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Market research in the Vietnamese marine sector

Case study of eNav forecast - a navigation application developed by NASCA Geosystems

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Thesis abstract

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The objective of this paper was to identify the level of demand in the Vietnamese fisheries sector for e-Nav – weather and sea condition forecast application developed by NASCA Geosystems. NASCA Geosystems is a small company of five people operating in the field of information technology consulting. Management at NASCA Geosystems wanted to study the Vietnamese market in order to expand their operation in Vietnam.

In this thesis, both qualitative and quantitative methods were applied. The quantitative data was gathered from the official statistic sources namely the General Statistics Office of Vietnam, Indexmundi, the United Nations and the World Bank. The qualitative research includes an email interview with the director of NASCA Geosystems and a personal interview with Mr. Tran Dinh Lan from the Institute of Marine Environment and Resources.

The result of the study showed that there is a high demand in the Vietnamese fisheries sector. Even though the fishermen are not ready to give up the traditional boats and equipment and they usually lack the required technological skills, Vietnam can be still a promising market if NASCA Geosystems finds an appropriate local partner.

The author recommends that NASCA Geosystems continue to advertise their products through the company's website. At the same time, it is suggested that they search actively for a local partner who will then distribute their products in Vietnam. Moreover, NASCA Geosystems is recommended to pay more attention on the marketing activitiesFurther research should be carried out into the Vietnamese fishery sector.

Keywords: fishery sector, Vietnam, marine, market research.

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Abbreviations

B2B	Business to business
CEO	Chief Executive Officer
EEZ	Exclusive economic zone
GDP	Gross Domestic Products
GIS	Geographic Information systems
HCM city	Ho Chi Minh city
HP	Horsepower
IDV	Individualism
IMER	Institute of Marine Environment and Resources
IT	Information technology
LTO	Long-Term Orientation
MAS	Masculinity
NASCA	NASCA Geosystems
nm	nano meter
PDI	Power Distance Index

PEST	Political factors, economic factors, socio-cultural factors, technological factors
SWOT	strength, weakness, opportunities, threats
UAI	Uncertainty Avoidance Index
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
VND	Vietnam dong
WTO	World Trade Organization

Tables and figures

1 INTRODUCTION

1.1 Background Information

As the ocean makes up more than 70% of the earth's surface (Universe, 2011), marine sector plays an important role in the daily life of the global inhabitants. Standing out in the Southeast Asia with a fast and stable growth rate (Asian Development Bank, 2007), Vietnam has a coast of more than 3600km (Project GloBAL, 2011) with appropriate locations for the construction of shipyards and ship repair. In addition, alongside the country there are more than 100 locations where harbors and international connecting gateways can be built. Moreover, the fact that fishing is one of the major professions in Vietnamese economy, and that it is indeed still poorly equipped, there is a potential opportunity for foreign companies operating in marine equipment – related industries. Nevertheless, is that really enough to give Vietnam a chance to be among the most attractive marine markets for overseas investors all over the world?

Thanks to the study program in Finland that includes a semester abroad and six month internship; the writer had a chance to be a trainee in a French company operating in Geographic Information Systems (GIS) and marine navigation in Brest, France where a project for Vietnam was in preparation. During this period, the author worked as a French – Vietnamese translator for the new product, related documentations and presentations. Being inspired by the job and the daily information gained, the writer decided to choose this topic for the graduation research thesis. The subject pays attention to the Vietnamese fishery market with the purpose of giving the company a supportive research.

This thesis will discuss the potentiality of Vietnamese fishery market by indicating its growth rate and analyzing the important aspects of the economy. Furthermore, to apply the theory into reality, the latter half of the paper will be dedicated to ana-

lyze a specific product and its possible opportunities as well as threats when penetrating the Vietnamese market.

Concerning that Vietnam and France are extremely different in culture and economy, the author tries to give the readers a brief but detailed introduction about Vietnam itself, the country's economy and then a short foreword about marine sector. These titles will be presented in the "*Theoretical background*" part. Afterwards, the "*Practical part*" will follow with further analysis on the actual situation of the offshore fisheries in Vietnam. Next, a case study on a navigation application will be introduced and evaluated. The "*Conclusion*" pages will be dedicated to discuss the key research results and the output of the thesis.

1.2 Thesis layout

During the process of this paperwork, the author approached the topic in both qualitative and quantitative ways. Quantitative method is applied in gathering data from official statistical sources. Qualitative method is utilized in evaluating the actual situation of the Vietnamese market and two interviews with Mr. Francois Atilio, the chief of the enterprise where the product is developed, and Mr. Tran Dinh Lan from the Institute of Marine Environment and Resources of Vietnam (IMER). The first email interview output along with the list of questions can be found in the Appendix 2. The second interview was a personal interview.

1.2.1 Research question

With this thesis, the main question that the author would like to answer is

- Is there a high demand for e-Nav forecast in the Vietnamese offshore fisheries market?

1.2.2 Thesis information

Even though the detailed presentation about e-Nav forecast will be introduced in the section "*4.3 NASCA's products and E-Nav forecast application"*, the author found it important that the audiences understand the basic information about it. E-Nav forecast is an application that provides the users with weather forecast and predicted sea conditions so that they can schedule their trip offshore beforehand, or even take it with them if the boats are equipped with computers. Moreover, it is also an application that supports local governments and organizations with the coastal zone management.

In order to identify the Vietnamese market demand and to evaluate E-Nav forecast itself, the author suggests the supporting questions that will create a more detailed view on the topic. These questions will be examined as the thesis progresses.

- What is the background knowledge that one should know about Vietnam beforehand? Facts about the country and the culture?
- Is Vietnam a country with an interesting development rate? Is Vietnam's currency stable? How important is offshore fisheries activities to Vietnam's economy?
- What is the actual situation of the offshore fisheries? What is the number of labors in this industry and what is their level of education? What is their reaction the new technology innovations? Since this application must run on a computer, will fishermen be able to afford it?
- Through which channels should the company distribute their product? Are those channels efficient in reaching customers in Vietnam? How does E-Nav forecast meet the demand of the Vietnamese market? Can it be modified according to the different situations?

1.2.3 State methods

In the practical part of this thesis, readers will meet various methods of analysis such as SWOT analysis, PEST analysis and marketing mix. These methods were chosen based on their practical use in forming a detailed picture of the internal and external position for the company.

First of all, SWOT helps in creating an overall view of the core advantages as well as disadvantages of the company. Moreover, it also indicates the external factors such as opportunities and threats that await the firm in the target market. Besides that, while Marketing mix gives a specific view of product, price, place and promotion from the firm's subjective view, PEST, on the other hand, analyzes the situation of the target country by evaluating the four significant factors. These factors are: political factors, economic factors, socio-cultural factors and technological factors; and they play an important role in the development of the economy. In this case, the new target market is Vietnam – a country with a completely different legislation structure, culture, lifestyle, and business ethics. Therefore, it is indeed particularly vital to understand both company's and target market's characteristics.

