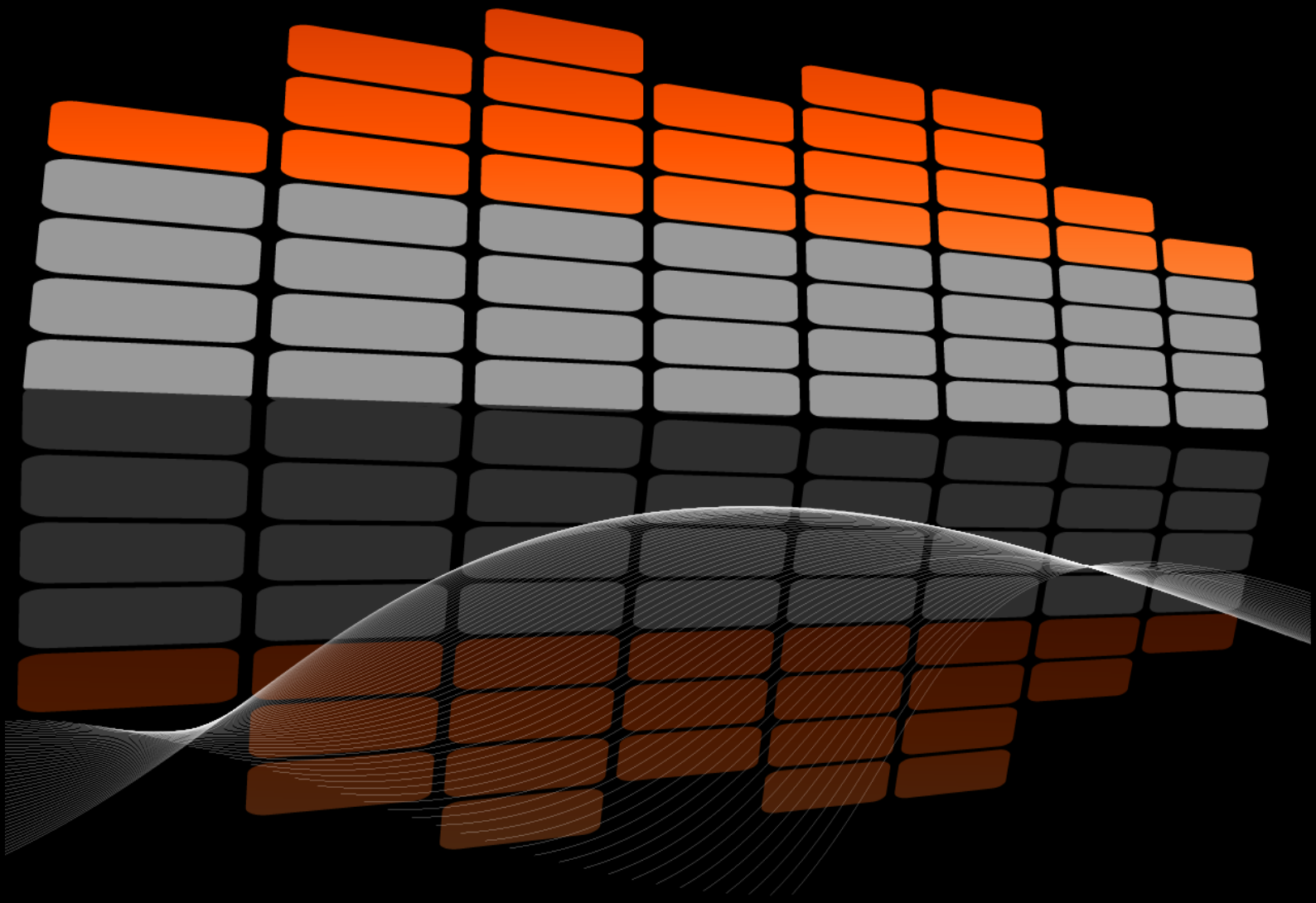


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Social Responsibility and Environmental Sustainability - The Case Study of Vale (Brazil)

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Abstract: Corporate social responsibility deals with companies' actions aiming a positive impact namely on environment, consumers, employees or communities, for example. It requires a set of duties and obligations, in relation to the society and to the communities in which the organization is operating. In Brazil, the corporate social responsibility is still a big challenge, since the actions of social responsibility have not contributed effectively to improve the living conditions of society and the transformation of existing social reality. This study emphasizes the perspective of environmental sustainability that underpins the more general concept of social responsibility. Besides, it is presented the case study of the company Vale, carrying out business in Brazil.

Keywords: *Social Responsibility, Sustainable Development, Environmental Sustainability, Vale.*

1. Introduction

The evolution of Vale over the years made the company a mining giant. It is the second mining company in the world at the beginning of the century. Vale had got a radical transformation in its concepts with its privatization in 1997 and has expanded throughout the country, with investments in various sectors of the economy, like manufacturing of pulp, rail and port logistics, manufacturing, aluminium, reforestation and holding the exploitation of all kinds of minerals such as gold, manganese, bauxite and kaolin.

In these circumstances, the company began operating in 14 of the 27 states, with much emphasis on the Eastern Amazon in the states of Pará and Maranhão, from the Carajás project installed in 1980 in Pará, considered the largest mining project in the planet and having the iron ore with the best quality. The impact of this project, as well as other smaller ones not necessarily of lesser importance, and the continuous social and environmental concerns, made the company to become the main economic actor in this region. Since its privatization, the dialogue between the society and the company has received much attention considering the existing ideas for economic development and for the sustainability of the region,

possible to be made or allowed to be discussed in this dynamic.

Considering that Vale is set in the particular industry of mining, with significant environmental implications, the context of the problem of sustainability and responsibility is very central in any approach in discussion about this theme. The role of Vale in the society in general and in local communities has changed significantly over time.

In fact, companies are today much concerned with the image they have in the public opinion. When organizations commit with social responsibility, they intend to behave ethically and intend to make business considering communities' interests.

If an organization intends to be socially responsible, many presumptions have to be considered and ecological, social, ethical or even cultural concerns have to be taken in account. The organization has also to take into account all stages of decision-making procedure.

The example of Vale in Brazil is presented to show important strategic policies carried out by companies dealing with social responsibility.

The purpose of this study is to emphasize the perspective of environmental sustainability that shows the more general concept of social responsibility. It is intended to analyze the strengths and weaknesses of the development of measures of social responsibility in this area and to see an example of what some companies are doing now on this matter in Brazil.

2. Corporate Social Responsibility: an aim on Business

Corporate social responsibility is the continuing dedication to a responsible business, behaving in ethical premises and contributing to economic development, improving the life quality of workers, of their families and of local communities, aiming to have a positive contribution for the society as a whole.

The organization must be active and lead to the economic, technological and human development. To that extent, its performance requires full respect for human rights, investment in personal enhancement, environmental protection, combating corruption, compliance with social norms and respect for ethical

values and principles of the society in which it operates.

Social responsibility requires a set of duties and obligations to be accomplished by individuals and firms in relation to the society and to the communities. Social responsibility deals with companies' actions aiming a positive impact in many areas as the environment, consumers, employees or communities, for example.

In Brazil, the basic needs of large segments of the population are still not being met. Issues related to survival, hunger, unemployment and social exclusion, among others, lead discussions about social responsibility of business to a lower level. In this sense, it is necessary an important debate on the corporate social action in Brazil.

The beginnings of discussions about corporate social responsibility in the United States and Europe dealt with problems relating to environment and consumer rights. The Brazilian reality raises other questions, much more intense and urgent to be tackled and solved. The concept of social action is that, currently, more closely reflects the performance model of the Brazilian companies that practice social responsibility, as defined by the IPEA (Instituto de Pesquisa Economica Aplicada) as those actions that are not obligatory, performed by the companies through donations or projects in areas such as social assistance and food, among others. However some interesting developments in this area are made by some companies in Brazil.

3. The Concept of Social Responsibility

The company management cannot and / or should not be guided towards the fulfilment of interests of the owners of the company, but also because of other stakeholders' interests such as the ones of employees, local communities, customers, suppliers, public authorities, competitors and society as a whole.

In practice, corporate social responsibility refers to the adoption of a model of business management in which the companies, being aware of their social commitment of co-responsibility in social and human development, hear, preserve and respect the interests of different parties, their stakeholders, incorporating different needs of the business planning and operating them through their decisions and activities.

There is no doubt that this is a significant change because, a few decades ago, one had the idea that private companies should be accountable only to their shareholders and they should produce profits.

Although much discussed, the concept is not yet finally stabilized. In any case the effort of researchers to differentiate the simple idea of charity has proved essential to its proper scope and understanding by companies and managers.

There are countless interpretations and definitions of corporate social responsibility. Possibly the best way to analyze the concept of corporate social responsibility is to identify some different views (see Melo Neto & Froes, 2001):

- The social responsibility as an attitude and ethical and responsible corporate behaviour. Concept and duty associated with the organization's commitment to assume posture transparent, accountable and ethical relationships with its stakeholders (customers, suppliers, government, and community in general).
- The social responsibility as a set of values: not only incorporates ethical concepts, but a series of other concepts that gives sustainability, for example, self-esteem of employees, social development and others.
- The social responsibility as corporate strategic posture: The quest for social responsibility is seen as a social action strategy that generates positive return to business.
- The social responsibility as a relationship strategy: Focusing on quality improvement of relationships with different stakeholders, i.e., social responsibility is used as a strategy of relationship marketing, particularly with customers, suppliers and other collaborators.
- The social responsibility as institutional marketing strategy: The focus is on improving the corporate image. It is the institutional gains that justify the investment in social projects undertaken by the company.
- The social responsibility as a strategy for recovery of the shares: "The reputation of a company and the value of its shares on the market go together".
- The social responsibility as a human resources strategy: The actions are focused on employees and their families with the aim of increasing personal satisfaction and generate increased productivity.
- The social responsibility as a strategy for recovery of products / services: Beyond the mere attestation of quality products and Services Company, is the purpose of guaranteeing them the status of "socially correct".
- The social responsibility as a strategy of integration in the community: The company seeks to improve its relations with the community and redefining innovative ways to keep it inserted.
- The social responsibility as a strategy of social development in the community: the organization takes over the role of agent of local development, along with other community organizations and the government itself.
- The social responsibility while promoting individual and collective citizenship: By their actions, the company helps its employees to become true citizens and contributes to the promotion of citizenship in the community.
- The social responsibility as an exercise in ecological consciousness: The social responsibility is seen as leading to environmental liability company to invest in education and preserving the environment by becoming a broadcaster of values, attitudes and environmental practices.

- The social responsibility as a strategy for social inclusion: Linked to the concerns of "Social Inclusion".

All these dimensions are, in fact, a part of a comprehensive overview of the concept. Thus, it is possible to withdraw this central idea, as greatest common divisor: Corporate Social Responsibility as a voluntary integration of social and environmental concerns in the daily operations of the organizations and interaction with all stakeholders.

Social responsibility is the fulfilment of duties and obligations of individuals and companies to society in general. Corporate social responsibility is assumed as a form of ethical management and transparency that the organization has with its stakeholders to minimize negative impacts on the environment and community, has to take into account all stages of decision-making procedure and shape it in the context of the community in which it operates.

The organization must be an active agent and must lead the economic, technological and human development. To that extent, its performance requires full respect for human rights, investment in personal enhancement, environmental protection, combating corruption, compliance with social norms and respect for ethical values and principles of the society in which it is operating. Social responsibility requires the accomplishment of a set of duties and obligations, whether individuals or firms in relation to society and the communities in which the organization operates.

Social responsibility presupposes the existence of an attitude and ethical and responsible corporate behaviour, a set of values, an entrepreneurial strategic posture; a relationship strategy, a strategy of institutional marketing; strategy valuation of the shares, a human resources strategy; a strategy to develop products/services, a strategy of integration into the community, a strategy of social development in the community should work as a promoter of individual and collective citizenship, as an exercise in ecological awareness and professional training as an exercise. It is these multiple aspects that constitute an integrated support to a responsibility that organizations must take, including to ensure their long-term operation.

4. Environmental Accounting

The social accounting arises in order to contribute effectively to the prosperity of organizations and nations, transforming the accounting information system in a broader package, whereby statements are presented not only financial and economic, but also those of social and environmental nature indispensable for the analysis, control, evaluation and decision making, in the world context of globalization and constant change (Kroetz, 1999).

Environmental accounting is the record of environmental assets. Paiva (2003) defines it as the activity of identifying data and records of environmental events, processing and generating

information that assists the user serving as a parameter in his decision making.

For Ferreira (2003), the development of environmental accounting results from the need to provide information tailored to the needs of environmental management. The author states that the environmental accounting does not refer to a new accounting, but a set of information to report fairly, in economic terms, the actions of an entity that alters its assets. This set of information is no other accounts but a specialization. This is a new base and a new system of recognition and measurement of costs, including externalities.

For Bergamini Jr. (1999), environmental accounting aims the registration of the company's transactions that impact on the environment and their effects that affect or should affect the economic and financial position of the business, ensuring that costs, environmental assets and liabilities are accounted in accordance with generally accepted accounting principles or in its absence, with the generally accepted accounting practices and environmental performance and with the wide transparency that users of accounting information need.

For the Environmental Reporting Guidelines cited by Tinoco and Kraemer (2004), environmental accounting is a framework that quantitatively estimates the environmental conservation efforts in monetary terms. It is also a significant technique that may indicate the state of environmental conservation to stakeholders. This accounting is more ambitious than the traditional, since it aims to know the negative externalities and record, measure, assess and disclose all environmental events.

Yet in the view of Taylor (2004), the role of environmental accounting is to provide regular information to internal and external users about the environmental events that caused changes in the assets of the respective entity, measured in currency.

5. Environmental Event

Environmental event is any entity's interaction with the environment that generates economic consequences of present or future, in view of the regulatory standards or social responsibility that is subject to a specific company.

Examples of environmental events have been spending on development or acquisition of technologies, machinery and antipollution equipment; search for waste reduction, employee training methods of clean production and the laws, raising revenue, as a consequence of materials recovery (recycling), among many others.

Tinoco and Kraemer (2004) list events and environmental impacts related to operational activities of various sectors that affect the assets and business continuity, quality of life, fauna, flora, rivers and seas, and that therefore shall be subject to registration, collection, measurement, evaluation and dissemination by the accounts, highlighting in particular:

- Coal Mining: causes impacts on the environment evidenced in the atmosphere, soil and surface water and groundwater.
- Steel: Degradation of water quality, which requires local water-treating, construction of landfills, air pollution, pollution emissions from power plants, especially particulate matter, release of oils and greases, organic loading, soluble manganese, ammonia, etc. involving investments to control them.
- Other activities that also deserve mention: the production of lime, cane sugar, pulp and paper production and the oil industry.

Based on these events it is possible to quantify and record, through the accounting techniques, the environmental interactions surrounding businesses and entities.

6. Advantages of Environmental Accounting

According to Tinoco and Kraemer (2004), several advantages related to the use of accounting in the environmental focus may be pointed, such as:

- Measurement and allocation environmental costs, allowing a continuum of planning applications;
- Measurement of environmental liabilities;
- Intensive use of explanatory notes and environmental performance indicators;
- Being able to accurately verify the reductions in resources such as water, energy, soil and other potential physical environment;
- Making decisions based on the costs and benefits recorded in their own environmental accounting;
- Providing information and statements about the effectiveness and economic feasibility of the environmental actions;
- Publishing the social and environmental issues, creating transparency and social interest;
- Constant corrections of environmental actions, reducing the level of aggression against nature in the manufacture of products and services essential to the population,
- Quality data analysis and interpretation by both internal and external audiences, allowing an evaluation of the quality of environmental management of the entity.

7. Environmental Preservation

The concept of sustainable development has emerged from studies of the United Nations on climate change in the early 1970s, as a response to the concern of humankind, given the environmental and social crisis that has befallen the world since the second half century. This concept, which seeks to reconcile the need for economic development of society to promote social development and respect for the environment, today is a vital topic on the agenda for discussion on a variety of organizations, and with different levels of organization society, as in discussions on the development of cities and regions, current day-to-day

society. Follows a short presentation of the evolution of the concept since its inception to the present.

The year 1968, according to Camargo (2003) was the first serious sign of popular discontent with the model of industrial capitalism towards the end of its cycle, with the outbreak of student protest in the chain, started in Paris in May 1968, rising Berkeley, Berlin and Rio de Janeiro.

Breaking the walls of the economics bastion, environmentalism came to question the economic rationality in terms of its own criteria. More specifically, the new debate shows that, compared to several problems and dilemmas that industrial development poses, the solution or the way to overcome them may not require a new jolt, but the adoption of restrictive measures to increase economic production, which raises the idea of ecological rationality as the basic principle and limiting the economic rationality and self development.

The Club of Rome, an entity formed by intellectuals and businessmen, who were not environmentalists, was an initiative that grew out of discussions regarding the preservation of natural resources of the planet. He produced the first scientific studies about environmental preservation, which were presented between 1972 and 1974, and that related to four major issues that should be resolved in order to reach sustainability: control of population growth, control of industrial growth, lack of production food, and depletion of natural resources (Campbell, 2002).

Development and environment have merged on the concept of eco-development, which in the early 80's was supplanted by the concept of sustainable development that has been adopted as the official expression in UN documents, IUCN (International Union for Conservation of Nature) and WWF (World Wild Fund for Nature).

8. Social Responsibility and Environmental Sustainability in Brazil

Note that the concept of social responsibility can be understood at two levels:

- The internal level, it relates to workers and, more generally, with all actors and stakeholders (who are affected by business and, in turn, may influence the results);
- And the external level which considers the consequences of the actions of an organization on its external environment, including, among other things, its business partners and the environment.

In Brazil, although with regional differences in the way of realization of social action for communities, donating resources is the most used by many companies from all regions, and in South and Southeast, this donation is directed to organizations running social projects.

In the northeastern region of Brazil, the large majority of donations of funds are held by companies for direct assistance to needy individuals and communities. However, from the real meaning of corporate social responsibility, donating resources is not the essence,

but the severity of problems in Brazil and the large proportion of the population lives below the poverty line make the social performance a big problem.

Besides, nowadays there are already many actions being planned by companies in order to incorporate activities of environmental sustainability and contribute through programs to the well fare of populations and resources preservation.

9. Vale and Environmental Sustainability

9.1 Environmental Issues in Brazil

The evolution of society especially after the re-democratization of Brazil and the 1988 Constitution, which guaranteed political participation through questioning of autonomous social organizations, NGOs and other institutions, and international pressure of all kinds on the expansion of economic projects in the region showed a new way to analyze the environmental and social impact.

With the new ecological and social concerns, the state itself has changed its approach to geopolitics to the area and began to seek a return to society of the projects to be implemented and also the approach to sustainability, long-term perspective, the degree of exploration and employability. The companies that own or want to develop projects in the region began to show a series of socio-environmental in their statements, in addition to campaigning for clarification of their participation in the region. The main tool for informing the government and investors on these issues is the company's economic accounting and after the social and environmental accounting that can come as a part of the accompanying financial statements that have already been published by the company.

9.2 The Company: a bit of History

Vale (originally state-owned enterprise, privatized in 1997), called Companhia Vale do Rio Doce, was founded by decree on June 1, 1942, with operations concentrated in Minas Gerais, with the purpose of mining iron, during the government of President Getúlio Vargas, then a dictatorship began with the Revolution of 1930.

The connotation of the nationalist government Vargas was incorporated in the vision of the company that originally served only the domestic demand particularly CSN (Companhia Siderurgica Nacional). However, in the 60s the company takes an entrepreneurial leap and is now exporting iron ore to Japan. This change takes the company to the next level to insert performance as an exporter of long range.

