is facing competition for successfully focused companies, there is little choice other than deploying the core strategy (Duffy, 1990).

Another example of factors that may affect the choice of strategy is the product cycle time. In some businesses, especially businesses whose core products are highly technological need to continuously develop new products and take them out to the market in the shortest duration of time possible. These industries depend heavily on product innovation.

In this case, a diversified company may face great difficulties to focus all its resources on reducing the cycle time of just one product area. Conversely, a focused company can achieve short cycle times since all the resources are directed and concentrated on their products (Peters and Waterman, 2003).

Companies that are considering selling franchises or dropping some fields of their business should consider whether the competitor will be able to gain a competitive advantage in that field. If this is the case, the company may be obliged to hold on to this business area, otherwise it may be liable to losing its position in the market.

A Case in point: General Electric Company sold its small appliance business only after it was sure that Black & Decker could not use that business as a stepping stone to move into General Electric's large appliance market (Bigelow and Chan, 1992)..

Just as market conditions may force corporations to focus their resources on core competences, they may also compel corporations to diversify. A grand example of the need to diversify was when Swiss companies refused to venture into the electronic watches business. The lesson was hard learned when they watched the watch market share get taken over by Japanese electronic watch companies (Bigelow and Chan, 1992).

Whether to diversify or not is not an easy question to answer for corporations. When it can be considered the logical approach for new entrants, it can be compared to R&D new projects for well-established companies. Those companies have already concentrated on their core products, which have made them competitive and positioned them for growth. They usually have little to no incentive to try out other business fields or consider the expansion of their business models.

Notwithstanding, with little imagination and market forecasting, diversification can be the beginning of exploding growth opportunities. As companies feel confident about their positions in their current markets, diversification allows them to step foot into new ones. Soon afterward, as corporations find themselves growing steadily in the new business in which they decided to diversify, they can gradually start switching to core strategy in order to build core competencies in the new filed.

This way, they are practically expanding their core strategy. Still it has to start with diversification first. For example, in late 1980s, Toyota, Nissan, and Honda moved into adjacent market segments. They launched luxury cars Lexus, Infinity, and Acura respectively to compete with BMW and Mercedes. The Japanese cars were priced about one-third lower and had a superior service network.

The value proposition was solid enough to win over potential and current BMW and Mercedes customers, despite the power of their brands. At the same time, the Japanese also expanded this profitable segment as a whole (Charan and Noel, 2000)

7 MAJOR CHALLENGES FACED BY TELECOM OPERATORS

7.1 The Pressure of Constant Tariff Reduction

Many operators still find themselves entangled in the open war of Tariff reduction. The rate of tariff reduction has been incrementally increasing over the past decade. One of the reasons behind it is the introduction of new players to the Telecom market and the threat of potential new competition coming in from foreign markets, facilitated by globalization.

Another reason that has made this strategy viable was cost leadership (Lechler et al, 2007). Operator's ability to reduce the operational cost and optimize internal processes has made it possible to provide more for less to their customers. Operational cost reduction has also been boosted by the low-cost 3G technology. On the other hand, the main driver for embracing the tariff reduction business model for many operators, if not all, is the ultimate customer acquisition game.

When AT&T consulted Mckinsey & Co. in the mid 1980s for advice on the cellular-telephone market, the company concluded that the world potential was 900,000 units. Almost 2 decades later, 900,000 became mobile phone users every three days (Govindarajan and Trimble, 2004). . Even later on, based on the data available at the time when mobile phones were an expensive luxury, 100 million subscribers would have been an achievement.

As the mobile services were being constantly reinvented, boosted by the miniaturization and technology convergence attaining one billion subscribers became feasible. Now with over 4 billion subscribers worldwide, it is predicted that 5 billion subscribers milestones can be accomplished in the near future (ITU, 2010).

Views on the evolution of the Tariff model have been divided between believers and skeptics. The industry bulls highlight the vast potential of the model expansion. With subscriptions continuing to rise with the support of miniaturization, mobility, machine-to-machine connections and applications (Apps) proliferation, the view predicts that penetration rates will continue to soar, especially in data usage. Reliant on continuous steady expansion of utilization, this view predicts more years of sustainable growth of the business based on the current Tariff model (Shah et al, 2010).

Bear, on the other hand, indicates that constantly giving more for less to customers will eventually lead to bankruptcy of the industry. Essentially, the spiral of offering more free minutes and lower data utilization limits for the same average revenue per user (ARPU) will lead to massive capital expenditure (CAPEX) levels and huge losses in profitability (Shah et al, 2010).

In some Telecom markets, the tariff reduction strategy has been played up to almost its fullest potential. The average tariff price in the Indian market, for example, has fallen to one cent/minute with potential further reductions in the horizon (ITU, 2005).

Conventionally, the test for the saturation of profitability that could be driven out of this operational strategy would be considered based on ARPU and overall revenue. Yet, the following are some of the heavyweight side effects. Subtle as some of these effects may be, they pose a serious threat on the sustainability and profitability of the business.

7.1.1 Loyal Customers Require Value More Than Lower Prices

Tariff reduction strategy is effective at generating quick-win, short-term results. After all, the quickest and in many cases most effective way to lure customers, both from other competitors and new acquisitions, is reducing the minute price. The grievous downside of this strategy, however, is its indifference to the quality of the acquired customer, which makes it extremely inefficient at producing long-term results.