SWOT analysis

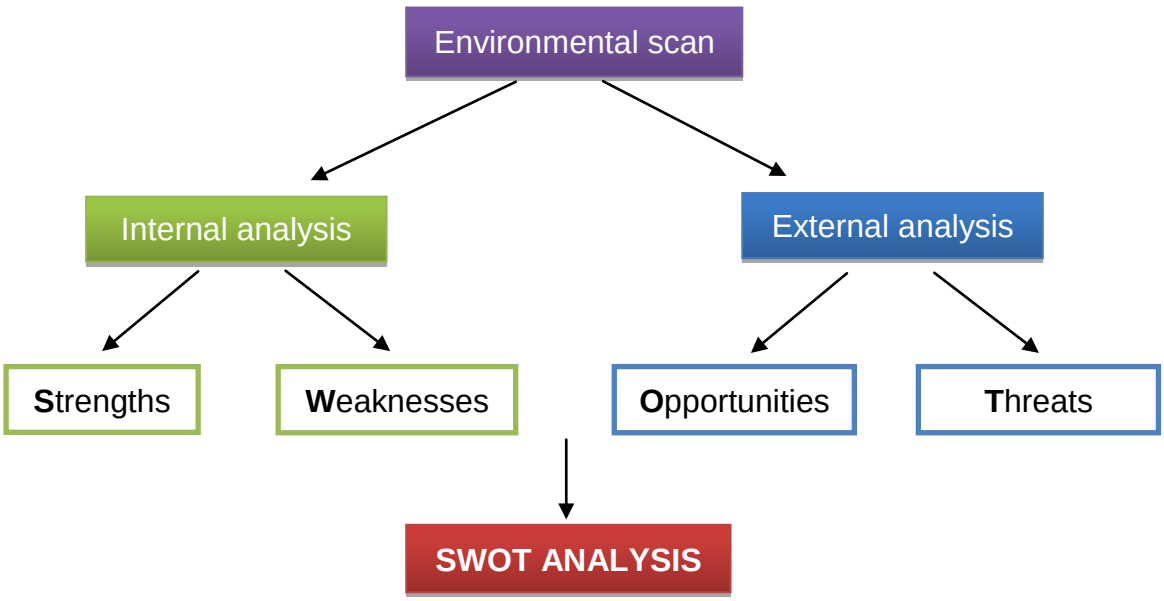


FIGURE 1: SWOT analysis diagram (Quick MBA, 2011)

SWOT analysis is an extremely useful strategic planning method helping companies in evaluating and understanding the surrounding environment. It is one of the key tools for decision-making. By understanding strengths and weakness, the firm can then use that to eliminate threats while catching the opportunities. SWOT is an abbreviation which stands for Strengths, Weaknesses, Opportunities, and Threats, in which Strengths and Weaknesses are internal factors while Opportunities and Threats are external ones.

- **Strengths**: This is an internal factor. A firm's strengths are for example its core values, resources, capabilities, and people. In short; it is everything that can be used as a basis for developing the competitive advantages.

- **Weaknesses**: This is an internal factor. Weaknesses are the aspects of the company that are missing from the strengths, aspects that the firm should take into consideration when trying to penetrate a new market.

- **Opportunities**: This is an external factor. Opportunities that can be found in the new target market, which have high probabilities of turning into a potential business chance.

- **Threats**: This usually includes many external factors of the target market such as political factors, legislation factors, IT development factors, etc.

(Quick MBA, 2011)

Marketing mix analysis

Marketing mix (also known as the 4Ps of Marketing) is an analysis tool that provides the company with necessary information to cover the four most important

elements in a marketing campaign, which are: Product, Price, Place and Promotion. Below is a brief description of each component of the marketing mix:

- **Product:** Product and/or service that the company provides. They have to either meet the demand and interest of the target market or be strong enough to create a new market niche.

- **Price:** The price of the product and/or service and or its level of common will have a large impact on its success in penetrating the new target market. If the kind of product/service, which the company is offering, is popular, the unit sales will be determined by the unit price. On the other hand, if the kind of product/service offered is rare or limited on the target market, then the changes in pricing will not be responded by the changes in the unit sales. Companies should do either a market research and/or a pricing test in order to find the right price for their products.

- **Place:** Place is understood as any means of distributing the products of the company. This can be done through numerous channels such as retail stores, emails, or downloadable files.

- **Promotion:** Promotion is the answer to the question “How will potential customers know about the new product and/or service?” Any possible way of providing information about the product/service to the potential customers is considered a way of promotion. Companies depending on their budget can decide to either use traditional ways of promotion such as advertising, public relations, point-of-sale displays and word-of-mouth promotion, or a creative mix of different channels.

(The Times 100, April 2011)

PEST analysis

PEST is an important tool used to analyze the macro environment. Once a company decides to expand to a new market, there are many factors that need to be taken into consideration. The diagram below, taken from The Marketing Teacher (April 2011) shows the main aspects of each factor.