The evolution of Vale over the years turned it into a mining giant, the second mining company in the world at the beginning of the century, when the company had undergone a radical transformation in its concepts with its privatization in 1997. Vale expanded throughout the country, with investments in various areas of economy, such as pulp manufacturing, logistics, rail and port, aluminium fabrication, reforestation energy

than the holding of all kinds of minerals such as gold, manganese, bauxite and kaolin.

In these circumstances, the company began operating in 14 of the 27 states, with much emphasis on the Eastern Amazon in the states of Para and Maranhão, from the Carajás project installed in 1980 in Pará, the largest mining project in the planet and having the iron ore with the best quality. The impact of this project, as well as other smaller but no less important and constant social and environmental concerns, the company became the main economic actor in the region. Since its privatization, the dialogue between the society and the company has been focused on the economic developments and sustainability, which are possible to be reached or just discussed in this process.

9.3 The Company in the XXI Century

The company Vale is the second largest diversified mining company in the world in market value. World leader in the production and export of iron ore and pellets, and an important producer of nickel, copper concentrate, bauxite, alumina, potash, kaolin, manganese, ferroalloys and coal, the company has offices and operations in over 30 countries on five continents. Vale was the first Brazilian company to achieve the rating of investment grade and the first Brazilian company to trade its shares on Euronext (Paris).

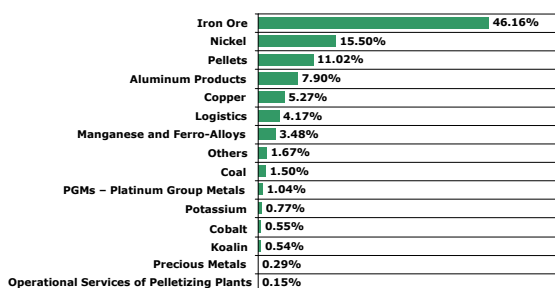
The company has gained an enormous strength with the ore extraction in the Amazon, more specifically in the Carajas region, located in the southeastern state of Para Company, in its first year, produced 40 tons of iron ore, equivalent amount that is loaded per hour today. Vale has diverse activities within the mining sector.

The company operates in the segments below:

- Ferrous: iron ore and pellets, manganese and ferroalloys.
- Non-ferrous: kaolin, potash, copper and nickel.
- Logistics: Railroads, port terminals, coastal shipping and logistics solutions.
- Aluminum: Bauxite, alumina and aluminum.
- Energy: Eight hydroelectric dams, seven of which are already in operation.
- Coal.

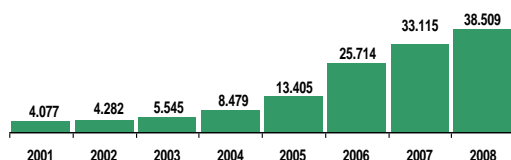
The Chart 1 shows the diversity of work, identifying what each product represents in the composition of gross revenue.

CVRD holds maximum production of nickel, bauxite, alumina, copper, thermal coal, cobalt, platinum group metals and precious metals. The company guarantees sales *maxima* of iron ore, nickel, copper, alumina, cobalt, precious metals, platinum group metals and thermal coal.

Chart 1. Composition of gross revenue

Source: Vale

Privatized in May 6, 1997, the company had a net worth in 1997 of U.S. \$ 350 million, with a market value around \$ 10.5 billion by offering 11 thousand direct jobs. In less than a decade after massive investment, the company increased nearly 10 times its gross revenue, according to data presented in chart 2.

Chart 2. Gross Revenue in Millions

Source: Vale

The privatization of Vale, whose sale is even nowadays questioned, brought to the company an enormous investment sum. On August 11, 2006, CVRD made a public offer of \$ 18 billion for Inco, Canada, which owned the largest reserves of nickel in the world. This business became an historic deal. It was the biggest investment made abroad by a Brazilian company. Vale has become one of the largest nickel producers in the world, with a production of 234,900 tons in 2006.

The transaction increased the market value of Vale and in December 2007 the company was valued in U.S. \$ 151,711 billion, with a number of employees of 152,724 in 2007.

In 2008, the company was considered the mining company that most invests in its production processes, as shown in the chart 3:

Chart 3. Investments of Vale in the World (Billions)

Source: Vale

According to the data, Vale has invested more after its privatization in 1997 (and has increased its profitability).

9.4 Vale and the Environment

According to the company report, the essence of its work is the search for a balance between socio-

economic development of territories and maintaining the quality of natural resources, biodiversity and life.

To do so, Vale has made continuous investments in the management of environmental impacts of operations and research of new technologies that improve the environmental control systems. The guidelines that guide its actions are explained in the policy of sustainable development of Vale, a document that guides the process from decision making to the actions performed on the day to day operations.

Vale considers the respect for the environment a key component of its sustainability strategy, seeking to balance environmental protection and economic development. To come to this end, the company has an Environmental Policy, in which commitments to environmental aspects are clearly explained.

The company's main points of its environmental policy are as follows:

- Maintain an environmental management system, aiming to ensure that activities comply with applicable laws and standards set by the company, in the absence of specific legislation, Vale will implement the best measures of environmental protection and minimizing risk.
- Educate and train employees to act in an environmentally responsible, ensuring the implementation of environmental policy.
- Develop research and incorporate new technology for continuous improvement activities, aimed at reducing environmental impacts and consumption of energy and matter.
- Maintain ongoing dialogue with its employees and the community, aiming at improving environmental actions.
- Strive to their subsidiaries and affiliated companies to adopt practices consistent with this environmental policy.
- Request their products and services suppliers with proven environmental quality.

Vale policies, standards and environmental procedures are defined by the Department of Environment and Sustainable Development, which coordinates the Management System for Environmental Quality (SGQA) of the company, setting guidelines and targets, monitoring the development of environmental performance and providing tools for managing the environmental aspects related to the activities, products and services of Vale.

The Environmental Policy with the subsidiaries is still in process of discussion and alignment. In the context of the Management System of Environmental Quality are developed measures for monitoring, conservation, environmental protection and recovery which ensure the maintenance and recovery of ecosystems in which Vale operates.

The environmental management system is based on the guidelines ISO 14001 (International Organization for Standardization). Periodically, the operations are subject to external audits.

In recent years, important achievements were obtained in the rational use of water and energy, waste disposal and the awareness of people to environmental quality.

Follows the environmental performance of the last three years. Vale is in fact aware that there are opportunities for improvement and is committed to the continuous improvement in building an environmentally friendly business model.

According to the report of the company, Vale has a great concern for environmental issues, and as a consequence there are significant investments in the environment. Its commitment is not limited to the environmental control systems that are required. The environmental aspect is an important component of the evaluation of new projects and decision-making investment for expansion of the company. Expenditures are monitored monthly and reported quarterly to the public opinion, and it counts with periodic financial audits.

The relationship with the various stakeholders is present in Vale environmental management. In each area where Vale acts, the company tries to be an agent of change, listening from outside and proposing alternatives and looks for integrating other social actors in the effort of finding solutions to environmental issues.

In 2008, Vale volume of resources invested in the environmental area was U.S. \$ 678 million, almost 50% higher than that achieved in 2007. Most of the resources were allocated to three lines of expenditure:

- Acquisition and implementation of environmental control equipment, aiming to improve performance in existing operations;
- maintaining environmental and geotechnical safety of dams and waste dumps;
- Reforestation and rehabilitation of degraded areas, which form the program Florestar Vale.

9.5 Environment Quality

The management system of environmental quality determines the development of effective monitoring, conservation, environmental protection and rehabilitation, aiming to ensure the maintenance and recovery of ecosystems in which Vale operates. The system is based on the guidelines of ISO 14001 (International Organization for Standardization) to which additional aspects were added making up the standard of environmental quality in Vale. Aiming to assess the management and guarantee the evolution of performance, multiple transactions are submitted periodically to internal and external audits.

Policies, standards and environmental procedures of a general nature are defined corporately, and management is under responsibility of operations and business areas.

9.6 Social Aspects

The quest to build a positive social, economic and environmental legacy in regions where Vale operates is one of the principles that underlie the Sustainable Development Policy of Vale.

Activities, especially mining, are limited to the lifetime of the mineral deposit and therefore the presence in a particular place, in general, is finite.

Along the mineral cycle, there is a challenge to Vale: to make that actions are catalyst for regional economic development based on regional competences, which can ensure the perpetuity of social welfare in equilibrium with the environment. In that search, Vale performs management actions that enhance the positive effects of the presence of Vale, reducing the social risks of operations and at the same time, contributing to strengthening the foundations for local development in the long run.

Vale invests in integration, in cooperation with public and social agents, to encourage:

- The hiring of local employees and suppliers;
- Education for human development, for work and income generation;
- Planning the use of taxes generated by the operations of the company;
- The diversification of local economies;
- The strengthening of institutions;
- Environmental conservation and cultural heritage.

Thus, Vale tries to build social transparent networks, based on dialogue and permanent respect for the culture of each community. At the same time, tries to invest in management tools to foster the development of the territories. The intention is to build, considering society as a whole, the foundation for continuous improvement of quality of life.

9.7 Management of Local Development

Vale has several programs and tools, in different areas and regions of operation, to manage social and environmental impacts arising from the activities.

In the analysis of the feasibility of implementing projects, the methodology Front-End Loading (FEL) is adopted covering social, health, safety and environment, and economic and operational risks.

Furthermore, based on environmental, social and economic assessments, performed in the EIA/RIMA (Environmental Impact Assessment and Impact Report for the Environment), potential impacts of the presence of Vale are considered in the regions already in the phase of licensing and deployment projects.

These tools, together with the socioeconomic diagnoses made by Vale Foundation, conduct the Management Programs of Environmental and Socioeconomic Impacts, intending to find the mechanisms to avoid or minimize negative impacts and to maximize the positive impacts on the performance of Vale. These programs are implemented according to the needs of each project and consider the particularities of each region. Through these tools, it identifies the main impacts associated with the presence of mining. Among them stands out:

- Direct economic impacts
 - Positive: Generation of Employment, Vocational Training, Increased taxes, Hiring of local products and services, investments in infrastructure.

- Negative: Environmental impacts such as dust and noise, interference with land use, risks of accidents.
- Indirect economic impacts
 - Positive: increase the wages, benefit income making, Leverage of other economic sectors, suppliers attraction, development of local suppliers, attraction of investments from various spheres of public and private sectors.
 - Negative: Pressure on infrastructure and public services, due to population increases; speculation in remote areas, due to the low housing supply and high demand; generation of economic leakage effects, due to the hiring of suppliers and employees of other regions, due to the lack of local businesses and experts.

9.8 Programs and Management Impact Practices

In order to leverage and maximize the positive outcomes of Vale in the territories, Vale works with structured programs considering the various relationships that Vale has set.

9.8.1 Qualification

Vale seeks to maximize the hiring of residents of the localities where it operates, especially in developing countries and remote areas.

Vale invests in professional training programs related to mining activities and other activities of the local economy. Through these programs, Vale aims to contribute to employment and income generation and diversification of the economy of the communities where it operates.

9.8.2 Relationship with communities

At all stages of the company's ventures, from the start to the closing of operations, Vale counts with an Institutional relations and communications team. There are programs for establishing relationships with the communities that are based on a permanent and participatory dialogue between the community and Vale. Programs include visits to mining communities, meetings with leaders and participatory forums. In addition, it is intended to establish a direct and transparent dialogue with not only the community but also with the local government in order to build a harmonious relationship.

9.8.3 Relations with traditional communities

Vale gives special attention to the traditional communities in the localities where it operates. The basic guideline of the Interaction Program with Indigenous Communities is to ensure that the benefits generated by the project are enjoyed by the indigenous communities, respecting their cultural traditions in order to avoid, minimize or offset any adverse effects that the activity may stimulate.

9.8.4 Culture appreciation

It is understood that anyone can contribute and participate in programs of recovery, revitalization and protection of cultural property. Projects are supported and agreements settled to the restoration of cultural and archaeological heritage of places where it operates. An example is the project of rescuing the language of the Kanak communities.

Besides these programs, implanted directly in the units, Vale Foundation works for the development of communities where Vale is present, helping to empower people and respecting local cultural identities through social programs structured.

9.9 Investment in Infrastructure

Over the past three years, the amount applied was approximately \$ 169 million. There is a fall in the investment in infrastructures in 2008 due to the completion of current projects.

In the following years, southeastern Pará may have significant investments to remedy deficiencies in existing social infrastructure and prepare the region for a projected economic growth of 18% per year. To deal with these investments, the municipalities have counted with an ability of own investment which may have generated gross savings of \$504 million between 2006 and 2010.

This is one of the main conclusions of the Integrated Socioeconomics Diagnostic of Southeastern Pará, a study made between 2006 and 2007, by Vale and Vale Foundation, under the auspices of *Diagonal Urbana*, a Brazilian consultant, specialized in integrated social management that counts with the participation of communities.

Although a significant structural deficit, the Southeast of Pará has great opportunities for sustainable development. After all, it is one of the richest regions of the world in natural resources and one of the major mineral provinces in the world. Since it has begun operations in the region, in the 80s, Vale has been supporting the development of the municipalities that are in its area of influence, while helping to preserve an area of 8 thousand km² of native forest in *Mosaico de Carajás*.

Investments in infrastructure, urban sanitation, education and culture have contributed significantly to the development of the region. Even the company's growth over this period brought more opportunities for skills and employment for residents, more business for local suppliers and increase tax collection by government agencies, contributing to the local socioeconomic development.

Vale has currently 15 projects in the area and intended to make new investments, trying to reach the total value of U.S. \$13 billion (from 2003 to 2010). To increase its presence and be more effective and socially responsible, Vale and its Foundation have decided that, first, it was necessary to know the region, understanding the present moment and projecting the future in the region.

Diagnostics marks only the beginning of the *Plano de Gestão Integrada em Socioeconomia do Sudeste do*

Pará (an Integrated Management Plan for Socioeconomics of Southeast of Pará), which also includes the steps of preparing and implementing the Action Plan. The Plan, which is already being prepared in 2007, determines what should be done in the investments area and how each party should participate. The action already implemented is a stage of implementation of improvements, including efforts to seek financing. "This is a powerful tool that allows Vale to contribute to the sustainable development in regions where it operates", according Vale Foundation. The Plan includes six municipalities (*Parauapebas, Canaã dos Carajás, Curionópolis, Marabá, Ourilândia do Norte and Tucumã*), and influences the *Eldorado dos Carajás*.

9.10 Health and Safety Activities and Policies

In 2007, Vale has continued to carry out the strategy for health and safety through various activities, among which are:

- Policy Review Health and Safety - the new text of the policy specifies the commitments and the basics of managing Health and Safety, which embody the value of respect for life.
- Elaboration of Requirements for Systemic Health and Safety - the standard defines what must be done to ensure the proper development of the organizational processes of Vale. These requirements stem from the Health and Safety Policy and its Principles. They are the ones that underlie the procedures, tools and performance indicators of health and safety management.
- Elaboration of Requirements for Critical Activities (RACs) - The requirements established for the execution of critical operational activities, with the purpose of preserving people's lives, ensuring the integrity and protect health in all areas of the company, so as in its subsidiaries and affiliates. The 10 activities of greater risk appetite for Vale are working at height, motor vehicles, mobile equipment, blocking and signalling, cargo handling, confined space, machine protection, slope stabilization, and detonated explosives and chemicals.
- Implementation of Information System Health and Safety - in order to improve the management and flow of information from Health and Safety, begins the deployment of a single information system for Vale in Brazil. The tool will support management decisions, according to the results of business areas.
- Membership in the Global Business Coalition on HIV / AIDS, Tuberculosis and Malaria - GBC (Global Business Coalition against HIV / AIDS, Tuberculosis and Malaria) - joins the group of more than 200 member companies of the GBC, an organization aimed at mobilizing resources for initiatives for combating and prevention of HIV / AIDS, tuberculosis and malaria.
- Event "Construction" - in June and July 2007, approximately 2.5 thousand leaders in Vale gathered in 19 cities of Brazil, to build together the foundations of a culture of prevention in health and safety.

The new Health and Security Policy of Vale, released in March 2008, establishes the following commitments:

- To control all risks associated with activities, processes, facilities, products and services.
- To act proactively in managing risks to health and safety of persons and facilities.
- Meet the legal requirements of health and safety and to take voluntarily.
- To continuously improve the performance in health and safety through the improvement of activities, processes, products and services, focusing on the use of innovative solutions and developing people competences.
- To encourage the development of performance in health and safety service providers.
- To maintain communication channels with the communities where operate and other stakeholders, so as to remain always alert to the influence of its operations in the health and well-being of people.

Since 2006, the performance goal of workplace safety (accidents with remote and internal corporate standards) is tied to variable pay of employees. In 2007, the process changed so that in contemplating the health data. The set of actions already implemented and the beginning of the process of cultural transformation have already shown some results.

Between 2005 and 2007, various measures to improve management of health and safety are implemented, for example, setting targets covering issues of health and safety for all departments and the intensification of awareness campaigns.

Starting in 2007, a process of improvement of registration procedures and data collection on health and safety began. The standards of classification of accidents were implanted according to the rules Occupational Safety & Health Administration (OSHA), the Agency for Safety and Health at Work in the United States, and several initiatives for training and for employee's awareness were held in order to standardize the recording of information.

With the implementation of this process, in 2007 some improvements were got.

Regarding the rate of accidents with lost time, a significant reduction was got over the period 2005 to 2007. This means that the accidents of greater severity were reduced. The perspective is that in the coming years, accident rates may continue to reduce, both because of the improvements implemented as because of the stability in the form of gathering and recording data. In this sense, the participation of Vale began in a working group of ICM (SCHEBenchmarking) in order to align indicators of health and safety and occupational hygiene.

With regard to risk prevention and health guarantee, Vale maintains a rigorous system for identifying health risks in all its units. The goal is to use this information to the creation of specific programs that can be deployed, promoting an attitude of prevention by employees, relatives and the communities in which Vale operates. By the end of 2007, risks for the following diseases were identified:

- Occupational: musculoskeletal diseases, back pain, risk of hearing loss and pneumoconiosis.
- Endemic: intestinal parasites and diseases carried by animals, dengue, malaria, *chagas* diseases, yellow fever, hepatitis A and B, HIV / AIDS, leishmaniasis, and worms. Among the programs maintained by the company are: campaign to prevent sexually transmitted diseases - STD / AIDS, World Day to Combat AIDS, workshops on alcohol and smoking, and prevention campaigns against cancer and diabetes; support group for diabetics, hypertensives and people with cardiovascular risks; program of gym work, education program affective-sexual (Vale Youth - developed by Vale Foundation), aimed at young people from nearby communities in order to guide the sexual life and preventing the occurrence of sexually transmitted diseases; campaigns of vaccination against influenza, and inspections to prevent and treat dengue and yellow fever. Besides these initiatives, Vale offers health plans to its employees and third parties as described in the job session and People Development. Such efforts have earned public recognition. The Healthy Living Program, of Albras, won in 2005, the Social Value Award (jury of experts and jury) in the category "Quality of Working Environment" and, in 2007, Lennart Levi Award in the category "Poster Enterprises", VII Congress of Stress of ISMA (International Stress Management Association). Vale invested U.S. \$ 25.2 million by the mid 2009. According to the testimony of some local politicians, royalties would be a form of compensation to alleviate the problems acquired with the implementation of Vale projects in EPC. The royalties would also help to solve problems such as sanitation, health, etc., that are considered by municipalities as socially critical areas, which solutions would not be viable only with the transfers from state and from Union resources.

10. Conclusion

It is too early to gauge the results of this strategy. The impact of the conduct of social responsibility, especially in this aspect of environmental sustainability can only be realized in a longer period. In any case, and a perspective that brings us closer to an ex-ante, it is possible to draw attention to the conclusive following notes.