Customers that switch their current operator for another only based on the price are most likely prepaid customers that are highly inclined to change their service provider at the very next promotion.

Even customers that are newly acquired based solely on tariff price are rarely loyal to the service provide, since the real value lies with the loyal customers that have substantial impact on ARPU.

The needs of loyal customers are very different than occasional and temporary ones. While price is still a factor, retaining loyal customers is only viable through offering innovative products and services, which are tailored to their needs, and ultimately through excellence in customer service.

7.1.2 Marketing Costs of Never-Ending Customer Acquisition Battles

Driven by the "land-grab" mentality and push-marketing bias, many operators are still lavishly spending on marketing campaign, trying to "carpet-bomb" the market even in markets with high-penetration rates (Shah et al, 2010). The pervasive marketing strategy throughout the 20th century, where customers were faceless bundles of socio-demographic averages used by organization to guess the customer needs has expired and no longer can stimulate and fulfill the real needs of customers.

Customer-acquisition marketing strategies also have a very limited effect on current customers. It is often the case where current customers do not benefit from the newly released promotions (Shah et al, 2010). Even loyal customers can feel unsatisfied at the release of discounted offers that is effective only to new customers.

Without comprehensively considering the effect of the marketing campaign across the whole customer-base, it is quite likely that tunnel-vision marketing strategies will subtly backfire and increase customer churn rates, since in many cases these strategies makes it easy for the competition to lure customers at the very next released promotion.

7.1.3 *Tariff Complexity*

In the continuous efforts of driving more ARPU out of Tariff bundles, operators have created numerous different Tariff options for customers. In addition, some operators have gone out of their ways to create custom Tariff bundles for specific customers. It could also be argued that Tariff complexity is a typical screen to squeeze more revenue from customers to cover collateral expenses such as handset-subsidies (Shah et al, 2010).

The overly complicated Tariff models cannot cope up and get effectively scaled to the proliferation of technology advancement and services in the Telecom industry. Quite often customers would have a limited choice that comes with a certain handset. In a sense, the various options offered to customers are limited themselves to a certain group of service, minute rate, handset, contract length and many other features.

While some industry experts still fear that tariff simplification can accelerate commoditization of services, to simply the tariff model is to enhance its ability to encompass broader range of services. This will promote the sale of much broader Tariff bundles, which will maintain and grow the overall revenue.

7.2 New Subscribers are Much More Likely to Be in Rural Areas

While the core of most Telecom operator’s operational strategies has been, and still widely is, acquiring new market share, the rewards, whether in terms of cash or value, are no longer immediate, nor are they guaranteed.

Operators in developed markets may have realized the necessity for a paradigm-shift earlier than those in emerging markets. Africa and the Middle East are the regions with largest potential for traditional growth of subscriber-base volume. Yet, it is no longer an easy acquisition, even in those regions (Shah et al, 2010).

Large cities and high-density areas have already been saturated with focus mainly on level of service and providing enough bandwidth. Potential customers tend progressively to be in rural and less inhabited areas. The investment of expansion into rural areas is no longer easy to justify, considering the comparatively low rates of ARPU in these areas.

In addition to running, maintenance and depreciation costs, the threat of retiring customers makes the decision of investing on new acquisition not easy to make, especially when weighed against investment in a progressively lucrative market such as data usage.

7.3 Impact of Transitioning to Newer Technologies

Without a doubt, the telecommunication industry has experienced many technology and market-driven transformations, and at each time multiple implications came along as part of the situation-change package.

From the era of fixed telephony across the various forms of wireless telecommunication to the age of imminent transition to 4G, the following are the impacts that occur in repetitive patters every time a transition is inevitable and about to occur.

7.3.1 Cost of Transition

Upgrading the network infrastructure is by far much more expensive than maintaining daily operations of the network. Yet, almost always the transition is inevitable if operators are to remain competitive. The change for survival for an operator, who sticks with 2G offering spectrum limited voice services and comparatively low speed general packet radio service (GPRS) data services, will not be able to compete against operators who offer 3G broadband voice and data services for long.

Eventually all operators will have to measure up to the latest technologies out there. Those, who undertake the transition first, get to leverage most of the benefits and have the opportunity to lead and set the standards for other operators, even if they won’t necessarily keep that advantage throughout the life-time of that technology.

7.3.2 *Cost of Network Convergence*

While pressures the additional cost of operating both of the 2G Technologies (GSM and CDMA) is a continuous financial and operational burden for operators, many would not consider the inevitable convergence, favoring dealing with the consequent inefficiencies rather than planning for a more robust network (Shah et al, 2010).

Managing network conversion is no easy task, given the implications on platform software, integration between platforms, user handsets and frequency re-planning. Yet whether operators choose to go for a slow or a fast migration, the transition to fewer technology-based networks, as essential as it is, will definitely present a significant capital expenditure and tough operational challenges.

Considering the fast evolution of technology, the convergence will not be limited to same generation technologies as in the case of 2G. In a spectrum scarce market with a constantly increasing demand on frequency, networks reconciliation will not be an option, rather a must.