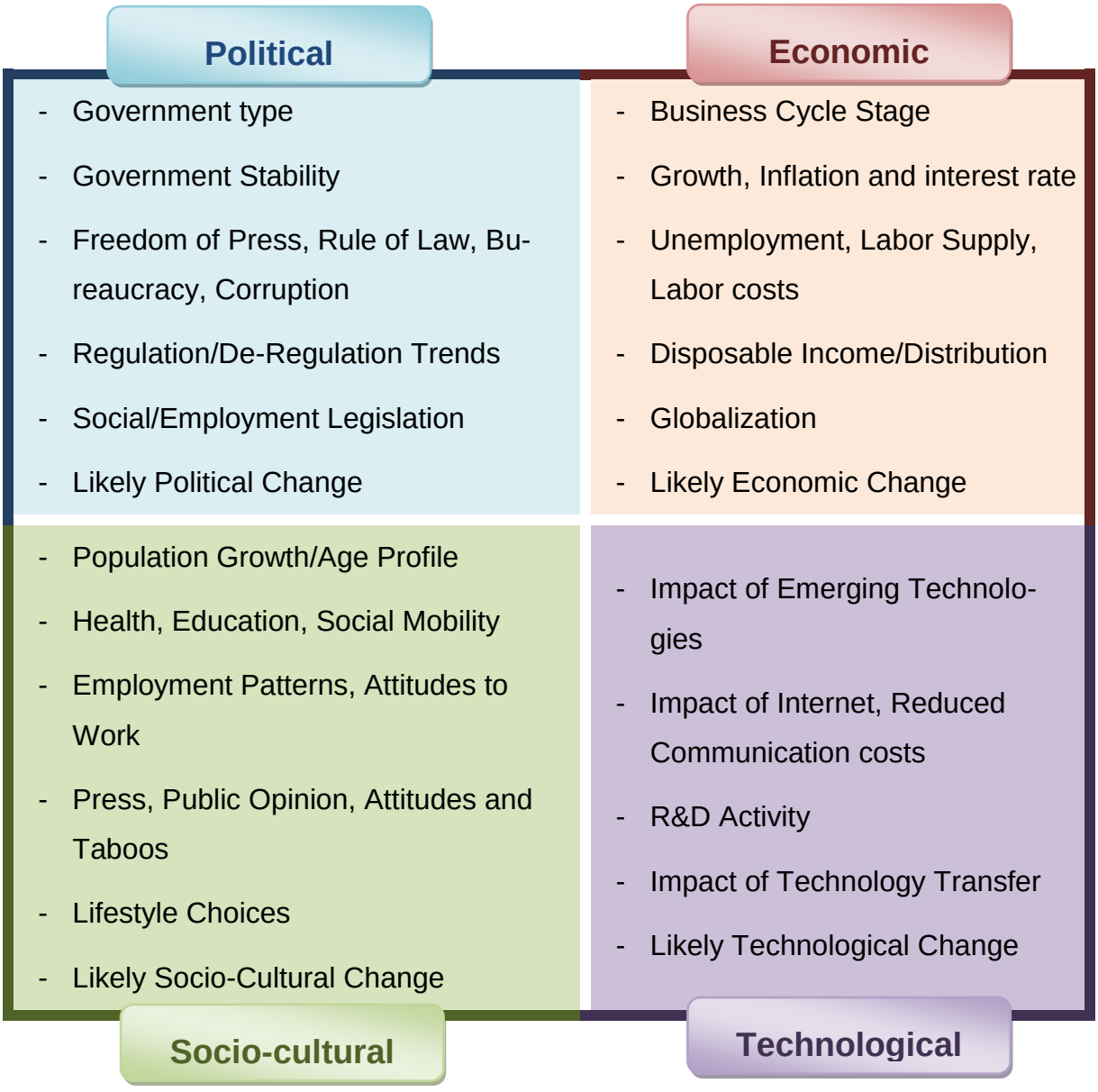


FIGURE 2 PEST diagram (Marketing teacher, 2011)

1.2.4 Research sources

The purpose of this thesis is to give the readers an overall and latest view about Vietnam, its economy in general and its marine sector market in details so that the Company can make their decision whether or not they should expand their market to Vietnam, and whether or not, it would be profitable. It is essential that the information used here is up to date. As a result, the statistical figures and tables were taken from the official open source researches on the internet and the previous studies of the General Statistics Office of Vietnam, the Index mundi, the United Nations, and the World Bank.

1.3 Literature review

For the reason that the specific information on the offshore fisheries market in Vietnam was missing, this thesis will discuss the theoretical possibilities of entering the Vietnamese market. Moreover, the previous studies related to this topic are out of date. Nonetheless, the author found it difficult to follow the previous works since it will give the readers a different view on the market than it actually is. Therefore, the company itself should carry out surveys and further research projects related to marketing and customers' demand in Vietnam if needed.

2 THEORETICAL BACKGROUND

2.1 Vietnam

The complete and official name of Vietnam is the Socialist Republic of Vietnam and it is a one-party Communist state. The country lies on the Indochina Peninsula of the Southeast Asia and shares a border with People's Republic of China on the North, Lao People's Democratic Republic and the Kingdom of Cambodia on the West, and the South China Sea on the East. Vietnam has a surface of around 330,000km² shaped like a lengthened S, merely 20% of which, is arable land. The rest of the area is covered with a diversity of mountains (approximately 40%), large forests (fairly more than 40%) with various species of animals, and huge wild caves. (Geographia, 2011; Vietnam National Administration of Tourism, 2011)

Additionally, Vietnam has a highly diversified climate even though the country lies exclusively on the northern hemisphere and not far from the equator. The main aspects that have a deep impact on the complex climate of Vietnam are the diverse range of latitude, altitude, and weather patterns. They have created two main regions of climate in Vietnam: the North with the Northern Central and the Southern Central with the South.

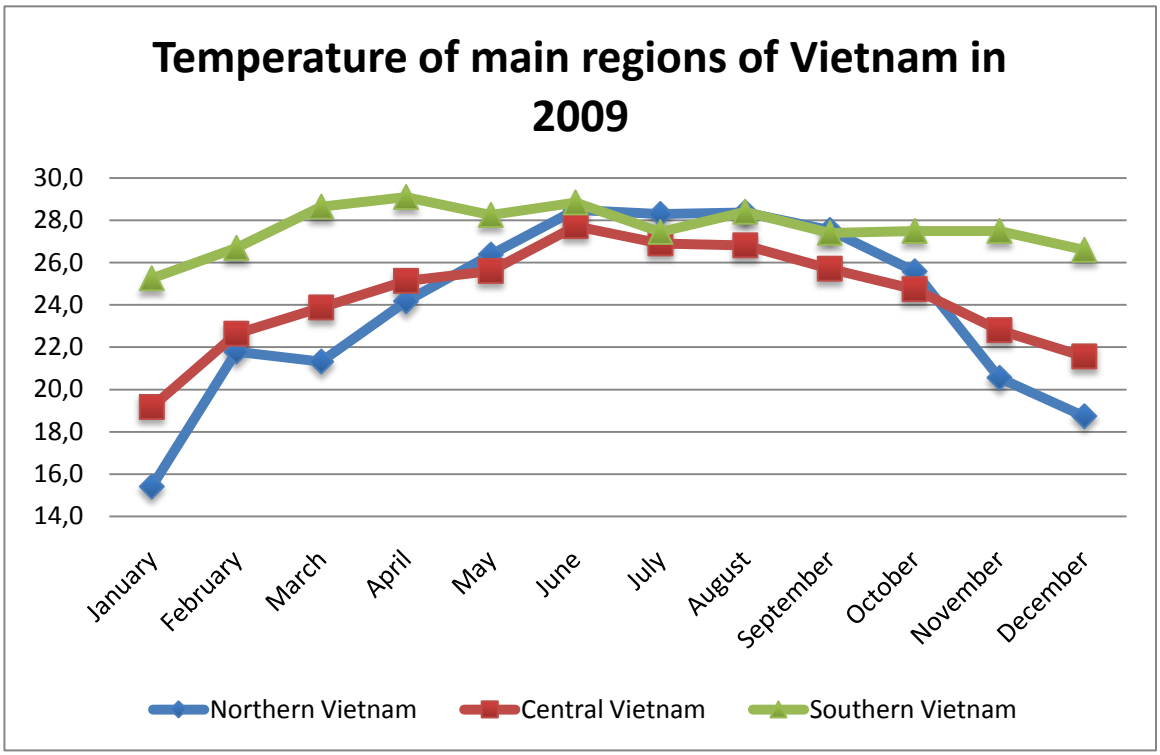


FIGURE 3. Temperature of main regions of Vietnam in 2009 (The General Satistics Office of Vietnam, 2011)