Companies with management strategy which believe in ethical and solidarity with their colleagues and with the Community share these processes as an important "capital".

Social responsibility is certainly not just philanthropy, but can/should also include this activity. Increasingly, social responsibility, in general, and promoting environmental sustainability, in particular, carries out an operation more effective if integrated into the

global perspective of business and relationship with their environs.

The establishment of the whole strategy around climate change and policies considering the communities welfare allows to avoid dispersion and to avoid to stray image of a policy or meaningless policy without clear objectives. It reinforces the brand image with a seal of pertinence and internal coherence that enables more effective performance.

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On the Use of Discounted Cash Flow Method on the Customer Valuation

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Abstract: The Discounted Cash Flow Method has been widely argued as the best method to asset valuation. This article is about the valuation of customers. The use of historic customer profitability and the Discounted Cash Flow Method to customer valuation are discussed. Moreover, the components of customer lifetime value is presented and described.

1. Introduction

The 80s decade is characterized by the customer revolution, in which the main idea is the focus on customers rather than on products (Boyce, 2000). For a long time, the dominant philosophy was that “customer is always right” and thus managers focused in satisfying the customer needs and improving the customer satisfaction. This period is designed as “traditional marketing strategy” by Gupta and Lehmann (2005). According to these authors, a new paradigm has emerged, which they denominate “customer-base strategy”. Whereas in the first paradigm the main concern is the value that a firm provides to a customer, the second paradigm emphasises the two sides of customer value, that is, the firm should invest to provide value to the customer and, in counterpart, the customer should provide returns to the firm and its shareholders (Bolton and Tarasi, 2006). As such, this is an evolution from the “customer is king” to the “customer is cash” (Boyce, 2000).

Nowadays researchers argue that customers should be viewed as assets of firms (e.g., Blattberg *et al.*, 2001; Dhar and Glazer, 2003; Gupta and Lehmann, 2003, 2005). Moreover, some researchers argue that customers are intangible assets of firms (e.g., Dhar and Glazer, 2003; Gupta and Lehmann, 2003) because customers are not owned by the firms. In fact, firms only have a relationship with them, and even this relationship might be not exclusive (Dhar and Glazer, 2003).

Considering customers as assets, some authors point out that it is crucial to calculate their financial value to the firm (e.g., Boyce, 2000; Gupta and Lehmann, 2003; Jain and Singh, 2002; Malthouse and Blattberg,

2004). The idea of valuing customers arose some decades ago. Even though the customer valuation has been subject to a great development (Bell *et al.*, 2002), it has not been widely applied, due to the necessity of enormous amount of data and sophisticated models (Gupta and Lehmann, 2003). Furthermore, being intangible assets, customers are difficult to evaluate with precision (Gupta and Lehmann, 2003).

2. The customer value

Customer valuation has been mainly based on the principles of contemporary finance of assets' valuation, more precisely the discounted cash flow method (DCF) method. The DCF method was proposed by Rappaport in 1986 and became popular in corporate valuation.

The customer value is usually called customer lifetime value (CLV). Other denominations have been used, such as customer profitability (Jain and Singh, 2002), economic worth of a customer (Berger and Nasr, 1998) and expected customer future value (Pfeifer and Farris, 2004).

Many customer value definitions and calculation formula were proposed in the literature. Nevertheless, the majority of proposals is based on one of the following formulas:

$$CLV = \sum_{t=1}^T \frac{revenues_t - costs_t}{(1+i)^t}$$

and

$$CLV = \sum_{t=1}^T \frac{cash\ flow_t}{(1+i)^t}$$

Nowadays, customer lifetime value is the most popular customer measure because it is forward-looking, includes all the elements of customer profitability and it is an essential element of the customer-centric paradigm (Kumar and Shah, 2004). In fact, customer lifetime value has become a

buzzword in the last decade (Nasr-Bechwati and Eshghi, 2005).

Customer lifetime value is a more powerful measure than historic customer profitability analysis, because customer lifetime value looks at the future potential of the customer, whereas current and past profitability is not forward-looking (Boyce, 2000; Jain and Singh, 2002). Customer profitability is the difference between revenues and costs associated with the customer during a specific period of time (Boyce, 2000) and this measure is calculated on a single period basis, usually the last economic year (Ryals, 2006). In this way, unlike customer lifetime value, customer profitability is not a good basis for developing marketing strategies (Ryals, 2002).

The process of customer lifetime value calculation should take into consideration the cash flow patterns (Nasr-Bechwati and Eshghi, 2005), the relationship birth, purchase activity, and the defection (Reinartz and Kumar, 2000). Therefore, the exact customer lifetime value calculation is contingent on several factors and firms should identify the model that best fit their situation (Kumar *et al.*, 2006).

Customer lifetime value has been widely studied and, as a result, a huge number of models are available in the literature. The sophistication of the models varies a lot, since simple models to more complex ones, which aim to incorporate the complexities of the real business situations. Several researchers have intended to evaluate the customers, estimating their lifetime value, but the majority of them only proposed formulas to evaluate the customer value (*e.g.*, Berger and Nasr, 1998; Gurau and Ranchhold, 2002; Pfeifer and Farris, 2004). Most of researchers neither present methods to forecast the customer lifetime value components nor indicate the necessary data.

3. The components of customer value

As presented above, the mathematic formulation of CLV is based on the discounted cash flow method, which was imported from the finance theory. From an analysis of the CLV formulas proposed in the literature, it can be concluded that the most common components are: (i) cash flow, (ii) retention rate, and (iii) discount rate. An analysis of each of these components is presented below.

Some researchers argue that customer lifetime value is based on the difference between customer revenues and customer costs (*e.g.*, Calciu and Salerno, 2002; Gurau and Ranchhod, 2002; Mulhern, 1999), while other propose the contribution margin¹ (*e.g.*, Berger

and Nasr, 1998; Malthouse and Blattberg, 2004; Reinartz and Kumar, 2000). Nevertheless, according to the financial theory, the value of any asset is the present value of its cash flows (cash inflows minus cash outflows) over time. Few researchers have accurately applied the cash flow concept on customer lifetime value.

The concept of cash flow is quite different from those of revenues and costs, and it is very important to have in mind their differences. Revenues are economic resources earned during a time period; they occur when the product or service is provided. In some cases, the product or service is provided but the firm has yet to receive cash; so, cash inflow occurs later than revenues. On the other hand, costs are economic resources used up in a time period and they occur at the moment of resources' consumption. In many cases, costs are paid in a time period different from their consumption, *i.e.*, the time period of costs is different from that of cash outflow.

The allocation of specific cash flows to the customer relationship is a very difficult task (Gupta *et al.*, 2006; Pfeifer *et al.*, 2005; Ryals, 2006), because the product-based accounting prevails on a great number of firms and the cost allocation to customers is sometimes subjective. Boyce (2000), Gupta and Lehmann (2005), and Stahl *et al.* (2003) emphasize that a customer-based accounting is fundamental to an appropriate customer-oriented management. Ryals (2002) mentions that current technology can help the record of the customer-specific costs. Wiesel *et al.* (2008) propose a customer equity reporting approach, which consists of a "customer equity statement" and a "customer equity flow statement". They developed a specific model for an e-business firm.

The following Table presents the components of cash flow as stated by corporate finance.

Table 1 – Components of cash flow

A. Cash Inflow
Operating cash flow
Residual value of working capital
Residual value of Capital Expenditures (CAPEX)
B. Cash Outflow
Net change in working capital
CAPEX
C. Cash Flow [A-B]

Operating cash flow is the difference between operating inflows and operating cash outflows. It can also be computed as shown on Table 2.

Table 2 – Components of operating cash flow

¹ According to the accounting theory, the contribution margin is the difference between revenues and variable costs.

$\begin{aligned} & \text{EBITDA}^2 \\ & - \text{Depreciation and Amortization} \\ & = \text{EBIT}^3 \\ & - \text{Taxes} \\ & = \text{EBIAT}^4 \\ & + \text{Depreciation and Amortization} \\ & = \text{Operating Cash Flow} \end{aligned}$
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Nevertheless, past research has given emphasis only on customer revenues and costs and the others components of cash flows have been neglected.

Some researchers argue that one of the most important components of customer value is the retention probability of the customer at each period, which should influence the customer cash flows. The retention probability is the probability of the customer continues to do business with the firm. This probability has been widely designated in the literature by retention rate, which complement is the defection rate or customer attrition.

The discount rate is the rate used to transform expected future cash flows into a present value. The discount rate has to reflect the riskiness of the cash flows (Damodaran, 2002). It means that the evaluation of any asset (including customers) has to comprise both its return and risk. If customer risk is ignored, when a firm compares their customers based on their value, only returns are taken into account, and, consequently, firms are likely to take incorrect decisions, which may result on a huge customer portfolio risk.

4. The most common assumptions in the customer lifetime value computation

It is usual to find customer lifetime value estimates based on assumptions that are misadjusted to the business reality as well as to the financial theory of assets evaluation. Some of these assumptions are: constant margin over time and across customers, constant retention rate across customers and over time, constant acquisition cost per customer, and constant number of customers over time.

5. Customer lifetime value applications

Customer lifetime value models can be applied in several types of decision making, from operational and strategic marketing decisions to strategic decisions of the firm. Some of the most cited

customer lifetime value applications in the literature are:

- Customer segmentation;
- Ranking the customers;
- Identification and distinction of the more profitable customers from the less profitable ones;
- Customer selection in acquisition and retention process;
- Marketing resource allocation across customers;
- Marketing resource allocation between customer acquisition and customer retention;
- Different decisions about customer acquisition and customer retention;
- Determination of the type and degree of relationship the firm wants to develop with its customers;
- Targeting and managing unprofitable customers;
- Design of marketing programs;
- Guidance for marketing investments and consequently, to maximise the return on marketing investments;
- Choosing the medias for communicating with customers and the frequency of communication;
- Analysis of the effects of different actions of the firm;
- Customer base valuation;
- Management of the existing customer base;
- Development of marketing strategies to maximise shareholder value;
- Firm valuation;
- Customer strategic planning;
- Decisions about mergers and acquisitions.

6. Conclusions

Even though the majority of proposed formulas for customer lifetime value computation is deterministic and, in our opinion, characterized by a more simplistic point of view than the generality of firm/customer relationship situations, the customer lifetime value concept has been applied in some different situations. Furthermore, customer lifetime value modulation has been widely criticised in the literature, mainly due to the incapacity of encompass all the variables that affect customer behaviour. As such, we argue that the development of stochastic models to compute the customer lifetime value is an imperative, and the unobserved heterogeneity need to be tested.

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² EBITDA – Earnings before interests, taxes, depreciation and amortization

³ EBIT – Earnings before interests and taxes

⁴ EBIAT – Earnings before interests after taxes

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Rights Based Management and the Reform of the Common fisheries Policy: The Debate

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Abstract: Besides some interesting results, the Common Fisheries Policy has not delivered a sustainable use of fish resources. Recently, the Pew Environment Group released a study that finds that E. U. fisheries have failed to reduce fleet capacity thus exerting fishing pressure on stocks at two/three time sustainable levels. Overcapacity and overcapitalisation of the sector was identified as the principal failure of the CFP.

This conclusion may be well important in the CFP reform (2012) and put again the discussion about the tools that can be used to get sustainable management and better cohesion.

The idea of creating markets for fishing rights as a means of internalising the externalities derived from the common property nature of fisheries have received considerable attention from the founding fathers of Law and Economics and Fisheries Economics such as Coase, Scott and Christy. Rights Based Management schemes have already been experimented in some specific fisheries and localizations. These experiences have a lot of teaching results about good practices of sustainable fisheries management and also about the limitations/risks of these tools. These conclusions are fundamental to explore the feasibility of these tools.

The purpose of our study is to enter this debate and investigate the feasibility of introducing these new management regimes in the CFP.

Key Words: Fisheries, Rights Based Management, Individual Transferable Quotas, Common Fisheries Policy

1. Introduction

Recently, the Pew Environment Group released a study that finds that E. U. fisheries have failed to reduce fleet capacity thus exerting fishing pressure on stocks at two/three time sustainable levels. Overcapacity and overcapitalisation of the sector was identified as the principal failure of the Common Fisheries Policy (CFP).

This conclusion may be well important in the CFP reform (2012) and put again the discussion about the

tools that can be used to get sustainable management and better cohesion. In a drafted "Green Paper" on the Reform, the European Commission is launching a wide, no-hold-barred consultation to the national administrations, stakeholders, researchers and other interested people. The objectives are to discuss the problems of this CFP and to explore the alternatives of change and the ways forward the new reform of fisheries policy.

The principle of "Relative Stability" shapes the Common Fisheries Policy. Nowadays, the conservation and management regime of EU fisheries is based upon TACs and quotas. But, in recent years, much attention has focused on ITQs (Individual Transferable Quotas) and other Rights Based Management regimes as an approach that will encourage more efficient use in fisheries by the allocation of private property rights. One important issue in the debate of CFP reform is, precisely, the introduction of ITQs and other similar RBM schemes. Our paper is a contribution to this debate. The paper investigates the feasibility of introducing these new management regimes in the CFP. Our fundamental issues are - if, and how, can we deal with the problems of conflicting objectives in the fisheries policy and what will be the impacts of such a policy in terms of European cohesion.

2. E.U. Fisheries: The Current Situation

Since the early 80s, when "Blue Europe" was settled, almost three decades have passed and the Common Fisheries Policy is confronted with major challenges. Some elements of the CFP were reviewed in 2002, and now, the Commission decided to seize the opportunity of passing another decade to undertake a new reform of this Policy.

Two fundamental causes explain the current state of European fisheries: *internal systemic weakness* of the management and conservation regime and *external challenges*.

CFP has not delivered sustainable exploitation of the resources. Conservation policy fails. Many stocks are outside safe biological limits. If current trends subsist, many stocks will collapse. They've been exploited too heavily, particularly the demersal stocks. At the same time, fishing capacity went on growing. Illegal fishing

and the lack of effective enforcement are also notable elements of this picture.

This situation isn't specific to the Community. In fact, worldwide concern about over-fishing and overcapacity in the fisheries sector is well documented. The economic fragility of the sector, reflected in poor profitability and declining employment, is the result of a special conjunction of over-investment, rising costs and diminishing resource stocks.

At the political level, the difficulties, associated with the design and implementation of a regulatory system, are substantial:

- social constraints,
- diversity of socio-economic structural conditions of the fisheries sector in the member states,
- lack of involvement of the stakeholders in the management policy.

External challenges are, also, present in the explanation of this situation. The enlargement of European Union and the globalisation of the economy, the emergence of new players in world fisheries (especially coastal developing countries) and the increased focus on the environment are, perhaps, the most visible.

In the international scene, the CFP is confronted with a "creeping jurisdiction" process - the slowly slide to the coastal countries' jurisdiction of many resources which were usually "common-property". After the relative calm that succeeds the approval of the Law of the Sea (1982), conflicts and tension increased, in the 90s.

This picture is not entirely negative. CFP had positive results. It has managed the resources and contained conflicts at sea, provided some degree of stocks stability and avoided the total collapse of stocks in areas with higher pressure and assured the availability of supplies to the Europeans. However, according to the Commission, these results have been achieved at a high price in terms of the long-term viability of the sector and with inefficiencies in the allocation of resources that, perhaps, could have been more profitable if they were addicted to other sectors in the global European economy.

The critical problem is that the fleet profitability is jeopardised by the under-utilisation of investments. The excess capacity and a more-or-less constant value of landings to be shared between a large number of actors, reduces the capacity of each vessel to earn an adequate income. In this context, the subsidy policy, artificially reducing the costs and risks of investment, in an already over-capitalised industry, promoted over-supply of capital.

Recently, the Pew Environment Group commissioned a study (see the Report of Poseidon Aquatic Management Ltd, 2010) assessing the economic, environmental and social impacts of the Financial Instrument for Fisheries Guidance, from 2000 to 2006. The study finds that E. U. fisheries have failed to

reduce fleet capacity thus exerting fishing pressure on stocks at two or three time sustainable levels. The members evaluated in this study accounted for more than 90% of the European fisheries subsidies (that amounted to 3,2 billion Euros). The key objective of the structural policy, that was to bring the fishing capacity of the European fleet into the line with the available biological resources, was not attended. Overcapacity and overcapitalization of the sector was identified as the principal failure of the CFP. The study also highlights that member-states failed to take environmental and social concerns into consideration when allocating public funding. This conclusion may be well important in the CFP reform and put again the discussion about the tools that can be used to get sustainable management and better cohesion.

3. A "Comprehensive" Fisheries Policy

The Management and Conservation Regime of fisheries in the European Union is, to a high degree, the result of an historic process with multiple compromises among national devices and political interests. But, to look at the CFP as a simple, empirical result, of a day-to-day experience, is an error. Understanding the current difficulties is not possible without paying attention to the philosophy of intervention underlined in the options of 1983, when "Blue Europe" was settled.

The analysis of some basic documents and initial proposals of the Commission, in the 70s, allows identifying the philosophy and theoretical purposes that, implicitly or explicitly, were subjacent to the definition of the common fisheries management regime.

Since the beginning, two basic alternatives for the formulation of the European fisheries policy were to be considered. At one extreme, a liberal policy that should only establish competition rules in a common market; at the other, a policy of effective intervention, administered at a superior level, which could manage the resources in a perspective of equilibrium between the dynamic, biological conditions of fish growth and the economic conditions of resource use.

The Commission choice on the second was very clear: the necessity of a "comprehensive" fisheries policy was obvious. This choice rested upon the presupposition that free access (central to the Treaty of Rome) would lead to the overexploitation of the resources. This conviction was explicitly made: "The straightforward implementation of the principle of equal access is bound to result in the rapid exhaustion of resources; the consequences of such a situation would be unacceptable" (SEC (1975) 4503 final, p. 9). Of course, that was a real problem for the Commission. Having the responsibility to assure the principles of the Treaty, it was out of discussion the opposition to the "equal access" principle. But, the fear of the "fishing race" and "overfishing" problems justified an intervention policy that could regulate the

activity in the sector and obviate the perverse effects of open access.

For such a policy to be feasible, it needed a central authority. That involved a supranational management of resources because, allowing free arbitration of the sector development by national states, could lead to discriminatory action and poor enforcement and control.

In this context, we can also understand the purpose of the designed Common Structural Policy. This policy could help the poorest (and most dependent on fisheries) coastal areas in Europe by funding the modernization of the obsolete fleets of some member states. The so-called "fisheries fund" (Financial Instrument for Fisheries Guidance) was, in this sense, one of the fundamental elements of a real policy of structural reform but also of inclusion and cohesion in Europe, in what concerned the fisheries.

Settled the philosophy of intervention, the discussion then turned to the management tools. The choice was on command and control instruments (direct, non-economic regulation instruments). The control of catches and selectivity in fisheries, with the establishment of TACs and quotas, and technical measures of conservation (closed seasons, closed areas, minimum dimensions of fish caught and so on) were the preferred forms of regulation.

The motives of this option were based on several reasons that included an implicit evaluation of the advantages of this kind of controls vis-à-vis other regulation alternatives, namely, those usually designed as indirect-economic tools, like taxes or ITQs, whose principal objective is efficiency in resource use.

At least, five fundamental reasons made the justification of that choice.

First, the Commission recognised that a common policy had costs and generated a lot of administrative problems. The advantages of direct controls were clear. The design and control of these tools were simpler. The necessary biological information existed. The Community could count on the experience of organisations like CIEM, NEAFC or NAFO. On the other hand, the implementation of the regulation was a task that the Commission could not develop without the collaboration of the national administration services. The diversity of those, in terms of structure and efficiency, implied the existence of a simple and clear regulation, of unquestionable scientific hardness, as a pre-condition for an effective implementation. Of course, a policy based on economic tools should bring problems almost insurmountable: exigency in information, high transaction costs in the preparation and negotiation of regulation, doubtful capacity of execution of the administrative staffs in several member states.