From 2G to 3G and the near expansion into 4G, reliance on older technologies is non-necessary burden that will hinder the progress of network transformation. Incremental changes and structural adjustments may prove much more efficient, presenting manageable risks and fewer hassles in this case rather than a radical “on-off” approach to upgrading and reconciliation of network platforms.

7.3.3 *Network Reliability Challenges*

Early 1999 August, the misfortune of MCI WorldCom’s data network offers a good example of how difficult a balancing act is to address network reliability adequately, especially during a network upgrade/change. The outage of their frame relay network, used by companies such as Internet access providers and financial institutions, lasted over 8 days (Cholekwa, 1999).

“The outage caused the Chicago Board of Trade to halt electronic trading, and disrupted high-speed service for nearly 30% of MCI’s global data network customers.”

(Cholekwa, 1999). In addition, thousands of automatic teller machines were impacted, and customers in New York, Boston, Chicago, Los Angeles, and San Francisco were affected (Snow, 2001).

Also, about 10% of America On-Line customers were affected by the outage (Snow, 2001). The outage apparently was caused by vendor (Lucent) software and hardware upgrades to the frame relay switches, which affected many users for a considerably long period of time. For some customers the problems were intermittent, while for others the outage was complete and lasted days (Snow, 2001).

Another example of network reliability incidents was the somewhat similar outage experienced in AT&T’s data network in 1998 April involving Cisco equipment. The entire network was disrupted for 22 hours due to a combination of inadequate procedures and flawed software used during a network upgrade. The updated software caused massive amounts of administrative messages that disrupted the network completely (Rendleman 1998).

Network reliability issues are very likely to happen during big events such as network transitioning to newer technology, but, as in the previous examples, they can also have sever impacts during normal network software/hardware upgrades. In fact, in quick-to-market competitive settings, like in telecommunications market, it is often reliability and security that take a back seat to ubiquitous, cheap, and fast.

Why? Because the technological advancements, although truly remarkable, have resulted in complex networks deployed over larger geographic areas, which are increasingly difficult to engineer, test, and manage incrementally (Snow, 2001).

The larger and more complex the operator’s network is, the harder it is to predict the different contingencies that can occur during transitioning which makes the trade-off all tougher to balance. Many operators choose to postpone the inevitable technology upgrades, favoring to deal with the “known” challenges, while jeopardizing the loss of numerous opportunities for the business to thrive.

7.3.4 *Newer Technologies Require the Right Expertise*

The times of single-field specialized experts are gone in the Telecom world. With the escalation of technology, broader dynamic expertise is in demand more than ever.

Operators should expect fundamental organizational impact whenever transitioning to a newer technology has been initiated. The experienced staff in running 2G network will not be as efficient in running a 3G- network, given the same training and structure.

Impact of technical failures and network voice and data outages cannot be underestimated. Even if individual customers can tolerate a couple of hours of being out of coverage, or continuous call drop/block every once in a while, corporate customers will be much more affected on the business side and typically it requires fewer incidents for the corporate customer to resign their contract and switch the service provider.

Operators need to ensure to invest in their human capital as well as network assets. By-passing the learning curve is impossible, yet basing the experiential learning that comes from operating new network platforms first-hand on strong foundation of training with comprehensive documentation to refer to when needed, will make all the difference in the long run.

7.4 Fierce Dynamic Competition

It is a self-evident fact that the rules of the game for mobile operators have once again changed. Whether it is a Tariff reduction, a new service or a tailored promotion, it is no longer a surprise that the very next day the competition has started planning for a similar undertaking if not already did.

Aside from leaks and rumors, It is virtually too difficult, if not impossible, to keep a global deal with a supplier or a network modernization initiative hidden from the competitors in a world strongly shaped by information and media.

From a customer perspective, this doesn't only make it more difficult to choose an operator in case of a new acquisition but it also decreases retention and value for an informed customer. Unless the customer takes the time to investigate and compare between the numerous promotions, different services available and perhaps coverage level to determine which would best fit his needs, the first, if not the only, factor to favor one operator over the other is once again Tariff price.

With, both of the Tariff model and offered value, almost normalized and in many cases identical, very few incentives are left for the customer as to not change the operator at the first few encounters of dissatisfaction with service or unmet expectations.

8 FROM MARKET PLAYERS TO MARKET LEADERS

8.1 The Necessary Identity-Shift

Adapting the same operational strategies over the past decades, which may have worked well so far due to the remarkable potential of growth the Telecom market has shown, led Telecom operators to a tipping-point. Is it wise to assume that vertical expansion is still possible?

The high penetration rate of user acquisition across developed and many emerging markets coupled with the impact of the recent recession and the compelling challenges of the industry present a real dilemma for Telecom operators, the dilemma of being a Network Operator VS. Value Provider (Lechler, 2007).

A Network Operator: Over the past two decades, operators have been justifiably concerned with the operability and sustainability of the network structure. Waves of new customers were joining the market year after year, stimulated by miniaturization, technology convergence and price reduction.

Price of mobile handsets has been decreasing to almost half of original price at the introduction of a newer model. Tariff price has been decreasing almost every quarter. New promotions were released to customers every couple of months and cost of mobile handsets was subsidized as part of service contracts (ITU, 2006). Consequently, Telecom operators have been focusing on maintaining and expanding the network.