As it is described on the chart above, in the North and Northern Center of Vietnam, there exist two main seasons: a cold and humid winter which lasts 5 months from November to April then followed by a hot and wet summer for the rest of the year. On the other hand, the temperature throughout the remaining part of the country is quite high, stable and generally around 28°C (Vietnam National Administration of Tourism, 2011). The lowest temperature during the year is estimated in January and December, with an average of 15.4°C in the North, 19.2°C in the Center and 25.3°C in the South (The General Satistics Office of Vietnam, 2011). The temperature of the South is quite high and it does not fluctuate during all the year since its location is near the equator. Northern Vietnam has the largest difference between the summer and the winter. The highest temperature during a year is detected in June with 28.5°C and the coldest month is January with 15.4°C.

2.1.1 Culture

The Vietnamese background is deeply affected by the Chinese culture as Vietnam was under the Chinese rule for nearly a thousand years. Moreover, during nearly 100 years being invaded by France, Vietnam was also influenced by the French lifestyle. The spiritual culture in Vietnam is a complex reconciliation of different belief systems, including Confucianism, Taoism, Buddhism, Christianity and Tam Giao which is a blend of Taoism (a Chinese belief and ancient Vietnamese animism). (Geographia, 2011)

During a year, among about twenty traditional and religious holidays, the most expected one is the Lunar New Year, or in Vietnamese, Tết. It is a festival organized in the end of January or beginning of February depending on the lunar calendar. This week-long traditional time of the year is mostly dedicated to family members. Vietnamese people who work or study far from home or have to spend most of the year away from their country would make effort to come back for this occasion in order to reunite with their most beloved. (Geographia, 2011)

In Vietnam, there are more than 50 different ethnic groups with different languages and different lifestyles. However, the main one is the "*Kinh*", also known as the "*Viet*". They make up nearly 90% of the population and mainly live in the arable area of the country. Therefore, the national and official language in Vietnam is Vietnamese, which is used by the principal group of Vietnam, the *Viet*. For most of the history, the official written language was the classical written Chinese. Afterwards, in the 13th century, based on the Chinese symbols, "*Chu Nom*" was invented and considered the correct first written Vietnamese. However, the modern written Vietnamese was created only in the 20th century by a French Jesuit missionary named Alexandre de Rhodes, who was working in Hanoi during the French colonial period. Nonetheless, "*Chu Nom*" was still the primary choice of the poets and writer in literature and poetic long afterwards. (Oppenheimer, 1998)

Cultural Dimensions

According to Hofstede's cultural dimensions (ITIM International, May 2011), which are Power Distance Index (PDI), Individualism (IDV), Masculinity (MAS), Uncertainty Avoidance Index (UAI), Long-Term Orientation (LTO), Vietnam has a rather high power distance, low individualism, a moderate masculinity and uncertainty avoidance, and high long-term orientation.

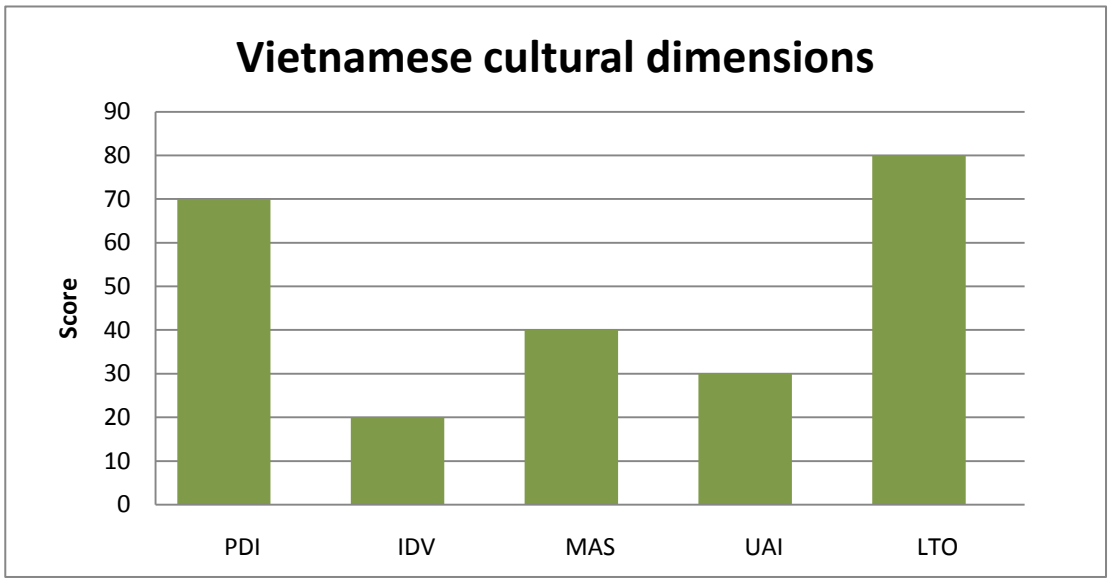


FIGURE 4. Vietnamese cultural dimensions (ITIM International, May 2011)

The high power distance can be seen in both daily social and professional lives of Vietnamese people. At the family level, children have to comply with what their parents and grandparents say; younger daughters and sons have to obey their elder brothers and sisters. At the organization level, there is a remarkable presence of hierarchy and an obvious subordinate-superior relationship. Regarding the individualism, Vietnam, during its 4000 years of history, has always been a communist country. Collectivism plays an important role and can be noticed through self - functioning communities, sole political leadership, parliament, the government controlling the main economic products such as electricity, water and fuel, and in group work everywhere. It is considered that working in groups creates a positively competitive atmosphere; group members are capable of helping and encouraging each other, and therefore, the production increases. Even though

afterwards, the leaders realized that group work creates self-dependence and laziness, the changes in individualism index is still insignificant. The masculinity core is average, showing the equality between men and women's position in the society. Not until the last three decades that this index has changed. In the past, men played a much more important role in both society and politic. However, with the progressive influence of the western countries and the entering of globalization, women in Vietnam step by step started to establish quite a stable stand in every field of industry activities and society. The uncertainty avoidance appears in stable jobs, rather strict legislation, and policies. Last but not least, the long-term orientation is extremely important in Vietnam. Firms look for long-term partnerships and people try to save each other's face and establish a reliable network. The word "no" used directly is considered exceptionally impolite and normally it ruins the relationship. Therefore, the phrases such as "may be later", "I am not sure", "we can discuss that issue another time", are often used in situations where the speaker wants to reject the partner but still try to save his face. (Quang & Vuong, 2002, 36-55)

2.1.2 People

The population of Vietnam is estimated to be 89 million people by the end of 2010 (United Nations, 2010). Additionally, having the growth of around 1% every year (Indexmundi, 2010), Vietnam adds annually approximately one million of people to its workforce. Moreover, according to the recent statistics, the government has made significant changes in the educational legislation in order to increase the percentage of literacy from more than 90% currently (CIA, 2010) to around 99% in 2011. (The Vietnam National Ministry of Education and Training, 2010)

The graphic below shows the amelioration of the literacy in Vietnam from 2000 to 2009.