Second, the political constraint. Despite its complexity, this issue can be put in a simple manner. Taxes and other economic tools, which are very exigent in political negotiations, were simply abandoned. For example, difficulties in tax harmonisation in EU are well known. Taxation is a sensible question, seen as a domain of national

sovereignty. All concessions in this field are problematic. Direct controls are less exigent and facilitate the compromises.

Third, the problem of control and enforcement. The Commission has always given this question a central role in the Common Policy. Reasons are obvious. The Commission put the problem in ethics terms: "It's the only way to assure that the sacrifices of some member states in the recovery of the stocks are not in vain because of the irresponsible action of others". Once again, direct controls had advantages. Enforcement was easier with simple regulation that agents could understand, less costly in administrative terms, and, if there existed effective means of inspection, evasion was minimized.

Fourth, the Commission's preoccupation with uncertainty in stock evolution and environmental and economic changes, made the need for flexible tools. The possible necessity of urgent actuation in situations of environmental crisis, gave the direct-control tools a strong advantage, because they were easier to manage and modify.

Finally, the Commission emphasised the objective of minimising the social costs of the fisheries policy. In an original proposal of September 76, the Commission explicitly expressed the preoccupation with social inclusion in the fisheries sector and with the European cohesion. In the opinion of the commissioners, the management regime should assure "an equitable distribution of the limited resources between the member-states", and "maintain, as far as it is possible, the level of employment and income in the coastal zones and in the areas mostly dependent on fisheries". The European Parliament made pressure in this way, too, stating that the biological basis on which conservation and management regime should rest upon, could not be more than a starting point and, at least in the short run, the guarantees of employment and social inclusion were irreplaceable objectives. It is true that direct controls could not avoid the sacrifices of fishermen, unemployment and social tension. However, the reaction to other management economic tools that result in the abandonment of the less efficient producers, could be worst.

Facing these constraints, the answer was very clear: A system of TACs (total authorized capture) and quotas was a simpler solution for the problems of equitable distribution of fishing opportunities, depending only on the quotas distribution formula between member-states. This formula of definition and allocation of use rights in European fisheries is now dependent upon several factors, like the dependency on fisheries of some coastal areas, level of employment and redistribution of quotas by means of minimising the effects of Extended Fisheries Jurisdiction on distant water fisheries. This is the so-called Principle of Relative Stability that shapes the Common Fisheries Policy. It can be seen as a means of establishing a balance between the promotion of economic efficiency, in the long run, and the necessary social-economic equilibrium in the coastal areas, in the short run.

4. The Reform of the CFP

Besides the “balanced” fundamentals of CFP, this economic and juridical construction did not obviate the results we highlighted in the first part of this paper. As we said, the choice of direct control tools, in the regime that was designed in 1983, means that those instruments were, implicitly, better evaluated. But there were costs. Direct controls do not eliminate “common property” externalities. These tools can help the recovery of stocks but they do not exclude competition and inter-temporal rationality is not imposed to the agents. So, inefficiency is maintained and overcapacity and overexploitation persists.

What is interesting to analyse, now, is the following: Recognising the difficult situation of the fisheries sector and the management problem, the EU went on a great effort of reforming. Last Reform of 2002 pretended to mark a new beginning for the CFP. The main changes implicated:

- a long term approach in fisheries management,
- a simpler policy of fleet capacity, putting on the Member states the responsibility of reduction of the fishing effort and of adapting it to the existing resources,
- a better application and enforcement of common rules,
- stakeholders' involvement.

But some problems subsisted. In our opinion, in the core, they had to do with the persistence of conflicts between objectives. One of the most relevant is the problem of the contradiction between decreasing fishing effort and the need of maintenance of jobs and of some socio-economic balance in the coastal areas. The maintenance of decent standards of living for fishermen would demand increases or, at least, the same level of captures. Such seems to be contradictory with the urgent need of stock recovery.

4.1. Quota Hopping and “The Pure Question of Democracy”

The so called “Quota Hopping” problem is a very good example of our doubts and preoccupations.

In the centre of the problematic we find (again) the Relative Stability principle. The fixed formula of quotas distribution between member-states reflects the fact that European fishermen representation is still linked to national and local communities. But this territorial logic is in perfect contradiction with the development conditions of a free market (as supported in the Treaty). In fact, free movement of capital and the “Free Establishment” principle rest under a different logic.

“Quota-hopping”, usually understood as the flagging of fishing vessels in order to fish against the catch quotas of another country, is a by-product of CFP. By purchasing vessels and quotas in different countries,

some fisheries enterprises act like perfect multinational firms capturing fishing stocks that were supposed to belong to national fishing communities.

UK situation gives a “good” example. Although not restricted to this member state, it is the case of UK fleet that has attracted the most foreign investment, especially from Spain and Netherlands, and gave the phenomenon visibility for discussion. Something like 25% of British quotas were held, in the end of the nineties, by foreign-owned quota-hopping vessels.

This situation represents an important critic of the stakeholders to the CFP rules. They attacked the way the quota system is being circumvented by the so-called “flag” ships, which are vessels owned in one country but registered in another to allow access to its waters.

“Quota-hopping” analysis may give important lessons for CFP reform. The first lesson has a special interest for several Social Sciences, from Sociology to Politics, from Economics to History. In fact, this is a good field to investigate the dichotomy between a national oriented policy and the process of de-territorialisation arising from single market construction. We can observe how quota hopping emerges under the incompatibilities between the transnationalization process promoted through the “Europeanization” of EU policies and the territorial logic claimed by the national governments.

In this context, an important issue is revealed that, perhaps, surmounts the CFP, itself. That's the pure question of democracy: how can economic powers, in the process of market development, pass over the political decisions made by the democratic, elected institutions? And, in a certain sense, surmount the objective of cohesion that was implicit in the supranational management? In such a policy, both government and non-governmental agents no longer have the monopoly over the political agenda. CFP is defined through permanent interactions and negotiations. The non-territorial logic of EU governance challenges the social order inherited from European welfare states. These transnational actors, using EU rules, move permanently in the search of more favorable conditions and profits. This mobility of capital encourages more competition in the European fisheries sector, and, at the same time, raises more social uncertainty in the Member states.

So, economic and social actors in the EU are no longer subject to one political authority that is able to guard the values of justice and equity. It seems that there are some actors who are playing “the rules of the game”, but, at the same time, surmounting the power of elected governments. The dynamics towards transnationalisation encourages a diffusion of power and blurs the exercise of political democratic elected administration.

4.2. Rights Based Management: The Debate

Quota-hopping analysis highlights another important subject for the future of Common Fisheries Policy: the issue of Rights Based Management.

All fisheries management systems in the world have introduced some form of use/access rights to face the problems derived from the “common property” nature of fisheries. The idea of creating markets for fishing rights as a means of internalizing the externalities derived from the common property nature of fisheries have received considerable attention by the founding fathers of Law and Economics and Fisheries Economics such as Coase, Scott and Christy. The solution is to create a market of individual transferable quotas (ITQs) and confide in the self-regulation of such a system to conduct the fisheries to the economic efficiency and to promote inter-temporal sustainable use of resources.

There are several possibilities of doing this. In general, we first need to determine the TAC that guarantees the sustainable use of the fish stock and then we can divide this total amount in several unit quotas that are distributed between the fishing enterprises. A market for quotas can also be created. The objective is that, after some time, the property rights will be driven to the most efficient agents, those that can allocate the resources in a perspective of optimal sustainable use along the time. Because they are the “real owners” they will internalize the effects of externalities.

Rights Based Management schemes have already been experimented in some specific fisheries and localizations. These experiences have a lot of teaching results about good practices of sustainable fisheries management and also about the limitations/ risks of these tools. These conclusions are fundamental to explore the feasibility of these tools as instruments of conservation in the CFP.

This kind of economic methods has a special advantage in the sense that they introduce mechanisms that should conduct the fisheries to the efficiency, eliminating the less efficient producers and changing, effectively, the agents' behavior.

ITQs are usually considered the best regulation choice on efficiency grounds. Granting the fisherman an individual quota may reduce the incentives to race for fish. We can expect:

- benefits at the capacity level and fishing effort rationalization,
- reduced fleet size and optimal vessel configuration,
- flexible and extended fishing seasons,
- higher catch-per-unit of effort.

This may, also, enhance the quality of landings and improve markets and safety operations by avoiding the landings glut, by reducing storage costs and so on.

But there are also a lot of problems. Professor Copes, in the mid 80s, when the first experiences with ITQs were evaluated, referred the problems of property concentration and, of course, the consequent problem of unemployment.

After a period of change of quotas in the market, the problem of monopolization of the sector is well documented in several fishing-cases analysis. The number of owners tends to decline in time and there may be widening income disparities.

The unemployment is a huge difficulty of this method. The abandonment of the less efficient producers creates a lot of difficulties in some coastal areas where the mostly dependent on fisheries populations live. Given the poor capacity of inter-professional mobility of many fishermen, the introduction of these methods accelerates the social crisis in those depressed maritime worlds and put in danger some important cultures and ways of living.

We can also introduce other important issues. One relates with the mechanism design of this kind of methods. For example: How can we make the initial division and distribution of quotas? A “Grandfathering” system? Auctions? Should the initial distribution take account of “historic catches” from the companies? And what about those companies that, in a certain moment, did not enter a certain fisheries, but has now a real interest in the business? For those who were in the initial distribution, the quotas seem like a “windfall gain”.

Owners of initial quota will sell at a price representing the full present value of the stream of rents generated, that is, the ones wishing to enter will have to pay, in advance, the full value of resource rents – it's what we call a “transitional gains trap”.

According to Ronald Coase, this is not a problem, because what is important is the final result. Something like the “Invisible Hand” will drive the system to the best equilibrium solution. But, in the short time? What are the social and political reactions to these uncomfortable situations?

Also, the problems of monitoring. Usually, economists highlight these methods because they introduce some kind of self-regulation. In fact, the sense of ownership should give the property-rights users, the real perception that the results of their actions will affect the net economic benefits that results from resource utilization. So, they should manage the resources in a sustainable way. But, the reality shows that, without a government control policy, a lot of problems subsist, including data fouling and quota busting, discarding, more intensive utilization of best fishing grounds, etc.

And, of course, the problem of rents distribution - the issue of *equity vs. efficiency* always marking the debate in Economics. The economic theory proves the equivalence, in terms of efficiency, between the pigouvian tax and a scheme of ITQs, but the distribution gains between agents is still different. In the first case (pigouvian tax), the rents are optimized by the regulation Agency and, in the second (ITQs), rents and welfare gains are distributed between the private agents.

Besides the theoretical discussion on efficiency grounds, still persists the practical, fundamental question. Rights based management can improve the efficiency in fisheries management. But, who will ultimately receive the gains of sustainable use of

resources. How will the rents be distributed? Who are the winners, who are the losers? “The winner takes it all?”

5. Concluding Remarks

What can we conclude about the possible generalization of these Rights Based Management schemes in the CFP? The principle of Relative Stability, which guides the allocation of fishing possibilities to the EU members, is, as we saw, an exemption from the internal market that is embedded in the CFP. However, the quota hopping is a signal that the agents circumvented this principle of territorial definition of rights. Perhaps, by setting up a transparent system for transfers of fishing rights, member states could more easily regulate and monitor such trade in use rights.

Since quota-hopping can be taken as the evidence of a desire to trade fish quotas at the EU level, we might think that a lot of inefficiencies are resulting from the actual regime of management and expect that in a new free regime of trade a clearly reduction in transaction costs would result. Of course, that would result in more economic efficiency. But, the issue of introducing a more liberal property rights trade system will have to confront the distributional effects of such a Coasian proposal.

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Growth Plans of Bulgarian Enterprises: An Empirical Investigation of Individual, Organizational and Environmental Influences

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Abstract: Extensive research on firm growth has been done in Western market-based economies (Peng and Heath, 1996). However, the research findings in Western economies may not be applicable to transition economies due to differences in the institutional environments (Peng and Heath, 1996). The research objective of this study is to identify individual, organizational and environmental influences on the presence of growth plans in a sample of Bulgarian enterprises. Our findings reveal that several individual and organizational factors are associated with the presence of growth plans. The paper provides a discussion of implications for practitioners and suggestions for future research.

Key words: growth plans, Bulgaria, determinants.
JEL code: M19

1. Introduction

During the last 20 years, Bulgaria and other countries in Central and Eastern Europe (CEE) experience profound reforms aimed at the democratisation of society and the liberalization of economy that resulted in the formation of private business sector and entrepreneurial class. Entrepreneurship and private business is considered as an important factor for the transition from centrally-planned to market economy (McMillan and Woodruff, 2002; Smallbone et al., 2001). The World Bank classifies the Bulgarian economy as an upper middle income economy, which has improved gradually the conditions for doing business during the last five years (World Bank, 2006, 2007, 2008, 2009, 2010). The Bulgarian economy has experienced strong growth since a major economic downturn in 1996 and attracted significant amounts of foreign direct investment. Despite the steady economic growth in the recent past, Bulgaria still remains one of the least developed countries in the European Union.

The factors, which underline the growth of business firms have attracted significant research interest (Davidsson et al., 2002). Extensive research on firm growth has been done in Western market-based economies (Peng and Heath, 1996). However, the research findings in Western economies may not be applicable to transition economies due to differences

in the institutional environments (Peng and Heath, 1996). Peng and Heath (1996) stress that the improved understanding of firm growth in transition economies has both theoretical contribution to the theory of firm growth and practical implications for improving effectiveness. It will also help to formulate policy measures for supporting firm growth in transition economies, which will eventually lead to higher economic growth.

The research objective of this study is to identify individual, organizational and environmental influences on the presence of growth plans in a sample of Bulgarian enterprises. In entrepreneurship research, growth intentions and plans are used as an indicator of entrepreneurial behaviour and performance (Rosa et al., 1996; Kozan et al., 2006). The use of growth intentions as a measure of entrepreneurial performance is justified because intentions are a good predictor of behaviour (Ajzen, 1991). In a transition context growth intentions and expansion plans, in particular, are found to be a good proxy measure of growth (Pistrui, 2003). As most entrepreneurial research has focused on past behaviour (Kozan et al., 2006) and determinants of firm growth are identified retrospectively, the investigation of growth intentions and plans may contribute to understanding firm growth by providing a different perspective on the growth phenomenon.

This paper is organized as follows. Section 2 presents the background and the hypotheses to be tested in this study. Section 3 describes research methodology of the study. Section 4 contains the empirical analysis and results. The last section presents discussion of the research findings and conclusions.

2. Background of the study and hypotheses

2.1. Individual influences on growth plans

Drawing upon upper echelons theory (Hambrick and Mason, 1984) we argue that CEO's age, gender, education level, previous management experience, and the organizational tenure affect the probability of the organization having growth plans. The upper echelons theory is based on the assumption

of bounded rationality (Hambrick, 2007:334). Since top executives do not dispose with perfect information to take rational decisions, their biases and dispositions are crucial for understanding the functioning and performance of organizations (Hambrick, 2007:334). Organizational outcomes can be partially predicted from demographic characteristics of executives (Hambrick and Mason, 1984:197). The theory is focused on both CEOs and other individual leaders and top management teams (Hambrick, 2007:334). Strategic choices of executives are a function of their perceptions of the situation combined with their values (Hambrick and Mason, 1984:195). Observable characteristics of executives can be used as valid indicators of their cognitive base, values and behaviours (Hambrick and Mason, 1984:196; Hambrick, 2007). Such observable characteristics include age, tenure in the organization, education, functional background, socioeconomic background, and stock ownership of top executives (Hambrick and Mason, 1984:196-201).

Davidsson (1991) argues that CEO's age and tenure are negatively related to growth aspirations. Davidsson (1991) suggests that older individuals tend to have lower objective need for additional income and are more likely to have reached their initial aspirations. Organizational tenure of top management team was found to be negatively associated with strategic change (Wiersema and Bantel, 1992:112). The chief executive officer's tenure may influence the firm's responsiveness to its environment (Miller, 1991:35). Williams and Lee (2009:1380) argue that organizations with top management teams with longer tenure are more likely to exhibit conservative entrepreneurial orientation.

H1: Enterprises managed by older CEOs are less likely to have growth plans than other enterprises.

H2: Enterprises managed by CEOs with longer tenure are less likely to exhibit growth plans than other enterprises.

Several empirical studies comparing male and female entrepreneurs demonstrate that women have lower growth intentions than men (Orser and Hogarth-Scott, 2002; Orser et al., 1998; Rosa et al., 1996). Female owner-managers are more likely to establish maximum business sizes and these sizes are smaller than those set by their male counterparts (Cliff, 1998). Gender differences may be not universal across all cultures and settings (Kolvereid, 1992). Although the majority of female entrepreneurs in CEE are growth-oriented (Wells et al., 2003; Welter et al., 2005; Isakova et al., 2006), they are less growth-oriented than male entrepreneurs (Isakova et al., 2006). Therefore, we suggest that:

H3: Enterprises managed by female CEOs are less likely to have growth plans than other enterprises.

Kolvereid (1992) suggests that highly educated and experienced owner-managers will exhibit high

aspirations in general and will be able to perceive more easily growth opportunities and cope with problems associated with growth. Empirical research demonstrates a link between human capital of the owner-manager and both growth motivation (Davidsson, 1991) and actual firm growth (Storey, 1994).

H4: Enterprises managed by CEOs with a university degree are more likely to exhibit growth plans than other enterprises.

H5: Enterprises managed by CEOs with previous management experience are more likely to exhibit growth plans than other enterprises.

2.2. Organizational influences on growth plans

Drawing upon the Resource Based View of the firm (RBV) (Wernerfelt, 1984; Barney, 1991), we argue that learning orientation, entrepreneurial orientation, access to financial resources, and the presence of foreign owners influence the probability of reporting growth plans. The RBV emphasizes the strategic role of organization's resources and capabilities for organizations and their strategy. Central to the resource-based view of the firm are the assumptions of heterogeneity and immobility of resources (Barney, 1991). Resources may differ across firms in an industry or a group and some firm may be unable to purchase or create strategic resources held by a competing firm (Barney, 1991). The theory advocates that rare, valuable, inimitable, and non-substitutable resources may be sources of sustained competitive advantage (Barney, 1991).

Davidsson (1991) posits that growth motivation is enhanced and firm growth is pursued if owner-managers feel that they are able to bring about the desired growth. Actual firm growth depends on availability of financial resources for growth (Covin and Slevin, 1997; Storey, 1994; Cooper et al., 1994). Becchetti and Trovato (2002) conclude that growth potential of small firms is limited by the availability of external finance. Carpenter and Petersen (2002) find that firms that are able to obtain external finance achieve growth rates far above what can be supported by internal finance. They conclude that the use of external finance may relax the internal finance constraint.

H6: Good access to financial resources increases the likelihood of having growth plans.

Learning orientation is a critical resource, which top managers may use in order to achieve growth in the organization. Learning orientation is conceptualized as "the value that a firm places not only on adroitly responding to changes in the environment but on constantly challenging the assumptions that frame the organization's relationship with the environment" (Baker and Sinkula, 1999:412). Slater and Narver (1995:66) argue that learning orientation should lead to greater new product success and superior growth.

H7: Higher learning orientation of the enterprise increases the likelihood of having growth plans.

Entrepreneurial orientation may be necessary for achieving growth in organizations. There is a link between growth strategy and corporate entrepreneurship (Zahra, 1991:264). The realization of an internal-growth strategy requires extensive innovation and venturing in all functional areas within the organization, while the realization of external-growth strategy requires expansion of the scope of business and markets (Zahra, 1991:264). Empirical evidence confirms the positive association between growth strategy on and early introduction of new products (Zahra, 1993) and corporate entrepreneurship (Zahra, 1991).