A Value Provider: The rules of the game have changed for the Telecom industry. Easy growth is no longer feasible in developed and emerging markets alike. Commoditization is increasingly threatening the industry and already has reached services, such as network bandwidth, that were considered luxury only a few years ago.

Evidently, operational and marketing strategies that were embraced in the past are about to permanently fail. It is unquestionably critical to ensure network availability and maintain minimum service downtime, yet it is not where operators can get the "biggest bang for the buck".

Customers now expect to receive tangible value that is realized in innovative services, which are tailored to their daily needs. Clearly data usage is soaring among corporate and individual customers which make data services all the more lucrative. Yet, providing value to customers is not exclusive to data services.

The ultra-competitive Telecom market emphasizes the paradigm-shift that comes with the identity-shift. When Telecom operators perceive themselves mainly as value providers rather than network operator, it is mandatory to adapt different operational strategies. Suddenly the most important priority becomes providing what the customer needs. A value provider will also focus on consistently coming up with innovative services to combat the effect of commoditization and meet customer expectations.

Certainly, such a transformational shift can be viable only through gradual but earnest changes across the organization, directed by a shift in the business model.

8.2 Network Capacity That Measures-Up

Many wonder if there are any practical solutions that can slow down the ever-increasing demand for more bandwidth. Short-term measures can, on one hand, control the demand to a certain extent.

Operators may use usage-based pricing to limit data over-usage by users and try to maintain even traffic distribution among users. Assigning caps to Tariff plans, with premium charges once the cap is exceeded, can also help cutting back on data usage (Guerin et al, 2003).

On the other hand, these are but temporary measures that will not work in the long run. The soaring sales of smart phones and the proliferation of heavy bandwidth application will render these short-term strategies ineffective in the very near future.

The increasing demand for bandwidth is a one-way trend that cannot and should not be stopped. While it puts massive strain on the network, it is also one of the main drivers behind a dynamic sustainable industry (Hasbani et al, 2009).

Long-term solutions must consider the fact that bandwidth is becoming a commodity. This means that operators will definitely need to restructure their networks for ten times, or more, the current capacity. But such restructuring doesn't have to be all capital-intensive.

The fast evolution of technology has given Telecom operators options. They can choose to keep building on the capacity of the 3G-Network by less costly spectrum upgrades from 3.2 Mbps and 7.2 Mbps to 14.4 Mbps and upwards. The relatively lower cost of necessary hardware upgrades will be more appealing in such times when cash flow is scrutinized and new capital expenditures is difficult to swallow.

More confident operators can consider the introduction of LTE or WIMAX. Other than being among the first to commence the transition to 4G technologies and benefiting from attracting heavy data-usage users, which means more data-driven revenue, operators will leverage a transition that will moderate the continuous demand for network upgrades. A less burdened network allows better distribution of bandwidth and higher quality of service.

Frequency spectrum can also be better utilized for more bandwidth. Operators can redesign their frequency spectrums to allocate more of 2G bands to 3G, which will enhance coverage and raise network capacity.

In 2009 the European Union allowed the re-farming of 900 MHZ bands that was originally dedicated for 2G for use of newer technologies (Sirio, 2009).

As mobile handsets are getting cheaper by the day and users are getting newer models with every new contract signed, the need to worry about technology compatibility is getting less legitimate.

It is very likely that in the future, 2G technologies will become completely obsolete, being incapable to provide bandwidth that can cope up with the new standards of data usage.

8.3 Re-evaluate The Value Chain

Telecom operators form the vital link in the supply chain between manufacturers, system developers, and content providers at one end and the end-user at the other end of the chain. While customers may face issues that are directly related to the content or the handset, that end of the supply chain is operating in the back scene.

This means that customers' satisfaction depends mainly on the effectiveness of Telecom operators in providing innovative products (Tariff plans and bundles) & services. Operators play a critical role in aggregating hardware and software resources from supplier and transforming them into value delivered to the customers.

8.3.1 A History of Vertical Integration

Before mid 1980s, operators were mainly vertically integrated to operate in the traditional Telecom industry. There used to be only one monopoly player providing the end-to-end dedicated services on dedicated networks from equipment manufacturing to access and service provisioning.

For example, in the U.S. where AT&T used to control the all layers from equipment manufacturing to service provision (Fransman, 2001). From mid 1980's to late 1990's the Telecom market was liberalized and many efforts were exerted to increase deregulation and break the monopolies to bring competition to the market.

For instance, in the U.S., AT&T was divested into Long distance and seven Regional Bell Operating Companies (RBOCs) in 1984. In the UK the market took the shape of duopoly with two operators, British Telecom and the new operator Mercury (Shahid, 2007).

As technological evolution was continuously on the rise, the Telecom industry began to expand. At the dawn of the industry till about early 1990s, the industry had about three layers only: Equipment, network and application/service layers.

After the introduction of the internet and the continuous convergence of technologies, Fransman, M. divides the new structure of ICT Industry into six different layers: Equipment and Software layer, Network layer, Connectivity layer, Navigation and Middleware layer, Applications layer (including contents and packaging), Customer/Consuming layer (Fransman, 2002).

8.3.2 Resorting to Merger and Acquisition

In vertical integration players that are involved in one layer expands its activities to other layers. This follows the diversification strategy that was described earlier to a certain extent.