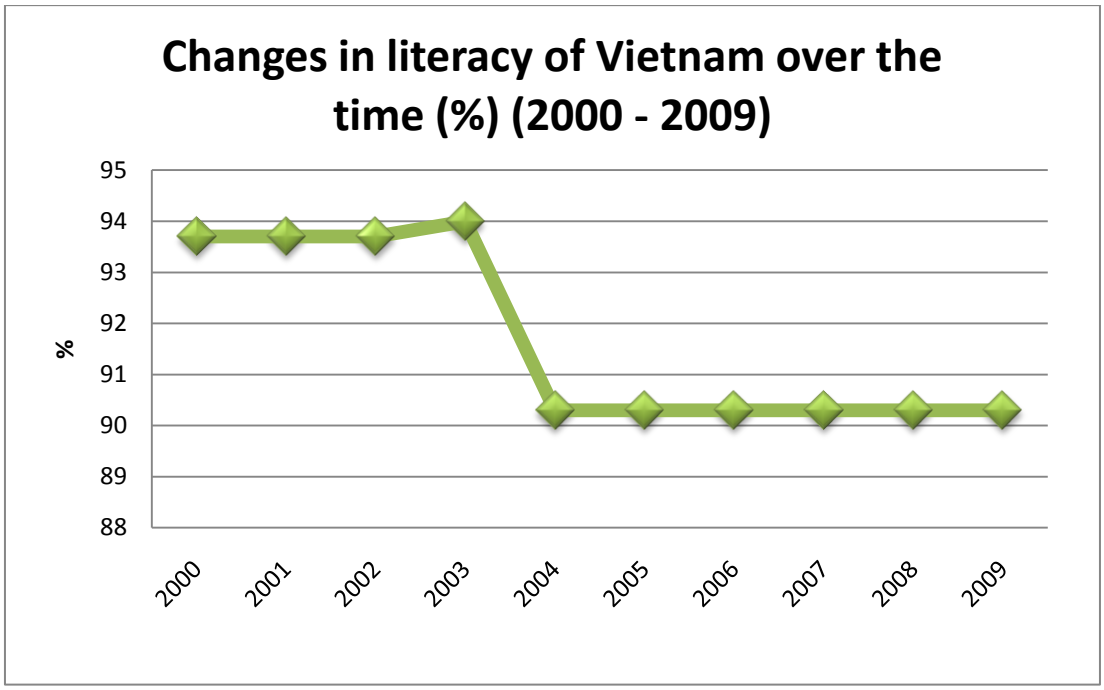


FIGURE 5: The changes in literacy of Vietnam over the time (%) (2000 - 2009) (CIA, 2010)

As we can see on the chart above, the percentage of literacy is about 90% and it has been stable for the last 6 years. However, there is a significant down turn which happened in the year of 2003. This was caused by the unusually high 2.34% of growth in population.

Although, the government has special policies for young people who cannot afford high educations, the literacy rate is still affected by the sudden increase in the population growth in 2003. Therefore, their effort may not seem to show a great impact on the changes in the literacy rate. According to this law, in every province throughout the whole country, there are low cost or free vocational training centers and primary schools in order to equip them with necessary knowledge and skills. After graduating from these centers and/or schools, these young people are well-prepared to find a suitable job for a better life. (The Vietnam National Ministry of Education and Training, 2010)

2.2 Vietnam's economy

In December 1986, the Sixth Congress of the Communist Party of Vietnam decided to follow the example of China by putting aside the old dogmas and implement a new reform package with free market democracy known as "Đổi mới" (Renovation). Not long after that has the Vietnamese economy gradually risen to a new standard with an extremely remarkable growth and developments in all aspects of the economy such as agricultural and industrial production, construction and housing, and export and foreign investment. Even though Vietnam and the United States of America had an intense relationship after the Vietnam War (1954 - 1975), this has gradually been improved, however not without challenges. The significant turn in their diplomatic relation was witnessed in March 1993, when the US lifted its trade Embargo, allowing Vietnam to finally export goods to this promising market of the world. Another significant step in the economic field of Vietnam was to join the WTO (the World Trade Organization) in January 2007. This opened the doors to the whole new era in which Vietnam can freely and fairly trade products globally. (Pham & Vuong, 2009)

As pointed by the General Statistics Office of Vietnam (see the table below), thanks to the significant change in the economic legislation, the GDP growth since 1990 has boosted impressively at the rate of approximately 200% every 5 years. According to the website of The World Bank (May 2011), "*In the post-global economic crisis environment, Vietnam's economy continues to grow at a reasonably rapid and stable rate*." In 2007, the world has witnessed the uneven speed of the economy recovery in different regions on earth because of the global crisis. Nonetheless, Asia in general and Vietnam in particular still stands out with the real GDP growth of more than 6.3% a year in 2008.

Year	Nominal GDP (Billion VND)	Nominal GDP (%)	Real GDP (VND)	Real GDP growth rate (%)
2005	839211	17.32	393031	8.44
2006	974266	16.09	425373	8.23
2007	1143715	17.39	461344	8.46
2008	1485038	29.84	490458	6.31
2009	1658389	11.67	516568	5.32
2010	1980914	19.45	551609	6.78

TABLE 1 Gross Domestic Products at current and constant prices (2005 - 2010) (The General Satistics Office of Vietnam, 2011)