H8: Higher entrepreneurial orientation of the enterprise increases the likelihood of having growth plans.

2.3. Environmental influences on growth plans

In this sub-section we suggest that environmental dynamism and industry sector may affect the presence of growth plans. The Population Ecology Theory posits that environmental characteristics largely determine the survival of organizations through selecting the fittest organizational forms (Hannan and Freeman, 1977, 1984). Organizations face both internal and external constraints on their capacity for adaptation (Hannan and Freeman, 1977, 1984). The presence of considerable structural inertia in organizations makes adaptation less likely than environmental selection (Hannan and Freeman, 1977, 1984). Structural inertia derives from various internal and external factors. Selection favours organizational forms with high inertia because they exhibit high reliability, accountability, and reproducibility (Hannan and Freeman, 1984).

Table 1: Description of the variable used in the study.

Variable	Definition
GROWTH	1 = the company aims to expand its business activities; 0 = other
CEO_age	the age of the CEO in a number of years
GENDER	1 = woman 0 = man
CEO_edu	1 = university degree, 0 = other
CEO_tenure	CEO's tenure in the organization in a number of years
CEO_exp	1 = the CEO has previous management experience 0 = otherwise
FIRM_AGE	the age of the company in a number of years
SIZE	1 = more than 249 employees (large company); 0 = less than 250 employees (micro, small or medium-sized enterprise)
EO	9-item, 7-point Likert scale (Covin and Slevin, 1989)
RESOURCES	1 = the company has good access to financial resources; 0 = otherwise
LO	11-item, 7-point Likert scale (Sinkula et al., 1997)
FOREIGN	1 = the presence of foreign owners; 0 = other
MANUFACTURING	1 = the company operates mainly in manufacturing sector, 0 = otherwise
SERVICES	1 = the company operates mainly in service sector, 0 = otherwise
DYNAMISM	4-item, 7-point Likert scale (Miller, 1987)

Companies in transition economies may lack managerial and entrepreneurial skills. Foreign investors in Central and Eastern Europe may transfer products and marketing skills, technology and management skills, and know how to local companies, which may improve their product lines and market penetration (Uhlenbruck & De Castro, 2000) and thus may increase both their growth aspirations and actual growth rates. Foreign ownership in companies operating in Central and Eastern Europe may be associated with high learning, high efficiency governance, and high corporate restructuring effectiveness (Filatotchev et al., 2003).

H9: The presence of foreign owner(s) increases the likelihood of having growth plans.

Industry and industry attributes affect firm growth (Audretsch, 1995; Saemundsson and Dahlstrand, 2005; McPherson, 1996; Davidsson et al., 2002; Weinzimmer, 2000; Almus and Nerlinger, 1999). Industry characteristics may be relevant indicators for opportunity for growth, which in turn affects growth motivation (Davidsson, 1991). As some industries provide more opportunities for firms to achieve growth, entrepreneurs may enter industries, where they are more likely to achieve their aspirations regarding growth (Kolvereid, 1992). Empirical research demonstrates that entrepreneurs' growth intentions are significantly related to industry choice (Kolvereid, 1992).

H10: The industry, in which the enterprise operates, affects the likelihood of growth plans.

Environmental dynamism refers to instability and continuous change in the firm environment (Wiklund et al., 2009). In dynamic environments, social, political, economic and technological changes provide windows of opportunity for firm growth (Wiklund et al., 2009). Firms may respond to changes in the demand created by social, political, economic and technological changes in the environment by supplying the demanded products and services (Wiklund and Shepherd, 2003).

H11: The level of environmental dynamism affects the likelihood of growth plans.

3. Research methodology

3.1. Sample

This study uses a sample of 120 companies operating in Bulgaria. Data was acquired through a survey conducted at the end of 2008 among 350 enterprises randomly selected from a database of more than 73000 Bulgarian enterprises extracted from the voluntary unified trade register of the Bulgarian chamber of commerce and industry and other sources. The response rate is approximately 34.3%. Some of the companies who refused to participate in the study have been contacted by e-mail or phone. They have reported that the main reasons were lack of time or reluctance to reveal business information. Respondents are the chief executive officers (CEOs) of the companies. The survey uses a structured questionnaire containing questions about the characteristics of the organization, the characteristics of the chief executive officer, and the environment. More than 60% of the sample companies operate predominantly in the service sector, while about 20% of the sample companies are manufacturing businesses. Small and medium-sized enterprises (SMEs) represent 77.5% of the sample firms (26.7% – micro-enterprises; 31.7% - small enterprises; 19.2% - medium-sized enterprises). The rest of the sample firms have more than 249 employees. Half of the sample firms are registered after 1997 and only 7.5% operate for more than 20 years. The great majority of the sample firms (93.3%) are private enterprises, while the rest of the sample firms are either state-owned enterprises or enterprises with mixed ownership. About 34% of the sample companies report having foreign legal entities or individuals among owners. More than 57% of CEOs have ownership in the company they manage. Less than 26% of the CEOs are women.

3.2. Variables

Table 1 presents description of the variables used in the study. The dependent variable in this study is GROWTH. It indicates whether the company aims to expand its business activities (value 1) or not (value 0).

Several individual characteristics of CEOs are hypothesized to influence the presence of growth plans in the sample firms. CEO_age indicates the age of the CEO in a number of years. The variable GENER shows whether the CEO is a woman (value 1) or a man (value 0). CEO_edu indicates the level of education acquired by the CEO of the company (1 = university degree, 0 = other). CEO_exp reveals if the CEO has previous management experience (value 1) or not (value 0). CEO_tenure is measured with the length of CEO's tenure in the organization in a number of years.

The organizational characteristics that are expected to influence the presence of growth plans include learning orientation (LO), entrepreneurial orientation (EO), access to financial resources (RESOURCES), and the presence of foreign owners (FOREIGN). EO is measured with 9-item, 7-point Likert scale proposed by Covin and Slevin (1989), which contains items adapted from Khandwalla (1976/1977) and Miller and Friesen (1982). The items are of the forced choice type, with pairs of opposite statements. The scale reveals the extent to which the firms innovate, take risk and behave proactively. Wiklund (1998) identified several studies using this instrument, which provide evidence of its validity and reliability. In this study the EO scale reports acceptable reliability (Cronbach alpha's value is 0.857). The variable LO reveals the level of learning orientation of the company. It is measured through a 11-item, 7-point Likert scale developed by Sinkula et al. (1997). The scale is retested by Baker and Sinkula (1999) who provide further evidence for its validity and reliability. The Cronbach's alpha of the learning orientation scale is 0.836. The variable FOREIGN indicates the presence of foreign owners (value 1) or otherwise (value 0). The variable RESOURCES reveals whether the company has good access to financial resources (value 1) or not (value 0).

The environmental characteristics included in this study are environmental dynamism and industry sector. MANUFACTURING is a binary variable (1= the company operates mainly in manufacturing sector, 0 = otherwise). SERVICES is a binary variable (1= the company operates mainly in service sector, 0 = otherwise). Environmental dynamism (DYNAMISM) is measured with the 4-item, 7-point Likert scale proposed by Miller (1987). The items are of the forced choice type, with pairs of opposite statements. The value of the Cronbach's alpha of the scale is 0.635.

Businesses with different age and size may differ in their growth aspirations (Davidsson, 1991; Kolvereid, 1992). Therefore these variables are included in the analysis as control variables. In this paper we adopt the European Commission's employment criterion for an SME. The variable SIZE is a binary variable (1 = more than 49 employees (large or medium-sized enterprise), 0 = less than 50 employees (micro- or small enterprise). The variable

FIRM_AGE indicates the age of the company in a number of years.

3.3. Data analysis

Data are analyzed using multivariate statistics. As defined above, GROWTH, the dependent variable is dichotomous. It expresses the likelihood that the company has growth plans. A logistic regression model was therefore employed to deal explicitly with that type of dependent variable (Greene, 1999). Logistic regression is a more robust method since according to Greene (1999), Hair et al. (1998), and Maddala (1983):

1/ the dependent variable needs not to be normally distributed;

2/ logistic regression does not assume a linear relationship between the dependent and the independent variables;

3/ the dependent variable needs not to be homoscedastic for each level of the independent variable(s);

4/ normally distributed error terms are not assumed;

5/ independent variables can be categorical;

6/ it does not require independent variables to be interval or unbounded.

The application of non-parametric techniques is adequate when the independent variables are predominantly categorical. The use of the maximum likelihood approach is recommended when sample selection bias is possible (Nawata, 1994).

Binary logistic regression provides a framework that indicates if and how well independent

variables can adequately predict the presence of growth plans (Greene, 1999). The estimated binary logistic models take the following form:

Prob (the presence of growth plans) = $1 / (1 + e^{-Z})$, where $Z = f(X_i, C)$, i.e. a linear combination of independent variables (X_i) and a constant (C).

The research hypotheses will be supported if regression analysis provides an acceptable accuracy of classification of cases and of goodness of fit measures. In addition, the impact of explanatory variables should be statistically significant at least at the 10 percent level (two-tailed test) with the predicted sign. Wald statistics will be used to estimate the significance of the independent variables. Data analyses are performed with the statistical package SPSS version 15.0.

4. Empirical results

In this section we present the empirical results of hypotheses test in our sample of 120 Bulgarian enterprises. A logistic regression model has been estimated to identify which independent variables predict the presence of growth plans. The Variance Inflation Factor (VIF) is calculated in order to check for the presence of multicollinearity problems. The values of the Variance Inflation Factor (VIF) for all regressors included in Table 2 do not exceed 2.2, which excludes multicollinearity. The overall predictive ability of the regression model in Table 2 to classify correctly companies by the presence of growth plans is more than 81%, which is much higher than the random chance (50%).

Table 2: Regression results (GROWTH = dependent variable).

Variable	Coefficient	S.E.	Wald
Constant	-5.013**	2.362	4.504
CEO_age	-0.055*	0.032	3.067
GENDER	0.711	0.604	1.384
CEO_edu	-1.523	1.463	1.083
CEO_tenure	0.109*	0.062	3.080
CEO_exp	1.235**	0.576	4.598
FIRM_AGE	-0.013	0.016	0.586
SIZE	-0.350	0.591	0.352
EO	0.111***	0.034	10.977
RESOURCES	0.036	0.588	0.004
LO	0.081**	0.035	5.301
FOREIGN	1.228*	0.671	3.352
MANUFACTURING	-0.753	0.883	0.727
SERVICES	-0.830	0.810	1.048
DYNAMISM	-0.006	0.069	0.008
Model fit			
Nagelkerke R-square	0.491		
-2Log likelihood	101.466		
Chi-square	52.464		
Overall % correct predictions	81.7%		
Number of cases	120		

* p < 0.1, ** p < 0.05, *** p < 0.01

Several individual characteristics have a statistically significant effect on the dependent variable GROWTH. The coefficients of the variables CEO_tenure and CEO_exp are statistically significant and positive ($p < 0.1$), while the coefficient of the variable CEO_age is statistically significant and negative ($p < 0.1$). Companies with younger CEOs are more likely to exhibit growth plans. Hypothesis H1 cannot be rejected. Contrary to our expectations, longer tenure of the CEO increases the probability of reporting growth plans. Hypothesis H2 is rejected. CEOs with previous management experience are more likely to operate enterprises with growth plans. Hypothesis H5 cannot be rejected. The coefficients of the variables GENDER and CEO_edu are not statistically significant. There are no significant differences in the likelihood of having growth plans between companies managed by female and male CEOs. There are also no significant differences in the likelihood of having growth plans between the companies managed by CEOs with a university degree and the rest of the studied companies.

Three organizational characteristics seem to impact significantly the probability of reporting growth plans. The coefficients of the variables EO, LO and FOREIGN are statistically significant and positive, while the coefficient of the variable RESOURCES is not significant. Companies with higher learning orientation and higher entrepreneurial orientation are more likely to have growth plans. The presence of foreign owner(s) increases the probability of reporting growth plans. Hypotheses H7, H8, H9 cannot be rejected. There are no significant differences in the likelihood of having growth plans between the companies with good access to financial resources and the rest of the studied companies. Hypothesis H6 is rejected.

Contrary to what was suggested, environmental characteristics included in this study have no statistically significant influence on the probability of reporting growth plans. The coefficients of the variables DYNAMISM, SERVICES, and MANUFACTURING are not statistically significant. There are no significant differences in the likelihood of having growth plans between the companies operating in service or manufacturing sector and the rest of the studied companies. The level of environmental dynamism is not associated with differences in the likelihood of having growth plans in the studied companies. Hypotheses H10 and H11 can be rejected.

5. Conclusions

The shift from centrally planned economy to market economy in the countries in Central and Eastern Europe has led to the emergence of a large number of privately owned enterprises, which play important role for countries' economic development.

In order these enterprises to remain competitive in both local and international markets it is of the utmost importance to gain understanding what factors encourage the development of growth plans and the achievement of high growth rates. Our research is among the incipient investigations that attempt to identify individual, organizational, and environmental factors that affect of the presence of growth plans in a sample from Central and Eastern Europe. Our hypotheses are guided by previous theoretical and empirical research on firm growth. The results reported in this study advance our knowledge about growth aspirations within organization operating in a transition context.

This study reinforces previous findings (Davidsson, 1991; Kolvereid, 1992) that individual characteristics of the owner-manager affect growth aspirations. The findings about the effects of CEO's age and previous experience on the likelihood of having growth plans are consistent with predictions. Our study finds no effect of CEO's education and gender on the probability of having growth plans. Contrary to our expectations, longer tenure of the CEO increases the probability of reporting growth plans. These contradictory findings could be explained institutional and cultural differences between Western and transition economies as well as among transition economies, which may have differential impact on CEO's behaviour and decisions related to pursuit of growth.

Concerning organizational factors, our results point to the importance of learning orientation, entrepreneurial orientation and the presence of foreign owner(s) for adopting growth plans. We find that learning orientation is interrelated with growth aspirations, which is in accordance with the argument of Slater and Narver (1995) that learning orientation should eventually lead to superior growth. The finding that firms with higher entrepreneurial orientation are more likely to develop growth plans than the rest of the firms is consistent with previous research (Zahra, 1991). The presence of foreign owner(s) is related to greater likelihood of having growth plans, which may be explained with the transfer of important management know-how and resources to local firms (Uhlenbruck & De Castro, 2000; Filatotchev et al., 2003). Contrary to our predictions, however, the good access to resources does not increase the probability of establishing growth plans, which may be associated with specific barriers, costs and difficulties related to the use of external financing in transition economies. Contrary to what was suggested, environmental characteristics included in this study have no statistically significant influence on the probability of reporting growth plans, which contradicts previous empirical findings about the effect of environmental variables on growth intentions (Kolvereid, 1992).

Before discussing the implications of our findings, some limitations of our study should be

noted. First, our sample is not representative and the findings should be interpreted with caution. Thus, our results may not be generalized to the population of Bulgarian enterprises. Second, data was collected through a self-reported survey and thus may be subject to cognitive biases and errors. Third, a number of other individual, organizational, and environmental factors, which are not included in this study, may be related to the presence of growth plans. Fourth, our findings may be influenced by specific features of the Bulgarian cultural and institutional environment and therefore may not be applicable to other transition or mature economies. Finally, due to the cross-sectional design of the research we cannot deduce causal relationships. The multiple measurements of independent and outcome variables in the study over time will allow examining the bidirectional relationships between the variables studied.

In order to enhance the understanding of growth aspirations in companies operating in a transition context, future research needs to examine the following aspects. First, future research should examine the effects of other factors posited by theoretical and empirical literature as affecting growth aspirations, which are not included in this study. Second, the proposed hypotheses should be verified in a representative sample of Bulgarian enterprises. Third, future research should also examine to what extent the findings of this study can be generalized to firms in other transitional countries. And finally, a longitudinal analysis should complement the findings in this research in order to confirm causal relationships.

Our findings have several important implications for practitioners. Loan institutions, risk capitalists, and business angels trying to identify growth oriented businesses in a transition context should pay more attention on organizational variables and CEOs' individual characteristics. Managers, who want to enhance the EO of their companies, should be aware of the interrelation between growth aspiration and learning orientation and entrepreneurial orientation. The development of higher learning orientation or higher entrepreneurial orientations may lead to the development of growth plans. It should be noted that the presence of foreign owner(s) may bring important resources and eventually lead to higher growth aspirations.

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Marketing Strategies vis-à-vis Consumer Preference for Aquarium Business Service

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Abstract: Aquarium business service in India recorded a value of US\$ 1.3 million in the export trade in the year 2006 according to food and agriculture organization. Internationally, Singapore ranks first with US\$ 49.5 million, and Zech Republic, Japan and Malaysia stood almost equally 7% in aquarium fish trade. Robert fanner (2001) reported that the concept of running a service company in contrast with a retail business is not new to many industries. The service sectors provide employment for more economic growth. In this direction, in order to develop market for aquarium business service, there is a need or studying consumer preference and existing marketing strategies, adopted by aquarists. The objectives of the study are to identify consumer preference for ornamental fish and profile of costumers, the existing marketing strategies adopted by ornamental fish aquarium business service providers. Selvarasu A. and Sankaran A. (2010) have developed a marketing scale to measure consumer preference for aquarium hobby. In addition, an interview schedule have been planned to review the existing marketing strategies as on year 2010. Aquarium business service marketing scale comprises of seven dimensions, initially. As a result of the pilot study, based on the results of reliability test, five dimensions have been retained for the final study.

Key words: marketing strategy, aquarium, hobby, consumer preference, aquarium business service, pets, ornamental fish, quality, value, value for money, features, mavenism.

1. Market Situation of Aquarium Business Service

Ornamental fish keeping is one of the most popular hobbies in the developed countries and is gaining popularity in many developing countries. The growing interest in aquarium fishes has resulted in steady increase in aquarium fish trade globally. According to FAO (2004), export earnings from ornamental fish trade is US \$ 251 million and more than 60% of the production comes from households of developing countries. The wholesale value of the global ornamental fish trade is estimated to be US \$ 14 Billion. More than 2500 species are traded and some 30-35 species of fresh water dominate the market. The trade with an annual growth rate of 8 percent offers a lot of scope for development. India's share in global ornamental fish trade is negligible and at present the

ornamental fish export from India is dominated by the wild caught species. The top exporting country is Singapore, followed by Hong Kong, Malaysia, Thailand, Philippines Sri Lanka, Taiwan, Indonesia and India. The largest importer of ornamental fish is USA. Europe and Japan, China and South Africa are the emerging markets of ornamental fish trade.

Ornamental fishes market in the world for public aquaria is less than 1% at present and over 99% of the market for ornamental fish is still confined to hobbyist. The brilliant, flamboyant colour and exotic appearance of the fish appeal to one and all children and aged alike. As the day passed, ornamental fish keeping become an interesting activity for many, in the process, generating income for the unemployed youth and farmers. The concept of entrepreneurship development through ornamental fish farming is gaining popularity day-by-day. Many numbers of people are entering into this business of culturing, breeding and farming. In India, out of total export of ornamental fish, 95% is based on wild collection. Majority of the indigenous ornamental fish trade is from the North Eastern states and Southern states in India. The capture of ornamental fish is based on development of the fish culture. Fish species grown for their importance, can be successfully bred in India. The ornamental fish trade depends upon supply and demand, which is possible only by mass breeding.

Ornamental fish market linkage exists between buyers and sellers as well as domestic and international market. In order to strengthen Indian position in international ornamental fish trade, MPEDA has implemented several strategies to adopt in terms of technology, infrastructure in order of to develop export demand based production for major importers in EU, USA and Japan. The distribution and marketing channel for the ornamental fish and plants in India is developing. The exporter (or) wholesaler plays on important role in promoting breeders and consumers. Wholesaler usually sells the fishes to local retailers. The retailers directly sales to local customers, hobbyists etc.