Operators try to engage in as many layers of the industry as they possibly can in attempt to maintain and expand their market share. Some operators vertically integrate also to prevent suppliers and other small players from entering the market, as it becomes more capital intensive.

For example, from late 1990s to date, the Telecom industry experienced a lot of digitization and liberalization. A new digital age began where applications and services started to take the glamour of voice services. Having realized that they don’t have all of the necessary technology and infrastructure to cope up, Incumbent operators responded to the new challenges by heavy merger and acquisition activity (Kim, 2005).

Examples are AT&T merged with SBC, MCI with Verizon and Alcatel with Lucent. AT&T acquired Cable Company and AOL acquired Time Warner Company.

Other operators focused on investment in infrastructure to offer new technologies such as British Telecom (BT) investment on its Twenty First Century Network, offering bundle of services (triple play) and converged services like BT's Fusion service based on Unlicensed Mobile Access (UMA) (Shahid, 2007).

8.3.3 Horizontal Integration Offers Significant Potential for Growth

Conversely, a horizontally integrated structure consists of a set of functions that work together to provide a certain service. A horizontally integrated operator will start disintegrating vertically and focusing more on the layers/areas where they have a competitive advantage. Horizontal integration on the physical level requires separation between different layers. A good example is IMS (Internet Multimedia Subsystem) where the layers are separated through gateway control protocols (GCP) (Camarillo, Garcia-Martin, 2006).

Systems like IMS have rapidly penetrated in operators' networks due to the fact that they provide independence of services and applications from the specific access platform and the customer devices from the content and media is increasing.

In other words, customers can use the designated service and application whether they are using 2G, 3G, Wi-Fi or any other access platform. Also services and applications have become accessible to the user regardless of the handset (As long as the handset supports using applications such as smart phones) (Camarillo et al, 2007).

Figure 9 shows an example of vertically integrated structure compared to horizontally integrated structure of Telecom operators. Most of Telecom operators are currently still vertically integrated while some operators have partially started the transition.

The Computer industry is a good example of vertical and horizontal integration. This industry used to have a vertically integrated structure with some dominant companies like IBM, Fujitsu and DEC which were researching, designing and producing their own semiconductors, operating systems and applications software, and undertaking their own assembly, marketing, sales and distribution.

After the advent of the PC (personal computers) and networking technologies, the structure of the industry became vertically and horizontally specialized.

The players focused their activities to one of the layers and became dominant in that layer through vertical specialization strategy e.g. Intel dominated in the microprocessor part of the semiconductor layer; Microsoft dominated the PC operating system layer and Compaq and Dell took over the assembly and distribution layer (Shahid, 2007).

Dell in specific went through a whole transformation of their value chain. Dell decided to transition to the horizontally integrated structure, identified the different layers of the business and decided to specialized only in marketing and sales layers of the business.

They outsourced all other necessary business segments such as manufacturing and production to focus on creating more sales and increasing customer loyalty and satisfaction, forming virtually integrated supply chain across the business different streams.

Another example in the Telecom industry is British Telecom who realized the need for restructuring and started separating its different kinds of activities such as BT Whole Sale, BT Openreach, BT Retail and BT Global services (Shahid, 2007).

Horizontal service integration is believed to produce faster service development times than the traditional vertical service integration, where a stand-alone module provides all of the functionality required by a particular service (Shahid, 2007). The horizontal integration of organization also develops synergies across the layer, which helps eliminate silo-operation and fosters innovation.