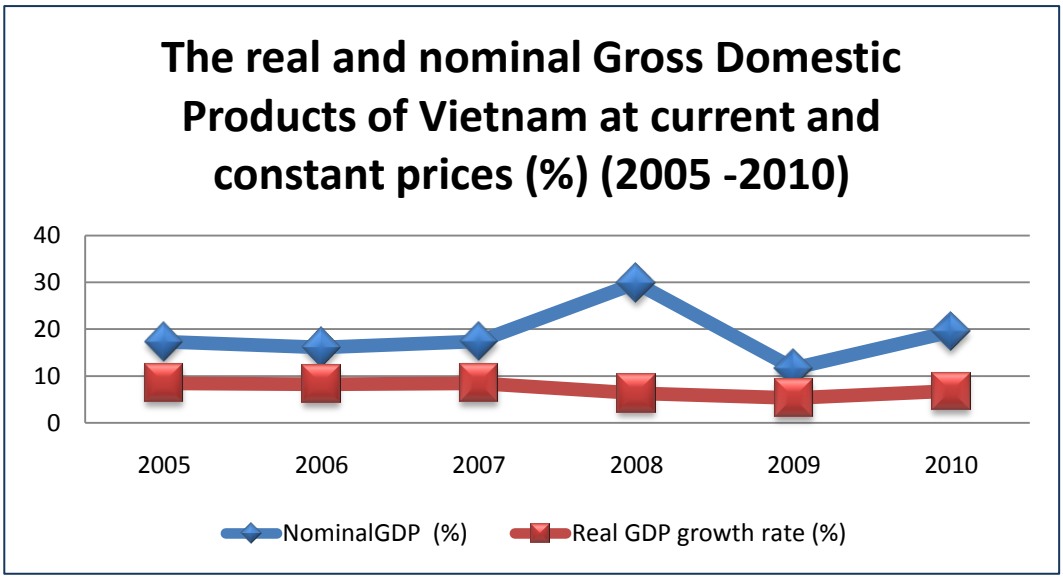


FIGURE 6. The real and nominal Gross Domestic Products of Vietnam (%) (2005 - 2010) (The General Satistics Office of Vietnam, 2011)

Nevertheless, hand in hand with the impressive increase of the GDP growth is the incredibly high percentage of inflation which was 11.75% at the end of 2010 and which is forecast to be at around 8.5% by the end of 2011. (Vietnam Business, April 2011). This reason has caused the real GDP growth (GDP growth on an annual basis taken out the inflation effect) to be much lower than the nominal GDP. Especially, from the chart, it can be clearly seen that in 2008, even though the

nominal GDP increased to nearly 30%, the real GDP was actually decreasing from 8.64% in 2007 to only 6.34% in 2008 because of the world crisis. Moreover, the gradual depreciation of Vietnam Dong in comparison with foreign currencies, which was at 5% in 2010 and is predicted to be 9% in 2011, also creates difficulties for the Vietnamese economy and risks for foreign investors.

2.3 Vietnamese marine sector

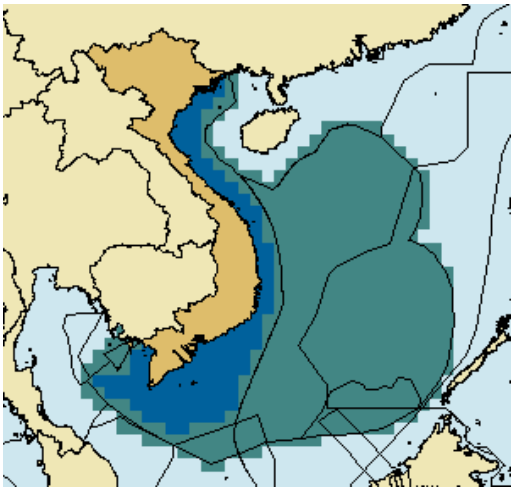


FIGURE 7: Map of EEZ of Vietnam (Project GloBAL, 2011)

First of all, below are some facts about the maritime claims of Vietnam, which were published by the United Nations Convention on the Law of the Sea (UNCLOS) (United Nations, 2010)

Territorial sea: 12 nm
Contiguous zone: 24 nm
Exclusive economic zone: 200 nm
Continental shelf: 200 nm or to the edge of the continental margin

With a hundred of harbors (Appendix 1) throughout the extreme length of more than 3600km of the seashore, Vietnam's marine sector is developing faster and faster every year during the last two decades. In order for the readers to better understand the situation, this part of the paper will be divided into smaller catego-

ries as follows: offshore fisheries (i), tourism (ii) and shipyard building and transportation (iii).

2.3.1 Offshore fisheries

According to the Project GloBAL (Project GloBAL, 2011, ss. 3-4), for a long time, Vietnam has been already known as a country specializing in agriculture, forestry and aquaculture. As the matter of fact, with favorable conditions of the maritime claims stated above, Vietnam's offshore fisheries began to grow rapidly since the early 1960s with small scale extensive systems such as rice-cum-fish, livestock-cum-fish and earthen ponds. After more than fifty years of development, nowadays, this sector has been expanded and diversified according to the natural conditions such as climate and geography. There are four main fishing areas in Vietnam: Gulf of Tonkin, shared with China, Central Vietnam, South-eastern Vietnam, and South-western Vietnam (Part of Gulf of Thailand), shared with Cambodia and Thailand. Central and Southeast Vietnam have the highest marine catches.

Every year, the offshore fishing sector adds approximately twenty seven thousands new employments who are involved in fisheries sector. Nonetheless, given that the largest part of the boats have miniature engine (engine with the power of less than 45HP); most of the catching activities occur near the shore. The potential offshore fishing is poorly exploited. Consequently, large foreign boats with power engines of more than 200HP and a length of more than 25m often infringe the Vietnamese seawater zone and fish illegally. Off the record, there are between 300 and 500 calls of foreign boats fishing illegally in Vietnamese sea zone annually. (Project GloBAL, 2011, ss. 3-4)

2.3.2 Tourism

A significant part of the tourism is the marine tourism. Vietnam has many favorable conditions and elements for the development of this market: the richness of the

culture, beautiful beaches, islands and forest with a wild nature and a moderate climate. Moreover, because the Vietnamese living standard in general is still low, the costs and fees for tourists, especially foreign ones, therefore, are quite affordable.

Vietnam attracts a great number of leisure boat commercial activities, especially in the South where the average temperature is 30°C and where the significant storms rarely visit. The major touristic attraction is Ho Chi Minh City and the Mekong delta, in the middle of Vietnam it is Da Nang, Phan Thiet. In the North, however, there is a clear seasonal cycle with cold winter months (the temperature may even fall to minus 10°C, creating remarkable troubles for the habitants and the local government) and a harsh climate. Nevertheless, Ha Long bay in the Northern region is still one of the must-see places in Vietnam. In 1994, it was recognized as a UNESCO World Heritage and recently it has been nominated for New Seven Wonders of the World. With more than 3000 beautiful islands of all sizes and an amazing blue color of the water, Ha Long bay, every year, receives hundreds of thousands of tourists from all over the world, creating jobs and revenue for regional citizens. Cat Ba – the biggest of islands in Ha Long bay is becoming the target of a development plan for marinas by Vinaconex – one of the biggest construction incorporations in Vietnam. (Andrew, 2010)

Generally, the total number of leisure boats operating in Vietnam does not exceed 150. This is way below the potential capacity and the demand of the market. Ha Long bay alone with 35m of seashore has enough conditions and space for a marina with a capacity of 450 sea traveling boats. Even though the majority of the existing boats manufactured in Vietnam are made from wood in a traditional way, we can see signs of fiberglass ships that will soon enter this market. (Andrew, 2010)

2.3.3 Shipyard building and Transportation

According to Mr. Nguyễn Hồng Sơn – Deputy Director of the Department of Economy, Central Party Committee (May 2011), Vietnam has 46 shipyard constructing and ship repair factories, 60 vessel – lifting construction works. With the current infrastructure, the Vietnamese industry of shipbuilding is capable of manufacturing approximately150 ships per year. With many favorable natural conditions and appropriate locations for building new harbors, in the near future, Vietnam will have strong and well-equipped infrastructures. This is the basic premise that will give Vietnamese marine industries an important boost in development of national fleets. Regarding the Vietnamese war which killed millions of people and destroyed the whole economy and the country in the past, this can be already considered a significant achievement of Vietnam in the transportation and shipyard building sector.