1.1. Consumer Preference For Aquarium Business Service

Consumer means an individual who purchase goods and services to satisfy his personal

or household needs and wants. According to a statement made by Mahatma Gandhi, "A consumer is the most important on us. We are dependent on him. He is not an outsider to our business. He is part of it. We are not doing him a favour by serving him. He is doing us a favour by giving us an opportunity to do so". So consumer is life blood of business and a consumer who is satisfied gives a word of mouth advertisement for goods and services. The consumer is buying goods keeping in mind the performance of product and expected features such as quality, value, performance, and special features. Everyone is a consumer of different products. If there is no consumer, there is no business. Therefore, consumer satisfaction is very important to every business person. Every one of us in the community group is a consumer in some respect of living standards. Business services can exist only with the interaction of consumers. It is the responsibility of business firms to keep consumer satisfied at all times. According to Philip Kotler, consumer satisfaction is defined as "personal feeling of pleasure resulting from comparing products and perceived performance in relation to expectations".

1.2. Marketing Strategy For Aquarium Business Service

The term "strategy" comes from the Greek word "Strategic", meaning "generalship". The strategy focuses on long-term company objectives and planning, marketing programs, visions as well as goals. Marketing strategies generally include price reduction for market share growth, product differentiation, and market segmentation, as well as numerous specific strategies for specific areas of marketing. Strategy can be formulated by individuals, groups and organizations. The strategic thinking focuses on competitive advantage, consumer needs and wants, creativity, and flexibility. It is grouped as (i) customer oriented marketing strategy, (ii) competitors oriented marketing strategy. Customer oriented marketing strategy help to establish long term relationship between customers and business where as Competitor oriented marketing strategy focuses on outdoing competitors by product, prices, place, and promotion. The specific marketing strategy is planned for the following situations as pioneer strategy, follower strategy, fortress strategy, flanker strategy, market expansion strategy, withdrawal strategy, frontal attack strategy, leapfrog attack strategy, encirclement strategy, guerrilla attack strategy, divestment strategy, global strategy, national strategy, exporting strategy, pricing strategy, channels strategy, and promotion strategy.

2. Review of Literature

There are four various articles referred and the essence of market situation for ornamental fish aquarium business is presented. The concepts that are revisited in this section are as follows; (1) macro-diagnostic and marketing; (2) aquarium business service company; (3) fish farming and marketing; (4) fish keeping for hobby; (5) fish health consultancy services.

2.1. Market Situation For Aquarium Business Service

Mark Whittington (2000) stated that the ornamental fish trade in Mozambique comprised information of macro – diagnostic gathering data about the status and management of the ornamental fish trade worldwide. Also, a project appraisal, which included a preliminary field study of the biological and socio economic impacts of previous ornamental fish collection activities in Inhambane province. Robert Fenner (2001) reported that the concept of running a service company in contrast with a retail business is not new to many industries. The service sectors provide employment for more economic growth. The critical elements of this retail business were stated as finance, personnel, location, set up and stock. Sudhi K.S. (2002) stated that marine products export development authority supported financial aid for the analysis of ornamental fishes in Kerala as market development in India and abroad. Ornamental fish farming and aquarium keeping were reported as a major business in the state. The marketing of aquarium systems is also emerging in the state as a booming business, which mainly targets posh hotels, corporate offices and other business establishments.

Liffy Thomas (2010) reported that fish keeping as a hobby prevalent for decades but the kind of interest and time many individuals have started giving it is on the rise. It is reported that hobbyist felt as fish is a good pet as they are silent, easy to maintain and a delight to watch. The climatic condition is stated as other reason for ornamental fish industry as an important market. The entry of exotic varieties from other countries and increased interest in vaastu fish added to the existing demand that has resulted in people going any extent for care and keep of aquarium. Rajaraman V. is reported to be one the fish health consultants in Chennai, TamilNadu, a state of India, who treats around 20 patients a day, especially during October and January. Owner of varieties such as flower horn and arowana is major customers. The aqua clinic whose 10 days treatment charges varies between Rs.650 and

Rs.1500. The customers receive around 20 queries a week asking about maintaining a fish tank and other issues from consultant.

2.2. Market availability of ornamental fish varieties

There are two various articles referred and the essence of market availability for ornamental fish aquarium business service is presented. The concepts that are revisited in this section are as follows; (1) export trade; (2) availability of ornamental fish. Martin Thoene (1999) presented a collection of Indian fishes covering 10 orders, 53 families, 119 genera and 250 species that are considered as suitable for aquarium keeping. Insights into the geography, vegetation type regions, political zones, population distribution etc. have also been emphasized by researcher. It is that the aquarium trade in India depends on natural live food availability. According to the researcher, many foreign fish species are farmed purely for the aquarium export trade market availability of ornamental fish varieties. Rajeev Raghavan et al. (2007) reported that seventy one fish species belong to 27 families and 50 general were collected from various sampling sites along the Chalakudy river in Kerala, South India. Indiscriminate collection of ornamental fish species for export, exploitation of endangered food fishes by forest dwelling communities and local fishes folk, pollution, loss of riparian cover, damming and exotic species diversity of Chalakudy River was also reported.

2.3. Market Risk Analysis Of Ornamental Fish Aquarium Business

There is only one articles referred and the essence of market risk analysis of ornamental fish aquarium business service. The concepts that are revisited in this sections are as follows; (1) potential economic cost value and environmental effects. Paul Lajicek et al. (2009) reported that a known risk analysis process to access risk associated with marine ornamental pathway of market coverage on expert panel of 18 importer, wholesaler, retailer, producer, researcher, extension and agency representatives implemented. The participants produced the reviews; marine ornamental trade description assessed the ecological risks to Florida waters, determined the escape risk at each link and mode in the pathway and suggested risk instigations action. They were very certain about the potential economic costs high based upon literature and general knowledge. Potential and real environmental effects were suggested for the direct customer solves link and the consumer mode.

2.4. Business Opportunities For Ornamental Fish Production In India

There are four various articles referred and the essence of business opportunities for ornamental fish aquarium business service is presented. The concepts that are revisited in this section are as follows; (1) self-employments; (2) aquarium maintenance service; (3) creation of advertising; (4) agribusiness opportunities.

Robert Fenner (2001) stated that for the pet business primary objectives are desire in self employment as well as doing small business which is the backbone of the economy. The successful keeping and reproducing aquatic life well being, a good hobbyist should easily translate into being good retailers. Actually, the knowledge, skills, methods, and attitudes of being a good pet keeper are vital to successful retailing the business. Duane Clark (2002) reported that two common ideas of pet business in ornamental fisher are-either breeding fish or starting an aquarium maintenance service. Breeding fish can certainly help pay for your hobby but running an aquarium maintenance service actually generate profit. However, before a person run off to start his own service, he must consider a few things such as motivation, research, necessities, finding clients, customer service, pricing, advice etc. Jay Shaw (2002) reported that aquarium business service is creation of advertising. Almost all of business clients, contact aquarists because of a tank, hobbyist saw else where, that the work done by him. Most people associate a spotless tank with a healthy environment, and maintenance package. These rules of business protect business flow and investment on client base. To decrease health risks on clients fish, have them resist from adding fish without aquarists consent. Also, perform the maintenance tasks at off peak business hours. This protects the client customers from potential accidents.

Mandal Subhasis, et al. (2006) researcher reported that ornamental fish is providing marketing opportunities. Several agribusiness opportunities be provided for the collection and selling of native ornamental fish as well as rearing of exotic ornamental fish species suitable to the region. It has been stated that the agribusiness opportunities be realized at every stage, namely, production, marketing and conservation of ornamental fishes. The ornamental fish production in the region has been observed to be financially as well as economically viable and investment friendly. The ornamental fish production to increase the employment opportunities.

2.5. Ornamental Fish Aquarium Management Service

There are three various articles referred and the essence of aquarium management service is presented. The concepts that are revisited in this section are as follows; (1) maintain water quality parameters; (2) aquarium management requirements; (3) keeping feeding time, disease prevention. Jason Shaw (2001) reported that aquarium fish disease is directly related to stress, and the best way of fighting disease is prevention. Knowing in detail the species of fish, clients are keeping and its requirements is very important. Without this information, aquarists are doomed from the beginning. There are specific water quality parameters that are very different for each species, pH, temperature, water hardness, salinity and many other trace elements. The most exciting parts of keeping fish is feeding time. Hopefully, this has given a little more insight on disease prevention, remedies and purchasing of new fish.

Kevin Thurston (2002) stated that early days of the hobby, there were various methods for shops to obtain their fish, but the late 60's, the local wholesaler had gotten a foothold and was on the rise. The local wholesaler dealt with fish farms and overseas suppliers in the '70s, a new type of company began to emerge called transship per. These companies would deal with foreign suppliers. In the '80s, the transshippers for much better at developing water change and repacking techniques. These trends have continued through the '90s to the present, these are a few local wholesalers let, but they have been managed to stay in business through exclusive contracts with chains such as Wal-Mart, paucity, and pet ranch. Adrian Lawler (2007) reported that aquarium management requires knowing enough about many subjects in order to do all aspects of an aquarium operation, plus practicing constant diligence, observation and work. As they are dealing with living organisms held under unnatural conditions some failures are expected.

2.6. Marketing Strategies For Ornamental Fish Aquarium Business Service

There is only one article referred and the essence of marketing strategies for ornamental fish aquarium business service is presented. The concepts that are revisited in this section are as follows; (1) business concepts; (2) strategic planning and business plans. Andrew Palfreman (1999) stated that the business concepts relevant to managing small and medium sized enterprises. It has been designed to equip readers with the managerial tools to set up and run their

own business. The topics discussed are, strategic planning and the business plan, game theory, how to set up a fish business, aspects of marketing, exporting fish and fish products, privatization, the common fisheries policy, setting up a fish action, management and financial analysis of projects, policies for development of the private sector and fully worked case studies.

3. Research Methodology

3.1. Statement of Problem

In the event of economic growth all over the world, stress has become evident among all people. In order to get relieved from stress, everyone has cultivated the habit of hobby as part and parcel of their way of life. There are different growing businesses related to hobby in maintaining aquarium in the institutional offices and also at the household. The supply of ornamental fish is providing way for eco- friendly breeding and rearing activities. In line with aquarium business service to support the hobby, promotion is done through various schemes at the initiatives of governments and non-government agencies. It is understood that the hobby of mainly aquarium has been in practices in developed countries very well. However, this has been adopted in developing countries in the initial stage. In this context, it is imperative to see a problem in setting up business support as well as develop the market with suitable marketing strategies. It is true that there are problems reported. In the maintenance of health of fish as well as reacting customers with modern equipments.

3.2. Need for the study

The present study intends to specify marketing strategies for ornamental fish aquarium business service in an introductory phase. Also it tries to identify the marketing strategy vis-à-vis consumer preference. The previous research work have focused on breeding, rearing and maintenance of aquarium business service. But in this work successful ornamental fish aquarium business people support and provide in existing marketing strategy. In this process, aquarium shop owners and users are coming up with new and innovative ideas to improve the sales volume on aquarium business service. It is aimed at specifying strategies to increase sales that satisfy the aquarium users based on consumer preference.

3.3. Objectives of the Study

1. To identify the consumer preference for ornamental fish and profile of customer

2. To find out the varieties of fishes and ornamental fish aquarium business service (ABS).
3. To verify the sources of supply for setting up of ornamental fish aquarium
4. To study the existing consumer preference vis-a-vis marketing strategies adopted by ornamental fish aquarium business service providers.
5. To design strategies for promoting ornamental fish aquarium business service.

3.4. Data Collection

The data collection is based on two unique methodology prescribed for the study. The primary data have been collected through survey among aquarium keeping customers. The sales data have been extracted from aquarium seller's records on the basis of weekly sales for a period from January to August 2010. Selvarasu A. and Sankaran A. (2010) have developed a marketing scale to study the consumer preference and marketing strategies demanded for aquarium business. In order to collect data, field survey was conducted from May to August 2010. The statistical tools such as chi-square test, analysis of variance.

3.5. Scale Description for Consumer Preference and Marketing Strategies

The scale was prepared, tested and validated by Selvarasu A. and Sankaran A. (2010). The consumer preference for aquarium hobby is developed using the following factors, (1) quality of aquarium hobby, (2) value of aquarium hobby, (3) value for money of aquarium hobby, (4) features of aquarium hobby, (5) mavenism of aquarium hobby. There are 22 items used in order to study all five dimensions. All the factors are constructed in the form suitably using purchase scale and Likert scale accordingly. The validity test for content and construct have been conducted. In addition, the reliability test results have been computed in two stages as pilot study and main study.

3.5.1. Quality of Aquarium

In order to study the consumer preference for aquarium hobby, associate markets scales such as the preference for numerical information (PNI) scale [Viswanathan, 1993] and preference for consistency (PFC) scale (Ciadhi, et al., 1995) have been used to define the dimension "quality". The actual purchase of aquarium is more reliable items of enquiry as best quality, enjoyment, satisfaction, administration, and interest. The descriptions of variable items are scored on 5 point Likert scales as strongly agree, agree, neither agree nor disagree,

disagree and strongly disagree. The responses for all items have been rated in the form of agreement by the respondents to the statement proposed for the study. A minimum score of 1 point is given for low level of preference as disagreement to the statement 3 points for neither agree nor disagree level and a maximum of 5 points is scored for high preference as agreement to the items.

3.5.2. Value of Aquarium

In order to study the consumer preference for aquarium hobby, associate marketing scale such as the preference for numerical information scale (Viswanathan, 1993) have been used to define the second dimension "value of aquarium hobby". The most, reliable items of inquiry of this dimension are, like, useful, interest, and find. The description of variable items are scored on 5 points scale as high possibility, good possibility, fair possibility, slight possibility, and no chance. The responses for all items have been rated in the form of possibility by the respondents to the statement proposed for the study. A minimum score of 1 point is given for low level of preference as "no chance" to the statement and a maximum of 5 points is scored for high preference as possibility to the item.

3.5.3. Value for Money of Aquarium Hobby

In order to study the consumer preference for aquarium hobby, associated marketing scale such as value consciousness and coupon proneness scale (Lichtenstein, et al., 1990) have been used to define the third dimension "value for money of aquarium hobby". The most, reliable items of inquiry of this dimension are, price, maximize quality, money worth and price per unit. All items are scored on 5 point purchase scale as high possibility, good possibility, fair possibility, slight possibility, and no chance. The responses for all items have been rated in the form of possibility by the respondents to the statement proposed for the study. A minimum score of 1 point is given for low level of preference as "no chance" to the statement and a maximum of 5 points is scored for high preference as "possibility" to the item.

3.5.4. Features of aquarium

In order to study the customers preference for aquarium hobby associate marketing scale such as the production of ornamental aquarium fish [Craig A. Watson et al., 2002]. The feature of aquarium is studied based on the variables such as colours, look, size and availability. All items are scored on 5 point purchase scale as high possibility, good possibility, fair possibility, slight possibility, and no chance. The responses for all items have

been rated in the form of agreement by the respondents to the statement proposed for the study. A minimum score of 1 point is given for low level of preference as “no chance” to the statement and a maximum of 5 points is scored for high preference as “possibility” to the item.

3.5.5. *Mavenism of Aquarium*

In order to study the customer preference for aquarium hobby associate marketing scale such as the price perception scale (Lichtenstein et al., 1993) have been used to define the fifth dimension “mavenism” of aquarium. The most reliable items of inquiry as i) consideration; ii) information, iii) good sources, and iv) payments. The description of variables items scored on 5 point scales as strongly agree, agree, neither agree nor disagree, disagree, strongly disagree. The responses for all items have been rated in the form of agreement by the respondents to the statement proposed for the study. A minimum score of 1 point is given for low level of preference as “disagreement” to the statement 3 point for neither agree nor disagree and a maximum of 5 points is scored for high preference as “agreement” to the item.

Indicators of Dimensions and Index of Scale

The overall scores for consumer preference have been computed at three levels as low score (22-51), medium score (52-80), and high score (81-110). The reference key for consumer preference towards each dimensions of aquarium business service depending on the quality, value for money, features, mavenism have been grouped as low score (4-9) medium score (10-15) and high score (16-20). Other variable of consumer preference based on the value of aquarium have been grouped as low score (6-15) medium score (16-25) and high score (26-36).

3.6. Sampling

The stratified sampling methods have been adopted to select sample respondents. The sample size is 150 individual respondents of aquarium keeping customers. The study area is Cuddalore district and sample unit are aquarium shops, houses, business enterprises, and institutions. In the pilot study using 30 nos. of users of aquarium in the form different state household person, hobbyist, business enterprises and institutions in the proportion of 0.17; 0.78; 0.04; and 0.01; respectively. The decision precision of 0.06 with a co-efficient of variation for experience in aquarium is 0.25 at 95% confidence interval. Therefore, the size of sample is referred from the calculation of sample size (Table C) as 150 nos. with a higher

precision value of 0.04. The proportion of 30 sample for four categories have been used to decide 150 nos. actual sample proportion for main study as household person, hobbyist, business enterprises and institution as many aquarium users as 26; 117; 6; and 1; respectively. The study period spread from September 2009 to August 2010.

3.7. Statistical Tools

The researcher has adopted relevant statistical tools for analysis data describing ornamental fish aquarium business service the following are the relevant tools used for analysis of data viz., chi-square, correlation, ANOVA,

3.8. Propositions

In order to evaluate five dimensions of consumer preference for aquarium business service and marketing strategies, two propositions have been formulated to test the association of overall preference for aquarium and each dimensions with gender, age, professional knowledge, modern aquarium equipments, on the level of consumer preference and variation in marketing strategies adopted by sellers.

P1: The level of consumer preference for aquarium hobby is associated with gender, age, professional knowledge and modern aquarium equipments.

P2: Marketing strategies adopted by aquarium business service providers to promote business varies with aquarist's experience and weekly turnover of the shop.

3.9. Pilot Study

The study on aquarium business service is attempted using pilot study covering 30 individual respondents keeping aquarium. The result of seven dimensions and the alpha values for quality (0.7609), value (0.7507), value for money (0.7797), price (0.5352), performance (0.5044), feature (0.6434), mavenism of aquarium (0.6477). Depending on the low value of below (0.60) of reliability test, two variables such as price and performance of aquarium have not been considered for the further study.

3.10. Main Study

The study on aquarium business service is attempted using main study covering 150 individual respondents drawn by stratified random sampling in aquarium keeping customers and seven individual shop owners doing aquarium business in cuddaloure district. The study is based on five

dimensions having overall (.8633) reliability Cronbach alpha values and each dimensions has the reliability values for quality of aquarium (0.7609), value of aquarium (0.7507), value for money (0.7797), features of aquarium (0.6434), and mavenism of aquarium (0.6477).

4. Analysis and Interpretation

4.1. Profile of aquarium users

In the study, the share of hobbyists are more than 78%, household customers are about 17% and other two categories of business enterprise, and institution respondents are under 10%. The share of graduation level customers are more than 44%, below Hr. Sec level are about 37% and post graduate degree level are 15% and others are under 10%. The share of below 20yrs and 20-30 yrs age group of users are more than 40% and 30-40 age are 12% and other two categories of respondents are under 10%. The share of male are more than 69% and female are 30%. The share of Rs.50000-Rs.100000 are more than 35% and no responses are 34% and other three categories below Rs.50000, Rs.10000-Rs.150000, Rs.150000-Rs.200000, and above Rs.200000 of respondents are under 13%. The share of below 5 year of experienced respondents are more than 66% and above 5 years of experienced respondents are 33%.