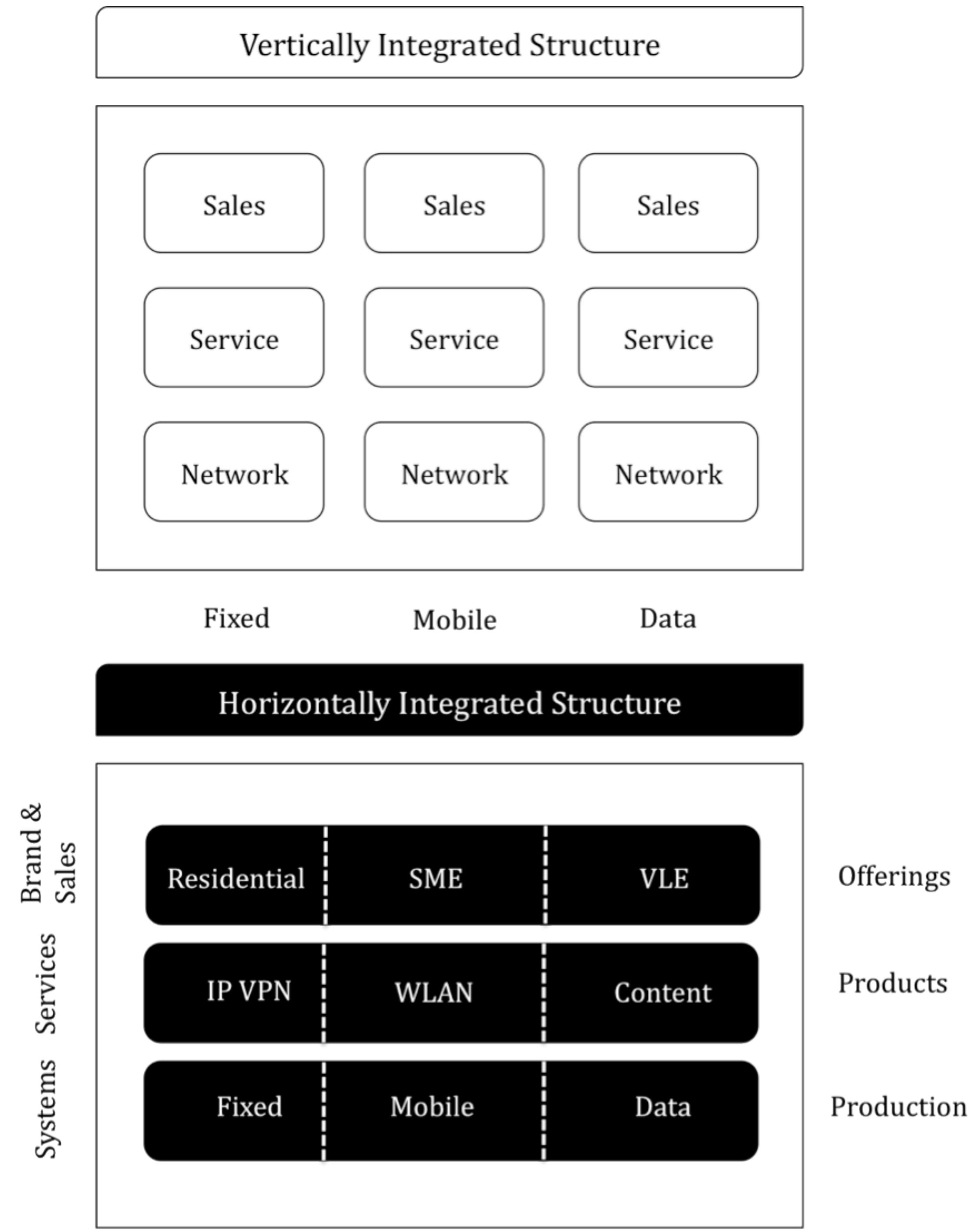

Fig. 9. Vertically Integrated Vs. Horizontally Integrated Telecom Operators. (Heuermann, 2004)

8.3.4 *A World of Opportunities*

When operators start to realize that managing the network is not a core competency to their business any longer, they can re-think the value each part of the business contributes (Hasbani et al, 2009). Freed from the limiting network-operator concept, operators can venture into a whole new world of opportunities. They can share cell sites with other operators in order to reduce operational and maintenance costs and also increase the coverage range.

Some operators have already started sharing some cell sites with other operators. Yet, this is not the end of it. Operators can virtually double the network capacity through sharing RAN and transmission networks (Shah et al, 2010).

It may seem to be a costly and risky endeavor. Networks will definitely need redesigning and rerouting. Operators will need radical change in their business model. Still, many operators already have their networks maintained by equipment vendors with very little supervision and/or intervention. Many vendors have also boosted operators' trust through excellent service level and promotional hardware and software upgrades. The transition, conducted gradually, will not be as cumbersome as feared. It will also present minimal risks to customer experience if closely managed.

As operators start focusing on the high end of the supply chain and start sharing network platforms to maximize capacity and cut back on operational costs, they may as well consider outsourcing some parts of the network.

Operators can get rid of many operational hassles and save costs by outsourcing operating network platforms to vendors through managed-service contracts. Some operators, such as Baharti in India, have already taken this idea to the extreme and outsourced the whole network (Martinez et al, 2006). Baharti decided to focus on marketing and sales aspects of business while virtually operating the network and managing its infrastructure.

Will the Telecom market pave the way for companies to become entirely horizontally integrated in the future? Practically it is difficult for companies, in Telecom industry and elsewhere, to stop integrating vertically. Even as we speak the Telecom market is stimulating the vertical integration of the industry due to reduced entry barriers, declining voice services revenues and customer demands for converged broadband services (Shahid, 2007). Companies resort to integrating new functions into the business in response to the increasing demand for technology convergence.

On the other hand, operators started to realize that inevitable need for horizontal structure. The shift in demand and revenue generation from traditional voice services and service contracts to data services and use of content is making operators realize that need for focusing on different aspects of their business.

Nowadays, developing a differentiation strategy for services is critical to enhancing customer value and retention. Operators that split their concentration among the production (Such as operation and maintenance), service (Such service provisioning and technology offerings) as and sales (Such as corporate and individual customers) layers will not be as effective in developing the business and creating innovative services for their customers as their counterparts who are focused solely on marketing and sales layers for example.

This is yet a grand analogy for the core vs. diversification strategy that was discussed earlier. In this case, too, the ideal approach would be a balanced mix between the two. The only difference, however, would be that in the case of horizontal and vertical integration, operators may decide to horizontally integrated the business from the beginning and remain horizontally integrated if the market dynamics don't change.

When the need arise for a new venture that is crucial to integrate within the business structure, operators can choose to make strategic alliances with those who are already focused on that venture. They can also choose between the different types of alliances whether it is partnership, mergers or those companies will be contracted suppliers.

It is evident that a clear future horizontally integrated structure framework is essential in order to allow players to focus on the most crucial part of their businesses and prevent them from repeating the costly mistakes of the recent past by entering, and subsequently exiting, non- core businesses and markets.