According to the CIA World Fact book, as to March 11, 2010, there are 537 merchant maritime ships in Vietnam. 84 of which were registered outside Vietnam, namely: Cambodia 1, Honduras 1, Liberia 3, Mongolia 34, Panama 37, Taiwan 1, Tuvalu 6, and unknown 1 (2010). If the type of ship is taken into consideration, there are 12 different types of merchant maritime kind of ships in Vietnam. The table below shows the number of each type.

Type	Barge carrier	Cargo	Chemical tanker	Bulk carrier	Container	Liquefied gas	Passenger	Passenger/cargo	Petroleum tanker	Refrigerated cargo	Roll on/roll off	Specialized tanker
Amount	1	330	24	103	20	7	1	1	46	2	1	1

TABLE 2 Merchant maritime by type of ships in Vietnam (2010) (CIA, 2010)

During the 10th Central Conference, the government decided to declare the resolution No 09-NQ/TW on 9th February 2007 about the Vietnamese Sea Strategy which will expire in 2020. According to this resolution, sea transportation is considered one of the key service sectors, in the immediate future together with the shipbuilding industry; it should receive high investment and attentions for development. (Ministry of Justice)

The chart below shows the increase in cargo carriage of the first quarter of the last 4 years with the year 2008 as 100%.

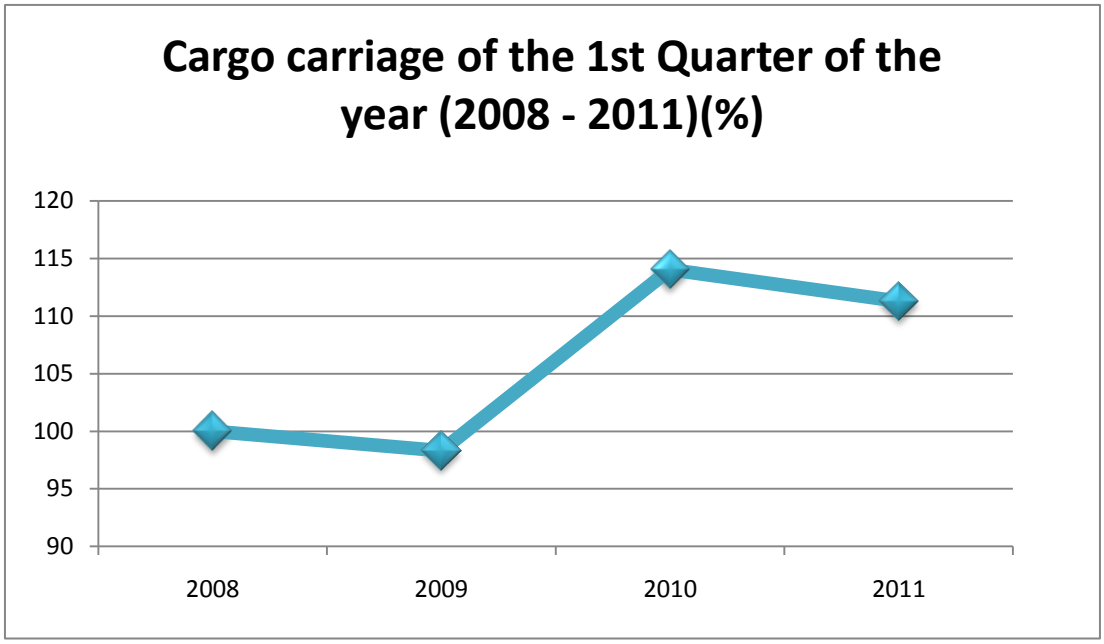


FIGURE 8 Cargo carriage of the 1st Quarter of the year (2008 – 2011) (%) (The General Satistics Office of Vietnam, 2011)

As said by the Vietnamese government, the farthest region of Vietnam is solitary 500km away from the seashore. Therefore, to ensure the necessary conditions for a rapid and steady growth of potential economic sectors, in the near future, the management has to focus on constructions of sea ports, harbors, ship building industry and other essential infrastructure.

According to Mr. Le Nguyen (Le, 2011), particularly in 2010, the production of goods transported by the Vietnamese transporting fleet reached more than 88 mil-

lion tons, which increased 109.4% in comparison with the year 2005. Especially, domestic transportation estimated 26.4 million tons, while international traffic reached 62.4 million tons. Considering the development of fleets and maritime transportation as of end 2010, Vietnam has a fleet of 1636 ships with the total capacity of 4.5 million GT and the tonnage of 7.1 million DWT. Regarding the total load, it has increased 108.8% compared to 2005.

2.4 Market segmentation

With the intention of making it clear to the readers and the company, below is a diagram that shows the different groups of customers and the activities that E-Nav forecast is capable of supporting.

From this diagram, it can be clearly noticed that the general picture of the promising Vietnamese marine market that is categorized according to the type of business, which is the most convenient classification for NASCA Geosystems. The company afterwards is capable of establishing a different business marketing approach for each group.

The first business group consists of organizations that work in the field of resource research and environment protection. The application is capable of supporting the resource exploration, its condition and decision making process. Based on the data gained, these organizations may decide on further actions and build a project plan.