4.2. Usage of Aquarium

The share of respondents who have not attended is more than 87% and those who have attended is only 19%. The share of respondents who have no professional knowledge are more than 61% and respondents have professional knowledge are 38%. The share of community type of aquarium are more than 64% and are 29% respondents familiar with single specie aquarium and none of respondents are under 10%. The shares of ornamental fish are more than 86% and other three categories of dog, rabbit and birds are under 10%. The share of users using modern aquarium equipments are more than 65% and another category of non- users of modern aquarium equipment are more than 34%. The share of respondents who are aware about marine fish aquarium are more than 50% and others those who are unaware about marine fish aquarium are more than 49%. The share of aquarium users who are unaware about synthetic salt are more than 82% and another category of respondents are more than 17%. The test results of the hypothesis for different variables and in the study is presented in table 1.

4.3. Consumer Preference for Aquarium

Business Service and Its Dimensions

The Table-3 shows that the relationship of consumer preference for ornamental fish aquarium business service with five dimensions with mean score for quality, value, value for money, feature and mavenism are 15.8, 21.8, 15.1, 15.6 and 14.2, respectively. All the four dimensions such as quality, value for money, features and mavenism have been preference by aquarium users about 75% each except value dimension which has been preferred to 58% based on mean score. In order to verify the relationship between five different dimensions with overall consumer preference, a person's correlation analysis has been carried out. It is observed that each dimensions of consumers preference for ornamental fish aquarium has been found with other dimensions in the following descending order with reference to its value of correlation co-efficient. (i) Value vs mavenism ($r=0.696$, $p=.000$); (ii) features Vs mavenism ($r=0.647$, $p=.000$); (iii) value Vs features ($r=0.633$, $p=.000$); (iv) quality Vs value ($r=0.627$, $p=.000$); (v) value Vs value for money ($r=0.601$, $p=.000$); (vi) quality Vs mavenism ($r=0.574$, $p=.000$); (vii) value for money Vs features ($r=0.540$, $p=.000$); (viii) quality Vs features ($r=0.500$, $p=.000$); (ix) value for money Vs features ($r=0.500$, $p=.000$); (x) quality Vs value for money ($r=0.367$, $p=.000$)

5. Findings and Suggestions

Finding of the study is presented in line with objectives that are proposed. The suggestions are given under marketing strategy in various sections as prescription.

5.1. Findings

Based on the outcome of data analysis and interpretation the following findings of market analysis presented in line with objectives proposed in the study: (i) Profile of aquarium users; (ii) consumer preference for ornamental fish aquarium and its relationship and association with five different dimensions in relation to life style factors.

5.1.1. Profile of Aquarium Users

The aquarium users have been represented by household persons, hobbyists, enterprises and institutions in the proportion of 0.17, 0.78, 0.04 and 0.01, respectively. The gender of aquarium users spread in the proportion of two – third of male and one- third of female in the age group of below 20 yrs. and 20-30 yrs. distributed equally. The income distribution of aquarium users have been observed as about 35 percent of them between Rs.250000 and Rs.10000 annually. The frequency distribution of educational level of aquarium users have been found as secondary and college ate in the

proportion of 0.37 and 0.63 respectively. It is found that among college ate educational level of aquarium users, 44 percent of them are Under Graduates, who are having preference for ornamental fish aquarium.

5.1.2. *Consumer preference for ornamental fish aquarium*

Depending on the categories of aquarium users, hobbyist are predominant and it is their choice of maintaining aquarium as a matter of hobby. It is found that household persons are having preference for features, quality, value for money, mavenism and value in the descending order. Similarly, hobbyists are having preference for quality, features, value for money, mavenism and value in the same order. In the case of business enterprises, the preference is found to be as value for money, quality, mavenism, value and features in the descending order. Eventually, institutions are having preference for quality, value for money and features equally and also they prefer value dimensions additional dimension of aquarium business service. The frequent visitors of the aquarium shop are having less than five years of experiences with aquarium business service. It is also confirmed by Robbert Fenner (2001) that aquarium business service provides self-employment. It is evident that these users of aquarium have least preference to attend training programmes and they are not been to become professionals in aquarium business service. However, it is true that aquarium users started using modern equipments in their aquarium. Even though they are very well aware about marine ornamental fishes, they have little exposure to usage of synthetic salt to keep marine aquarium. Further, results of a detailed study of aquarium users preference and the relationship as well as association with its five different dimensions in relation to demographic and life style factors have been presented in two sub sections.

a. *Relationship of users preference with its five dimensions Aquarium business service*

The choice of aquarium users while preferring aquarium has been predetermined in to five dimensions such as (i) quality of aquarium hobby; (ii) Value of aquarium hobby; iii. Value for money; (iv) Feature of aquarium; (v) mevenism of aquarium users. The levels of consumer preference as a measure of scores for all the five dimensions have been verified in terms of relationship, association and variances.

It is found that there is positive relationships exist between each combination of dimensions among all five dimensions of consumer preference for aquarium. It is evident that there is very strong positive relationships [$r > 0.60$] exist

among five dimensions of consumer preference for aquarium. The strength of relationship is presente4d in the descending order as follows; (i) value vs. mavenism [$r=0.696$]; (ii) features vs. mavenism [$r=0.647$]; (iii) value vs. features [$r=0.633$]; (iv) quality vs. value [$r=0.627$]; (v) value vs. value for money [$r=0.601$]. That is also confirmed by Liffy Thomas (2010) that interest in vaastu.

It is evident that there is a strong positive relationship [≥ 0.50] exist among three different combination of predetermined dimensions of consumer preference for aquarium. The strength of relationship is presented in the descending order as follows; (i) quality vs. mavenism [$r=0.574$]; (ii) value for money vs. features [$r=0.540$]; (iii) quality vs. features [$r=0.500$].

Even though there is positive relationship exists between two different combinations of dimensions. It is found that there is a weak relationship persist among users of aquarium as a matter of preference as follows; (i) value or money vs. features ($r=0.500$); (ii) quality vs. value for money [$r=0.367$].

b. *Association between dimensions of consumer preference for aquarium and demographic variables.*

The overall preference for aquarium as a hobby has been predicated based on the basis of scores ranging from 22 to 110. The distribution of aquarium users is found to be in the categories of high score, medium score and low score with a proportion of 0.69, 0.27 and 0.04, respectively. It is found that there is an association between different categories of aquarium users based on the scores at $p < 0.05$ depending on their demographic variables as gender and life style as awareness level on usage of synthetic self for marine ornamental fishes.

In this dissection, it is found that the preference for aquarium due to quality of aquarium keeping as hobby has been predicated based on the scores ranging form 22 to 110. The distribution of aquarium users found to be in the categories of high score, medium score, and low score with a proportion of 0.11, 0.26 and 0.63, respectively. It is found that there is an association between different categories of aquarium users based on the scores at $p < 0.05$ depending on their demographic variables as gender and life style factors as usage of modern aquarium equipments for ornamental fish aquarium. This is similar to overall preference in terms of chi-square association of based result.

In the case of value of aquarium as hobby, it is found that the preference for aquarium due to this dimensions has been predicated based on the scores ranging from 22 to 110. The distribution of aquarium users found to be in the categories of

high score, medium score and low score, with a proportion of 0.11, 0.61 and 0.27, respectively. It is found that there is an association between different categories of aquarium users based on the scores at $p < 0.05$ depending on their demographic variables as gender.

In the case of value for money as hobby, it is found that the preference for aquarium due to this dimensions has been predicated based on the scores ranging from 22 to 110. The distribution of aquarium users found to be in the categories of high score, medium score and low score with a proportion of 0.10, 0.37, and 0.52, respectively. It is found that there is an association between different categories of aquarium users based on scores at $p \leq 0.05$ depending on their demographic factors as gender and life style factors as professional knowledge for ornamental fish aquarium.

In the case of features of aquarium as hobby it is found that the preference for aquarium due to this dimensions has been predicated based on the scores ranging from 22 to 110. The distribution of aquarium users found to be in the categories of high score, medium score and low score with a proportion of 0.10, 0.28 and 0.61, respectively. It is found that there is an association between different categories of aquarium users based on the scores at $p < 0.05$ depending on their demographic variables as gender and age.

In the case of mavenism of aquarium hobby, it is found that the preference for aquarium due to this dimensions has been predicated based on the scores ranging from 22 to 110. The distribution of aquarium users found to be in the categories of high scores, medium scores, and low score with a proportion of 0.11, 0.51 and 0.37, respectively. There is no significant relationship at $p < 0.05$ for users preference and other demographic and life style variables.

6. Suggestions

The suggestions are given under marketing strategy in various sections as prescription; I) competitive strategy; II) marketing strategy (target customer; demographics and life style; consumer preference vis-a-vis marketing strategy); III) implementation strategy.

6.1. Design of Marketing Strategy and its Implementation

The power of existing aquarium shop owners is that they have been doing ornamental fish aquarium business service as their main business process with two significant aspects such as professional knowledge and back-end support for fish hatchery and farming. In addition, shop owners have established business linkage with two

important sellers market and one major buyers market. The shop owner in the district level have the support of getting new arrivals in the aquarium models through Chennai which is the traders market and the buyers market is considered to be Bangalore.

The target market for aquarium business service are household persons, hobbyists, business enterprises and institution. The demand for fish variety's range form 5 to 25 and for aquarium models form three to five. It is also proved that the aquarium users are in the proportion of 1:2 ratio as female and male. In the age group of below 20 yrs and 20-30 yrs equally. It is interesting to note that almost all of them are in the category of Under Graduate college ate students and they are in the category of youth populations. The preference for aquarium is reported that mavenism, value, features, quality and value for money in the descending order. It is also evident that mavenim, value, and features are considered to be the top three dimension preferred by consumers.

Keeping pace with the preference of consumer towards aquarium hobby, strategies are presented in three sections as competitive strategy, market strategy and selling strategy

6.1.1. Competitive Strategy

The aquarium hobby is inevitable in inviting competition in the market. The following factors need to be considered to encourage competition.

a. Target Customers

- i. Household persons
- ii. Hobbyist
- iii. Business enterprise
- iv. Institutions

b. Profile of Users

- i. Children & Senior citizens
- ii. Male youth persons
- iii. Retail outlets and hotels
- iv. Educational institutions

c. Competitive strategy

- i. Offering completely assembled unit of aquarium in different sizes depending on target customers.
- ii. Offering parts of the aquarium model in different sizes.
- iii. Offering fish varieties ranging from small to large sizes.
- iv. Offering fishes with design patterns
- v. Offering fishes having aesthetic value
- vi. Formation of aquarium user's club
- vii. Promoting value based aquarium hobby

6.1.2. Marketing Strategy

Depending on four different target groups specified in the study, unique marketing strategies have to be designed focusing the category of aquarium users. The demographic and lifestyle with suitable marketing strategy is present for each group of target customers.

i) Target Customers Group I: Household users

a. Demographics

- i. Male
- ii. < Hr.sec. educational level
- iii. 20-30 age in years equipment's
- iv. Annual income Rs50000- Rs100000

b. Life style factors

- i. Non-Professionals
- ii. Non-users of Modern aquarium equipment's

c. Marketing strategy

- i. Small size for children, medium size aquarium for senior citizens.
- ii. Door delivery
- iii. TV advertisements
- iv. Flyers inserts in print media
- v. Localized trade show
- vi. Features of aquarium have to be used for poisoning in the minds of customers.

ii) Target customer group II: Hobbyist

a. Demographics

- i. Male
- ii. < 20yrs. of age
- iii. Graduate qualification

b. Life style factors

- i. Ornamental fish
- ii. Non users of modern aquarium Equipment's
- iii. Non professionals

c. Marketing strategy

- i. large size aquarium offers
- ii. rare collection which are identify as new
- iii. professional knowledge related campaign
- iv. Organize professional aquarium users club.
- v. online (or) offline plat form to exchange information related to aquarium hobby and care
- vi. competition, contest, campaign
- vii. Quality of aquarium hobby need to be used as key dimensions for poisoning in the minds of hobbyists.

iii) Target customers group III. Business enterprises

a. Demographics

- i. Male
- ii. 20-30 yrs. of age
- iii. Postgraduate level
- iv. <50000 income

b. Life style factors

- i. Professionals
- ii. Users of modern aquarium Equipment
- iii. Ornamental fish

c. Marketing strategy

- i. Sales executives / representative to do personable selling with target.
- ii. Tele marketing campaign
- iii. opinion leaders advice in the form of word of mouth
- iv. offer door delivery
- v. Offer annual maintenance contract service.
- vi. Value or money of aquarium has to e used for poisoning in the minds of business enterprises.

iv) Target customer group IV: Institutions

a. Demographics

- i. Female
- ii. 20.30 yrs. of age
- iii. Graduates
- iv. Rs. 50000-Rs.100000 income

b. Life style factors

- i. Non-professionals
- ii. Non-users of modern aquarium Equipment's
- iii. ornamental fish

c. Marketing strategy

- i. life science based Offer
- ii. Research centers
- iii. Yoga centers
- iv. Approach government and private institutions to exhibit aquarium for marketing and counseling.
- v. As all three dimensions such as quality, value for money and features have been preferred by their in the first preference, any one of their dimensions are all the three dimensions together need to e used or poisoning aquarium in the mind of institutional users.

6.1.3. Implementation strategy

- i. Initially, it is essential to identify the existing users and non-users by way of conducting trade shows (or) exhibits.
- ii. Study the actual immediate requirements of the users and non-users
- iii. Design offers suiting to each members of target groups
- iv. Eventually, establish forum to exchange information, ideas etc., consistently to develop the mark.

7. Conclusion

Aquarium business service is an emerging field of business in India. It is interesting to note that there are more than 250 species identified but in the study, only 25 varieties are widely promoted along with five different models of aquarium in the district level. The business linkage for aquarium business service is established from fish identification to aquarium maintenance. In addition, variety of related business avenues have been explored from wild collection of fish, preparation of dry food, making of aquarium unit etc. The strategies recommended for aquarium business is focusing value of aquarium hobby, mavenism among users, special features of aquarium. However, more than breeding and farming aquarium fishes, aquarium business service is found to be more profit centered. Even though the marketing scale is an attempt for studying consumer preference for aquarium hobby, it paved way for establishing a marketing scale for measuring preference for hobby in general for the first time. In addition, it is really an interesting business proposition to promote aquarium clinic and fish tank cleaning service that are suited to target customer groups as a strategy based on consumer preference vis-a-vis marketing strategy. In essence, there is value in aquarium business service for every target customer.

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Table 1: Hypothesis Testing

S.no	Name of the hypothesis test	Details of hypothesis	P value	Result
1	Non-parametric association	<p>H₀: Consumers overall scores for preference and its dimensions for aquarium business services are not significantly influenced by their gender.</p> <p>H_A: Consumers overall scores for preference and its dimensions for aquarium business service are significantly influenced by their gender.</p>	0.006	Alternate hypothesis is accepted.
2.	Non-parametric association	<p>H₀: Consumers overall scores for preference and its dimensions of aquarium business services are not significantly influenced by their usage of modern aquarium equipments.</p> <p>H_A: Consumers overall scores for preference and its dimensions of aquarium business service are significantly influenced by their usage of modern aquarium equipments.</p>	0.746.	null hypothesis is accepted
3	Non-parametric association	<p>H₀: Consumers overall scores for preference and its dimensions of aquarium business services are not significantly influenced by their expertise as professionals and non-professionals.</p> <p>H_A: Consumers overall scores for preference and its dimensions of aquarium business service are significantly influenced by their expertise as professionals and non-professionals.</p>	0.154	null hypothesis is accepted
4	Non-parametric association	<p>H₀: Consumers overall scores for preference and its dimensions of aquarium business services are not significantly influenced by their awareness level know about synthetic salt.</p> <p>H_A: Consumers overall scores for preference and its dimensions of aquarium business service are significantly influenced by their awareness level know about synthetic salt.</p>	0.001	Alternate hypothesis is accepted
5	Non-parametric association	<p>H₀: Consumers overall scores for preference and its dimensions of aquarium business services are not significantly influenced by their age in years.</p> <p>H_A: Consumers overall scores for preference and its dimensions of aquarium business service are significantly influenced by their age in years.</p>	0.496	null hypothesis is accepted
6	Parametric association	<p>H₀: Means of consumer's overall scores for preference and its dimensions of aquarium business service are not significantly influenced by their gender.</p> <p>H_A: Means of consumers over all scores for preference and its dimensions of aquarium business service are significantly influenced by their gender.</p>	0.006	alternative hypothesis is accepted
7	Parametric association	<p>H₀: Means of consumers overall scores for preference and its dimensions of aquarium business service are not significantly influenced by their choice of pets.</p> <p>H_A: Means of consumers over all scores for preference and its dimensions of aquarium business service are significantly influenced by their choice of pets.</p>	0.115	null hypothesis is accepted
8	Parametric association	<p>H₀: Means of consumers overall scores for preference and its dimensions of aquarium business service are not significantly influenced by users categories of modern aquarium equipments.</p> <p>H_A: Means of consumers over all scores for preference and its dimensions of aquarium business service are significantly influenced by users categories of modern aquarium equipments.</p>	0.219	null hypothesis is accepted

Table-2: Profile of Aquarium Users

S.NO	DEMOGRAPHIC VARIABLES	CLASSES	FREQUENCY	percentage
1	Category of respondents	Household customer	26	17.3
		Hobbyist	117	78.0
		Business enterprise	6	4.0
		Institution	1	0.7
		Total	150	100.0
2	Qualification	Below Hr. Sec. level	56	37.3
		Undergraduate level	66	44.0
		Postgraduate level	23	15.3
		Others	5	3.3
		Total	150	100.0
3	Age in years	Below 20	60	40.0
		20-30	60	40.0
		30-40	19	12.7
		40-50	7	4.7
		above 50	4	2.7
		Total	150	100.0
4	Gender	Male	104	69.3
		Female	46	30.7
		Total	150	100.0
5	Average annual income	Not response	52	34.7
		<50000	20	13.3
		50000-100000	53	35.3
		100000-150000	16	10.7
		150000-200000	3	2.0
		>200000	6	4.0
Total	150	100.0		
6	Experience in aquarium	<5 years	100	66.7
		>5 years	50	33.3
		Total	150	100.0
7	Training program	Attended	19	12.7
		Not attended	131	87.3
		Total	150	100.0
8	Professional knowledge	Professional	58	38.7
		Non-professional	92	61.3
		Total	150	100.0
9	Familiar aquarium	Single species aquarium	44	29.3
		Community type aquarium	97	64.7
		None	9	6.0
		Total	150	100.0
10	Pets	Dog	9	6.0
		Rabbit	7	4.7
		Ornamental fish	130	86.7
		Birds	4	2.7
		Total	150	100.0
11	Modern aquarium equipments	Users	98	65.3
		Non-users	52	34.7
		Total	150	100.0
12	Marine ornamental fish	Aware	76	50.7
		Unaware	74	49.3
		Total	150	100.0
13	Synthetic salt	Aware	26	17.3
		Unaware	124	82.7
		Total	150	100.0