Indeed, it is very likely that in the future the Telecom industry will witness the emergence of vendors and/or joint ventures that manages that networks of different Telecom operators while operators will specialize in designated aspects of the industry.

8.4 What Customers are Really Worth

In an industry where competition is extremely fierce and the main success criterion, that hasn't changed for years, is the volume of the subscriber database, customers quite often find themselves alienated.

It is not unusual in Telecom market that new customers get better deals than existing ones. Quite often new offers are only effectual for new customers. This is meant to entice other competitors' customers so that they would change their service provider, all for the sole purpose of benefiting from new offers and price discounts.

Unfortunately, in the Telecom market today it is not uncommon that operators, driven by the "land grab" strategy, still measure their quarterly and yearly progress by net addition of subscribers rather than net addition of valuable customers (Shah et al, 2010). Operators need to realize that the customer-hunt is incurring a lot of marketing and administration costs and also jeopardizing the loyalty of their existing customers.

If success measures are to be altered, marketing strategies will require a radical overhaul. The main criteria for success should be revenue increase and net addition of valuable customers (Shah et al, 2010).

This requires "smart marketing" as well as excellent customer service. Instead of engaging in marketing campaigns that target all customers, through detailed market segmentations operators can focus their efforts in attracting true-worth customers. It should be also considered that valuable customers are often service-knowledgeable as well as high spending and/or loyal customers (Peters and Waterman, 2003).

Informed customer will not settle for being shut off or for receiving misleading answers to their questions, which makes customer service ultimately critical to retaining them. Remaining close to valuable customers and maintaining a frequent dialogue with them is essential to getting informed on the level of service they require (Peters and Waterman, 2003). This will boost operator's capability to solve, on the spot, any service-issues and to effectively investigate the services that would best meet their needs and ensure their satisfaction.

8.5 The Age of Content Sovereignty

Over the past decade, the convergence between media and telecommunication technology has been progresses at drastically rapid pace. Due to technological innovations and customer demands, boundary lines between telecommunication, information and media industries have blurred to a point that makes it sometimes difficult to distinguish Telecom, service and media services (Shahid, 2007).

Nowadays the world of Telecom is no longer limited to operators and suppliers. Instead it is being constantly extended to new avenues where the roles of players are not marginal, rather vital to the growth of both Telecom operators and suppliers.

8.5.1 The Rise of Data Services

About 3 years ago, almost a decade after 3G licenses were issued, the mass-market adoption of mobile data services and the transformation of the market has become most obvious. With the release, and later proliferation, of smart phones, led by blackberry and iPhone, users has found browsing on mobile handsets an engaging experience backed up by 3G and Wi-Fi high bandwidth. Shortly afterward, the breakthrough of data services has been fueled by the huge array of alluring, law-priced applications.

The rise of Apple and Research in Motion (RIM) caused casualties that were apparent in the shocks suffered by incumbent mobile handsets manufacturers such as Motorola and

Sony Ericsson. Nokia has maintained its share of volume but certainly not its share of revenues and value (Shah et al, 2010).

Other companies have joined the race too. For instance Google, with its Android operating system, has moved in to compete against the iPhone and windows-based mobile handsets, embracing a web-centric approach (Shah et al, 2010).

In doing so, many of these companies have identified the need for an expansive business model. Backed up by a strong base in one field, such as the personal computing in case of Apple and Internet in case of Google, they started diversifying their business portfolio, building on their success and extending operation into neighboring market.

In the midst of all this, incumbent companies were following traditional trends of expansion along the lines of commoditized voice services and network expansion. Nokia was consolidating its lead in the market, Samsung and LG were building strong market share and Motorola and Sony Ericsson was growing the firm market bases they established (Shah et al, 2010).

What can this possibly mean to Telecom operators and equipment vendors? The launch of a new data services market and the dominance of smart phones means that the technology has once again interjected to define a new lifestyle for the customer. As a matter of fact, customers nowadays are more concerned with the services and applications they get when they first considering purchasing a new device or a new service contract.

Customers are progressively keen on acquiring information in simpler and more efficient ways. They also want to remain connected to acquire this information on the spot and at the same time have seamless experience with no connection or bandwidth issues.

Applications such as those that allow customers to check the stock market or share news with their friends and families have been gaining massive attraction in the market. Evidently, it is the package of device, services and applications that wins over the customer, rather than the device itself (Shah et al, 2010).

8.5.2 The Formation of an Ecosystem

Consequently, Telecom operators have one of two choices in order to thrive in the new ecosystem between themselves as service providers, equipment vendor and content providers. They can either win the backing of the ecosystem or join a winning ecosystem.

To provide a good example of this imminent decision, operators can win the backing of the ecosystem by securing the support of certain device manufacturers and application developers in the same way Microsoft did in the PC market. Microsoft decided to license their operating systems and leverage the competencies of a worldwide industry of device designers and manufacturers (Shah et al, 2010).

Following the same approach, Telecom operators may endeavor to provide a wide range of services that is necessary for different mobile devices. Operators will also need to secure the support of large base of developers to come up with applications that are functional on different mobile devices to provide valuable content to customers.

The second option is to join a winning system. For example, Apple and RIM represent another operating model: The delivery of a superior customer experience through an attractive device that runs native software and applications sustained by a proprietary technology “ecosystem” (Shah et al, 2010).