Figure-1: Profile of aquarium users

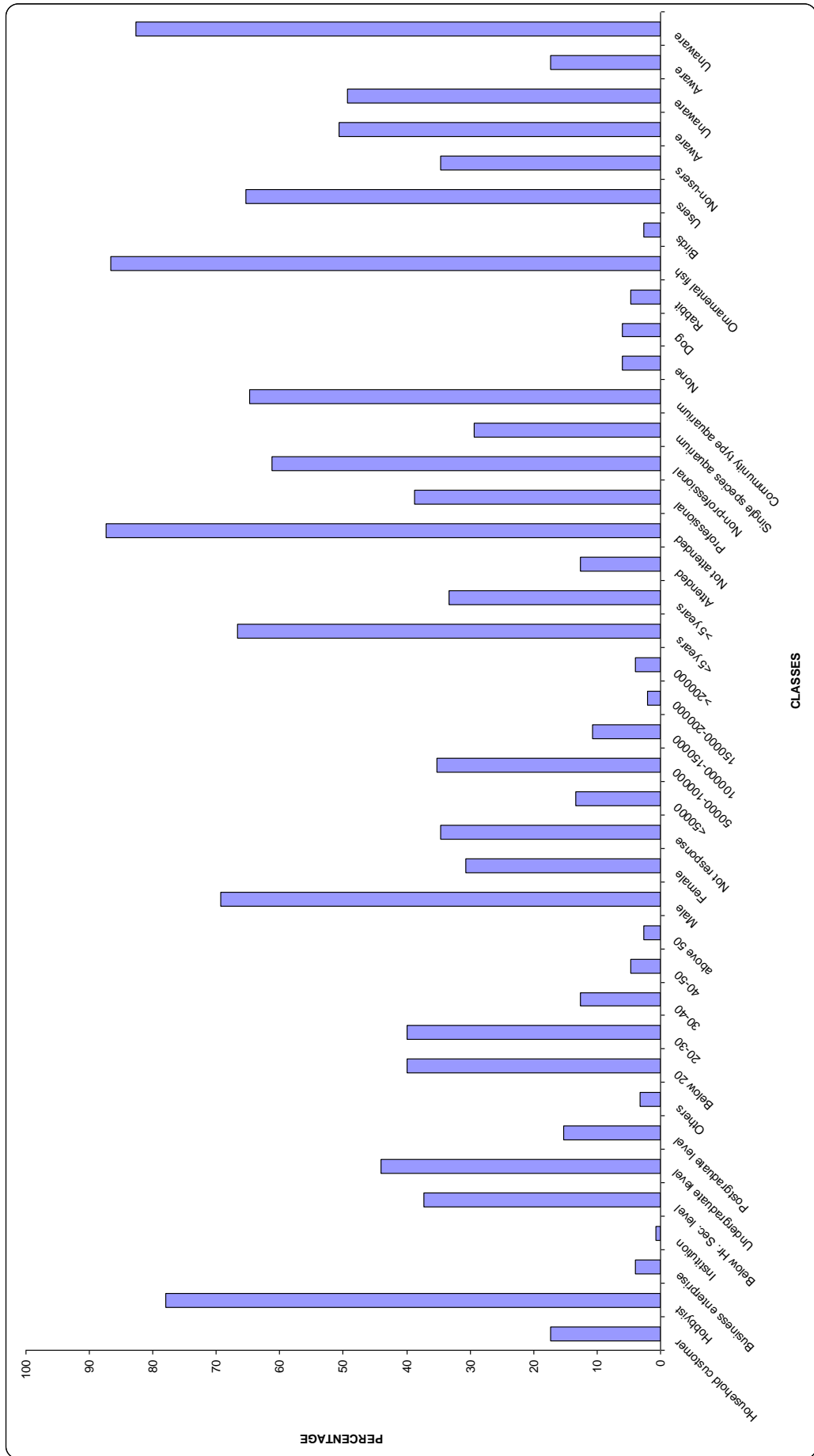


Table-3: Hypothesis test of Correlation

Factors (Descriptive)		Quality	Value	Value for money	Feature	Mavenism
QUALITY Max. Score=20 Mean=15.8733 Std. D=3.98705 N=150	Pearson Correlation	1	.627(**)	.367(**)	.500(**)	.574(**)
	Significance (1-tailed)		.000	.000	.000	.000
	N		150	150	150	150
VALUE Max. Score=20 Mean=21.8333 Std. D=5.17793 N=150	Pearson Correlation		1	.601(**)	.633(**)	.696(**)
	Significance (1-tailed)			.000	.000	.000
	N			150	150	150
Value for MONEY Max. Score=20 Mean=15.1000 Std. D=3.85953 N=150	Pearson Correlation			1	.540(**)	.459(**)
	Significance (1-tailed)				.000	.000
	N				150	150
FEATURE Max. Score=20 Mean=15.6800 Std. D=3.50899 N=150	Pearson Correlation				1	.647(**)
	Significance (1-tailed)					.000
	N					150
MAVENISM Max. Score=20 Mean=14.2000 Std. D=3.79685 N=150	Pearson Correlation					1
	Significance (1-tailed)					.
	N					

**Correlation at 0.01(1-tailed).

Table-4

a. Non-parametric association between consumer preference and demographic and life style variables

	Demographic Variables	variables	value	df	significance
1	Gender	Quality	6.709(a)	2	.035
		Value for money	9.763(a)	2	.008
		Features	8.330(a)	2	.016
		Value	6.290(a)	2	.043
		Overall preference	10.140(a)	2	.006
2	Modern Equipments	Quality	21.869(a)	2	.000
3	Professional knowledge	Value for money	8.477(a)	2	.014
4	Syntactic salt	Mavenism	5.748(a)	2	.056
		Overall preference	14.188(a)	2	.001
5	Age	Feature	10.707(a)	4	.030

Table-5

a. parametric association between consumer preference and demographic and life style variables
 Oneway Descriptive Based On Gender, Preference Pets, Modern Aquarium Equipments

S.NO	Demographic Variables	variables	Classes	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
								Lower Bound	Upper Bound		
1	Gender	Quality	Male	104	15.2885	4.11644	.40365	14.4879	16.0890	4.00	20.00
			Female	46	17.1957	3.35738	.49502	16.1986	18.1927	4.00	20.00
			Total	150	15.8733	3.98705	.32554	15.2301	16.5166	4.00	20.00
		Value	Male	104	21.1827	5.49097	.53843	20.1148	22.2505	8.00	30.00
			Female	46	23.3043	4.07087	.60022	22.0954	24.5132	14.00	30.00
			Total	150	21.8333	5.17793	.42278	20.9979	22.6687	8.00	30.00
		Value for money	Male	104	14.4712	4.11711	.40372	13.6705	15.2718	4.00	20.00
			Female	46	16.5217	2.74663	.40497	15.7061	17.3374	11.00	20.00
			Total	150	15.1000	3.85953	.31513	14.4773	15.7227	4.00	20.00
		Feature	Male	104	15.2885	3.81024	.37362	14.5475	16.0295	6.00	20.00
			Female	46	16.5652	2.52676	.37255	15.8149	17.3156	10.00	20.00
			Total	150	15.6800	3.50899	.28651	15.1139	16.2461	6.00	20.00
		Overall preference	Male	104	11.5000	2.66950	.26177	10.9808	12.0192	5.00	15.00
			Female	46	12.7391	1.75670	.25901	12.2175	13.2608	9.00	15.00
			Total	150	11.8800	2.48734	.20309	11.4787	12.2813	5.00	15.00
2	Preference Pets	Mavenism	Dog	9	11.1111	5.30199	1.76733	7.0356	15.1866	4.00	18.00
			Rabbit	7	16.2857	4.23140	1.59932	12.3723	20.1991	9.00	20.00
			Ornamental fish	130	14.3231	3.61996	.31749	13.6949	14.9512	5.00	20.00
			Birds	4	13.5000	1.29099	.64550	11.4457	15.5543	12.00	15.00
			Total	150	14.2000	3.79685	.31001	13.5874	14.8126	4.00	20.00
3	Modern Aquarium Equipments	Quality	Yes	98	16.5816	3.66067	.36978	15.8477	17.3155	4.00	20.00
			No	52	14.5385	4.26321	.59120	13.3516	15.7253	4.00	20.00
			Total	150	15.8733	3.98705	.32554	15.2301	16.5166	4.00	20.00
		Value	Yes	98	22.3776	5.18029	.52329	21.3390	23.4161	8.00	30.00
			No	52	20.8077	5.06444	.70231	19.3977	22.2176	10.00	30.00
			Total	150	21.8333	5.17793	.42278	20.9979	22.6687	8.00	30.00
		Value for money	Yes	98	14.6735	3.85237	.38915	13.9011	15.4458	5.00	20.00
			No	52	15.9038	3.77951	.52412	14.8516	16.9561	4.00	20.00
			Total	150	15.1000	3.85953	.31513	14.4773	15.7227	4.00	20.00

Table-6
One way ANOVA Based on Gender, Preference Pets, and Modern Aquarium Equipments

s.no	Demographic Variables	variables	Sources of variation	Sum of Square	df	Mean Square	F	Significance
1	Gender	Quality	Between Groups	116.008	1	116.008	7.622	.006
			Within Groups	2252.585	148	15.220		
			Total	2368.593	149			
		Value	Between Groups	143.565	1	143.565	5.517	.020
			Within Groups	3851.268	148	26.022		
			Total	3994.833	149			
		Value for money	Between Groups	134.108	1	134.108	9.518	.002
			Within Groups	2085.392	148	14.090		
			Total	2219.500	149			
		Feature	Between Groups	51.989	1	51.989	4.316	.039
			Within Groups	1782.651	148	12.045		
			Total	1834.640	149			
		Overall preference	Between Groups	2045.442	1	2045.442	7.849	.006
			Within Groups	38570.831	148	260.614		
			Total	40616.273	149			
2	Pet keeping hobby	Mavenism	Between Groups	120.252	3	40.084	2.886	.038
			Within Groups	2027.748	146	13.889		
			Total	2148.000	149			
3	Modern Aquarium Equipments	Quality	Between Groups	141.823	1	141.823	9.426	.003
			Within Groups	2226.770	148	15.046		
			Total	2368.593	149			
		Value	Between Groups	83.726	1	83.726	3.168	.077
			Within Groups	3911.108	148	26.426		
			Total	3994.833	149			
		Value for money	Between Groups	51.430	1	51.430	3.511	.063
			Within Groups	2168.070	148	14.649		
			Total	2219.500	149			

Consumers Perception Regarding Brand Equity of Fast Food Restaurants in District Peshawar

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Abstract --- The study was carried out in district Peshawar to assess the consumer's perception regarding brand equity of fast food restaurants in district Peshawar. Likert scale rating was used to categories the consumer's perception in five categories. Z test was used to figure out the proportional difference among the determinants of brand equity of the fast food restaurants in the highest category. The results of the study indicate that there is significant difference between the proportions of KFC and other restaurants regarding the awareness of the consumers in the highest category indicating that consumers are more aware about the brands of KFC compare to Chief Burger and Pizza Hut. For proportional difference among consumer's perception regarding usage of brands there is significant difference between the proportions of KFC and Chief Burger and Chief Burger and Pizza Hut. There is also significant difference between the proportions of KFC and Pizza Hut, Chief Burger and Pizza Hut regarding the judgment of fast food brands. There is no significant difference among the proportions of the there restaurants regarding performance and image.

1. Introduction

The concept of fast food restaurants emerged in the early 1980s in Pakistan. Consumer preference for the fast food and non-fast food items in Pakistan has been growing. The fast food restaurant industry is one of the fastest growing industries in many developing countries and especially the foreign brands such as the MC-Donald, KFC, Chief Burger, Subway etc and now capturing the market in Pakistan at increasing rate (Raza and Jalees, 2005). Consumer buying behavior varies from product to product. For product such as restaurants the consumer buying behavior is generally of seeking variety. In this type of behavior the consumer switch the brand for the sake of variety.

Brand Equity is a set of assets (and liabilities) linked to a brand's name and symbol that adds to (or subtracts from) the value provided by a product or service to a firm and/or that firm's customers (Keller, 2004). The major brand asset

categories are:

Brand awareness is the basic tool that depicts the acceptability of the brand and builds the perception of the firm within the target market. Awareness is the basic and foremost parameter in any brand related research.

Brand usage is the action parameter for any brand. It determines the level of consumer satisfaction while consuming the brand and it shapes the overall consumer behavior towards a brand. It leads to the development of consumer loyalty and ensures further penetration in the market.

Brand judgment focuses on customers' personal opinions and evaluations with regard to the brand. It measures how customers put together the different performance and imagery indicators of the brand to form different kinds of opinions.

Brand performance relates to the ways in which the product or service attempts to meet customers' functional needs. It refers to the intrinsic properties of the brand in terms of inherent product or service traits.

Brand imagery deals with the extrinsic properties of the product or service including the ways in which the brand attempts to meet customers' psychological and social needs. Brand imagery is how people think about a brand abstractly, rather than what they think the brand actually does.

In this research an attempt has been made to ascertain the brand equity. If a customer is satisfied from a fast food restaurant for the first time then he remains loyal for ever. The question arises that why customer prefer fast food and how brand loyalty and brand image develop. This research is conducted for the better understanding of examining the attributes of the fast food restaurants and the brand awareness judgment, performance, imaginary of the customer towards the fast food operating in Pakistan.

2. Literature Review

The literature on brand equity shows two major focuses viz. financial aspects and consumer behavior effects specific to a particular brand. For marketers, the consumer effects are the appropriate

focus and include a number of cognitive effects (Keller, 2004). Keller (1993) Conceptualized brand equity using an associative memory model focusing on brand knowledge and involving two components, brand awareness and brand image, described as a set of brand associations. Ries et al, (1981) argued that Brand Equity gives value to customers; this value is achieved by helping customers in processing information about the marketplace and gain confidence in their purchase decisions. Kapferer (2001) suggested that Brand equity gives value to the firm by increasing the effectiveness of marketing programs. Earls (2003) described Brand equity as the value a brand name adds to a product. Generally, it results from all the activities needed to market the brand. Rangaswamy et al (1993) used conjoint analysis to explore how brand names interact with physical product features to affect the extendibility of brand names to new product categories. Swait et al (1993) proposed a related approach for measuring brand equity which designs choice experience that account for brand name, product attributes, brand image and difference in consumer socio – demographic characteristics and brand usage.

3. Methodology

The study was conducted in district Peshawar to investigate consumer perception towards fast food restaurants. Three restaurants viz KFC, Chief Burger and Pizza Hut were purposively selected to get a blend of both local and international presence in the market. A sample of 100 respondents were non-randomly selected and interviewed for this purpose the data was collected during 2009 by closed ended questionnaire based on Likert Scale Rating. Schirmer et al. (2005) reported that the actual number of choices on Likert scale may depends on the tastes of the individual researchers. In practice, researchers often do assign a number of arbitrary choices according to the personal taste or using past evidences. In the present study, five different choices i.e. 1= strongly disagree; 2= disagree; 3= undecided; 4= agree and 5= strongly agree were used to collect the primary data on brand equity in the three selected fast food restaurants in district Peshawar.

The collected data was punched into SPSS to figure out frequencies in the highest category (strongly agree) for the three restaurants. To test the significant difference between the proportions of any two restaurants regarding the perception of respondents in the highest category (strongly agree), Z-test was applied, which is defined as:

$$Z = \frac{\hat{p}_i - \hat{p}_j}{\sqrt{\frac{\hat{p}_i \hat{q}_i}{n_1} + \frac{\hat{p}_j \hat{q}_j}{n_2}}}, \text{ which}$$

under the null hypothesis follow a standard normal distribution.

Where

\hat{p}_i and \hat{p}_j ($i \neq j$) are the proportions of respondents in the category “strongly agree” of i^{th} and j^{th} restaurants respectively. The proportions are derived by dividing the number of respondents in the category “strongly agree” by total number of respondents.

$$\hat{q}_i = 1 - \hat{p}_i$$

$$\hat{q}_j = 1 - \hat{p}_j$$

n_1 and n_2 are the sample sizes for i^{th} and j^{th} restaurants respectively.

4. Results and Discussions

There are five components of brand equity viz awareness, usage, judgment, performance and imagery. All these components affect and determine the brand equity. The difference of the proportions regarding the perception of consumers, in terms of all of the above mentioned five components, in the highest category (strongly agree) are presented in tables 1 to 5.

Table.1 Difference of Proportions of Fast Food Restaurants Regarding Awareness

Pairs	Prop. Difference	Z-test	p-value
KFC vs Chief Burger	0.12	2.03*	0.0211
KFC vs Pizza Hut	0.10	1.66*	0.0484
Chief Burger vs Pizza Hut	-0.02	-0.36 ^{NS}	0.3542

Source: Survey Data; * and ** indicates significant at 5% and 1% levels of probability respectively; NS shows non significant

Table 1 presents the difference among the proportions of restaurants regarding the awareness of respondents in the highest category (strongly agree). As evident by Z-value, there is statistically significant difference between the proportions of KFC and Chief Burger and KFC and Pizza Hut. There is non significant difference between the proportions of Chief Burger and Pizza Hut. It

indicates that the consumers' perception in terms of awareness was more for KFC compared to other fast food restaurants.

Table 2 Difference of Proportions of Fast Food

Pairs	Prop. Difference	Z-test	p-value
KFC vs Chief Burger	0.16	2.83**	0.0023
KFC vs Pizza Hut	0.06	0.96 ^{NS}	0.1685
Chief Burger vs Pizza Hut	-0.10	-1.85*	0.0321

Restaurants Regarding Usage

Source: Survey Data; * and ** indicates significant at 5% and 1% levels of probability respectively; NS shows non significant

Table 2 presents the difference among the proportions of restaurants regarding the usage of fast food brands by the respondents in the highest category (strongly agree). Z-value shows that there is statistically significant difference between the proportions of KFC and Chief Burger. There is also significant difference between the proportions of Chief Burger and Pizza Hut. The difference in the proportions of KFC and Pizza Hut is statistically non significant.

Table 3 Difference of Proportions of Fast Food Restaurants Regarding Judgment

Pairs	Prop. Difference	Z-test	p-value
KFC vs Chief Burger	-0.03	-0.47 ^{NS}	0.3192
KFC vs Pizza Hut	0.12	2.10*	0.0179
Chief Burger vs Pizza Hut	0.15	2.58**	0.0049

Source: Survey Data; * and ** indicates significant at 5% and 1% levels of probability respectively; NS shows non significant

Table 3 shows the difference among the proportions of restaurants regarding the judgment of fast food brands by the respondents in the highest category (strongly agree). Z-value indicates that there is statistically significant difference between the proportions of KFC and Pizza Hut, Chief Burger and Pizza Hut. While there is non significant difference between the proportions of KFC and Chief Burger.

Table 4 Difference of Proportions of Fast Food Restaurants Regarding Performance

Pairs	Prop. Difference	Z-test	p-value
KFC vs Chief Burger	-0.06	-1.06 ^{NS}	0.1446
KFC vs Pizza Hut	0.01	0.19 ^{NS}	0.4247
Chief Burger vs Pizza Hut	0.07	1.25 ^{NS}	0.1056

Source: Survey Data; NS shows that the proportion difference is non significant at 5% level of probability.

Table 4 shows the difference among the proportions of restaurants regarding the perception of respondents in the highest category (strongly agree). Z-value indicates that there is no statistical difference between the proportions of the three restaurants.

Table 5 Difference of Proportions of Fast Food Restaurants Regarding Imagery

Pairs	Prop. Difference	Z-test	p-value
KFC vs Chief Burger	0.01	0.19 ^{NS}	0.4247
KFC vs Pizza Hut	0.04	0.79 ^{NS}	0.2148
Chief Burger vs Pizza Hut	0.03	0.60 ^{NS}	0.2743

Source: Survey Data; ** indicates significant at 1% levels of probability; NS shows non significant

Table 5 shows the difference among the proportions of restaurants regarding the image of the fast food brands in the highest category (strongly agree). It is clear from the Z-value that there is non significant difference between the proportions of KFC and Chief Burger, KFC and Pizza Hut and Chief Burger and Pizza Hut.

5. Conclusion

The results of the study reveal that the consumer's perception in terms of awareness and usage was more for KFC compared to other fast food restaurants, while consumer's perception in terms of judgment was greatest for Chief Burger. Consumers reported that the performance and image of the three fast food restaurants were the same.

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