Apple and RIM decided to vertically integrate, end-to-end control of hardware, applications, operating systems and delivery channels, and already built their own community of developers. Operators can join this eco-system by making deals with device manufacturers such as Apple and RIM.

This way, operators can attract the niche market users to use their services and at the same time leverage the device manufacturers’ and application developer’s competencies to enhance customer satisfactions. Some companies decided to leverage this strategy to the max by signing exclusive deals with device manufacturers to be the solo wireless service provider to users of their devices such as AT&T's deal with Apple in the United States market.

There is not one definite strategy in this situation that guarantees success and growth all along. Once the market conditions changes again, a different strategy will be necessary to accommodate for the new market parameters and cope up with the change of the industry.

For example, although Apple and RIM both have developed a substantial niche market positions and robust platforms for growth, it is not clear nor guaranteed that their current business model of vertical integration will allow them to jump from "premium niche" to "market dominance" (Shah et al, 2010).

Another example is that some operators may find it risk to rely heavily on the success of certain device manufacturers only. Also this strategy may cause them to lose some of their market share by focusing on niche users and overlooking the needs of other customers.

8.5.3 Explosive Growth in Demand for Content

What is certain, though, is that the market is being shaped by new trends of growth. Data usage is soaring off the charts. In an average month during January through March 2010, about 30% of U.S. mobile subscribers used Internet browsing compared to about 27.5% in the period of 3 months average ending December 2009 (ComScore, 2010).

About 29% used downloaded applications and 22% played games in the period ending March 2010 compared to 26% and 21.6% respectively in the period ending December 2009 (ComScore, 2010).

Undoubtedly content is driving the usage of data services and the demand for smart phone more than the other way around. Telecom operators will need to forge new alliances, consider merger and acquisition possibilities and adapt new strategies to integrate themselves as part of the new eco-system and leverage the trends of the new market to position themselves for higher levels of growth and profit.

9 SUMMARY AND FUTURE WORK

9.1 Conclusion

Why waste a good recession? Evidently, even in downturns organizations can leverage those opportunities that may be hard to come by in good times to drive higher levels of growth. Successful measures can be planned, designed and effectively put to use in economic recessions.

The following points summarize conclusions made and give a synopsis of the winning strategies that organization can use to leverage downturns, increase growth and boost profits.

- Economy has a cyclic effect of peaks and troughs
- Value innovation is essential for organic growth
- Quantum leaps require a shift in both business and operational model
- Successful strategies are differentiation strategies
- Growing value to customers pays off in both the short and the long run
- Even in downturns, organizations can achieve sustainable growth

The following points summarize the findings that Telecom operators can use to position themselves for commanding market leadership in the Telecom industry

- The Identity shit to value provider is crucial to service innovation
- The need for network capacity has become critical
- Fragmentation in the value chain will lead to increased competition
- Focusing on core-business is essential for growth and building core competencies

- Competition in saturated markets lead to price wares and alienated customers
- Innovating in what customers value makes the difference in sales generation
- Transitioning to new technologies is inevitable
- Services and sales layer has to clearly differentiate and individualize offerings to customers
- The new service-content eco-system should be leveraged to create value to customers and generate higher levels of profit

9.2 Caveats

The following restrictions should be noted:

- The thesis does not focus on the causes of the economic recession
- The recession impact on the stock market may be referred to but is not covered
- Relevant identified causes that stimulated or gave rise to the recession are used only for clarification purposes, in the respective context, rather than exhaustive deduction
- Strategies described in the thesis are not tailored to certain conditions of an individual organization
- Innovation findings are not necessarily recession-bound. Organizations can benefit from employing these strategies during good economic times as well

9.3 Future Work

There is a lot of potential and opportunity for further work to build on the findings delineated in this thesis. Further work entails many possibilities such as:

- Developing a case study of specific company/companies that employ the described operational strategies

- Studying and applying the innovative concepts and strategies elucidated in this thesis on a different industry other than the Telecom market

- Conducting an empirical study to track the operation of a designated company to identify the growth that it experienced due to employing some or all of the specific innovate strategies mentioned in the thesis. This further builds on the studied examples and cases that were already mentioned in thesis

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11 APPENDIX

11.1 Acronyms

2G: Second Generation of Wireless Telephone Technology

3G: Third Generation of Wireless Telephone Technology

4G: Fourth Generation of Wireless Telephone Technology

Apps: Applications

ARPU: Average Revenue Per User

BLS: Bureau of Labor Statistics

BT: British Telecom

CAPEX: Capital Expenditure

CDMA: Code Division Multiple Access Technology

GDP: Gross Domestic Production

GPRS: General Packet Radio Service

ICT: Information and Communication Technology

IMF: International Monetary Fund

IP VPN: IP Virtual Private Network

NBER: National Bureau of Economic Research

NGNs: Next Generation Networks

PARC: Palo Alto Research Center

SME: Small and Medium Size Enterprises

VLE: Virtual Learning Environment

VoIP: Voice over Internet Protocol

UMA: Unlicensed Mobile Access

U.S.: United States

Wi-Fi: Used to describe a narrow range of connectivity technologies such as Wireless Local Area Network (WLAN) and Wide Area Network (WAN)

11.2 List of Tables

11.3 List of Figures