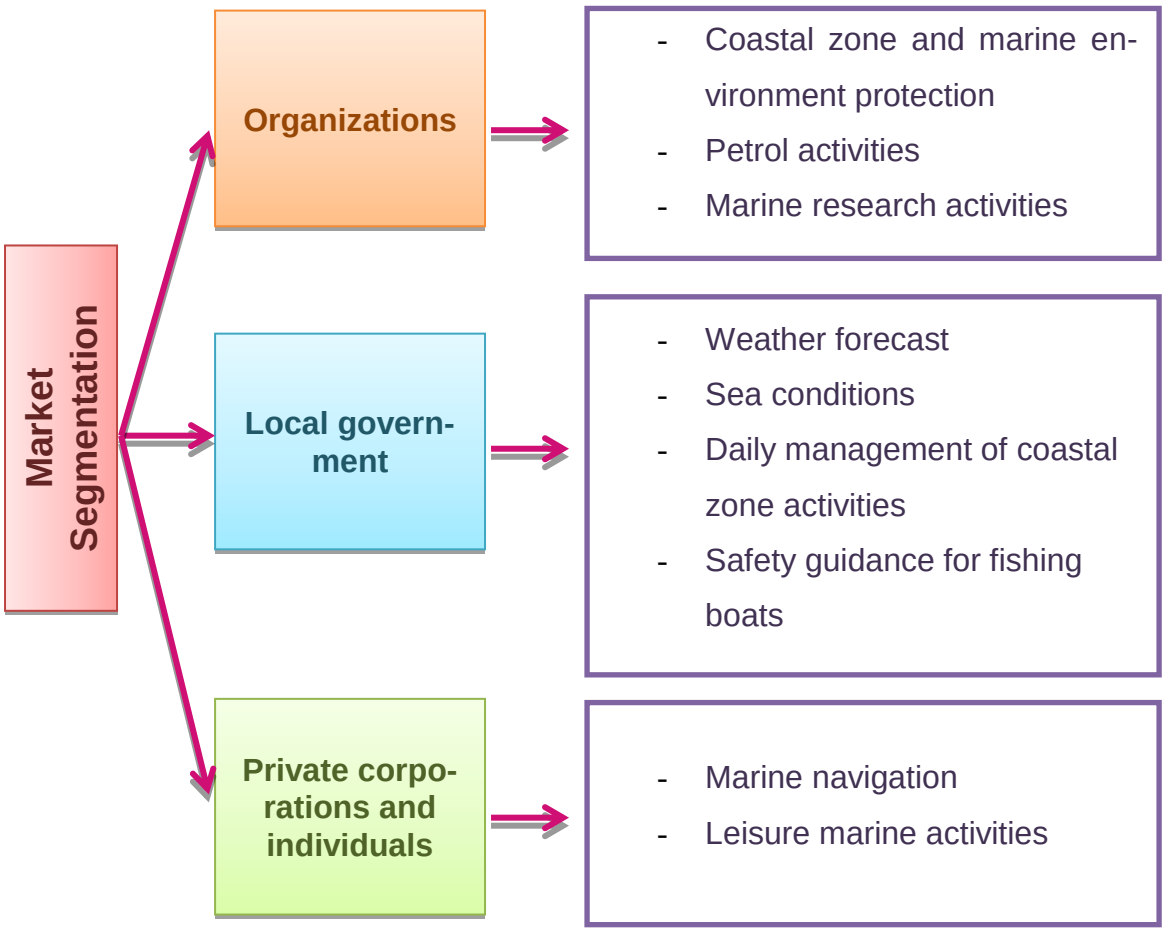


FIGURE 9. Market Segmentation diagram

The second remarkable group includes local governments. E-Nav forecast, with its own characteristics, assists the harbours with the daily management of the coastal zone activities, both industrial and leisure ones. Moreover, because the price of the public application can be adapted to the standard income of the fishermen in Vietnam, it can be distributed and used for fishing activities and safety guidance when the weather and sea conditions worsen.

The third business target group takes account of private companies and individuals. The possible activities here are marine navigation for touristic cruise lines, goods and passenger transportation lines, and individuals who plan to sail for pleasure.

Although these activities are not new in Vietnam, there are not enough of software providers that are capable of meeting the demands from this fast developing market. Consequently,

Nonetheless, even though Vietnam seems to be a promising and unexplored market, there are still many challenges and difficulties that NASCA should take into consideration before they penetrate the market. Therefore, in the practical part of the thesis, we will discuss Vietnamese market by analyzing the actual situation of the sector through figures and previous studies. However, for the reason that the thesis is limited in time and framework, the author only analyzes the offshore fishing sector in Vietnam with the intention of giving the readers the most detailed and specific study possible.

3 PRACTICAL PART: THE ACTUAL SITUATION OF THE OFF-SHORE FISHERIES IN VIETNAM

3.1 Workforce of the fishery sector

The quantity of fishery employments in Vietnam as on the 1st of July 2009 was 1.7 million people, which accounted for 3.7% of total employed population. This number increased by more than 20 000 people in comparison with the previous year and by more than 94 000 people compared to the year 2007. (The General Satistics Office of Vietnam, 2011)

In 1999, the coastal area's total number of inhabitants was 19 million and it is estimated to undergo an increase of more than 35% by the end of 2020. The population density in these areas in 2005 was 253.48 people / km². (Nasuchon, 2008) In general, the educational level of fishermen and their family is low. According to the General Statistics Office of Vietnam, practically 70% of them never obtained education from primary schools and are not capable of reading or writing. Only 10% of the fishermen completed secondary school and less than 1% has graduated from vocational schools or universities with a certificate or a diploma. Children in poor fishermen families start working at the age of less than 10 in order to help their parents while the legal working age in Vietnam is 15 years old. This is caused by the poverty and the lack of support from the local government. Fishermen without education, technological knowledge, money and with many children cannot even afford daily groceries. It is almost impossible for them to purchase advanced equipment, revolutionize their current insufficient tools for potential offshore captures or totally change their job. Fishing is rather a family career, if not the only choice that inhabitants of the coastal areas have. Additionally, with the high population growth and the overexploitation of the near shore marine resources, this is a circle that never ends. (Vietnam Ministry of Labors-Invalids and Social Affairs,

2010) Therefore, fishermen tend to expand their fishing zone and look for new potential zones even though their equipment is not developed for that.

3.2 Vessels and equipment

Firstly, here we have the figures from the General Statistic Office of Vietnam, according to which, the number of vessels for offshore fishing is increasing significantly fast every year, especially in the Northern midlands and mountain areas where the number raises approximately 1000 pieces every year. The total amount of fishing boats in this area accounts for nearly 60% of the whole country. The Red River Delta has the smallest number of fishing boats since the fishermen in this region are specialized in aquaculture and inland-water fish farming. (The General Satistics Office of Vietnam, 2011)

	2000	2005	2006	2007	2008	Pre. 2009
			Piece			
WHOLE COUNTRY	**9766**	**20537**	**21232**	**21552**	**22729**	**24990**
Red River Delta	263	936	909	931	1020	995
Northern midlands and mountain areas	5965	11052	11453	12027	13178	14610
South East	112	3033	3331	2986	2642	3044
Mekong River Delta	3426	5516	5539	5608	5889	6341

TABLE 3 Number of vessels for offshore fishing by province in Vietnam (2000 - 2009) (The General Satistics Office of Vietnam, 2011)

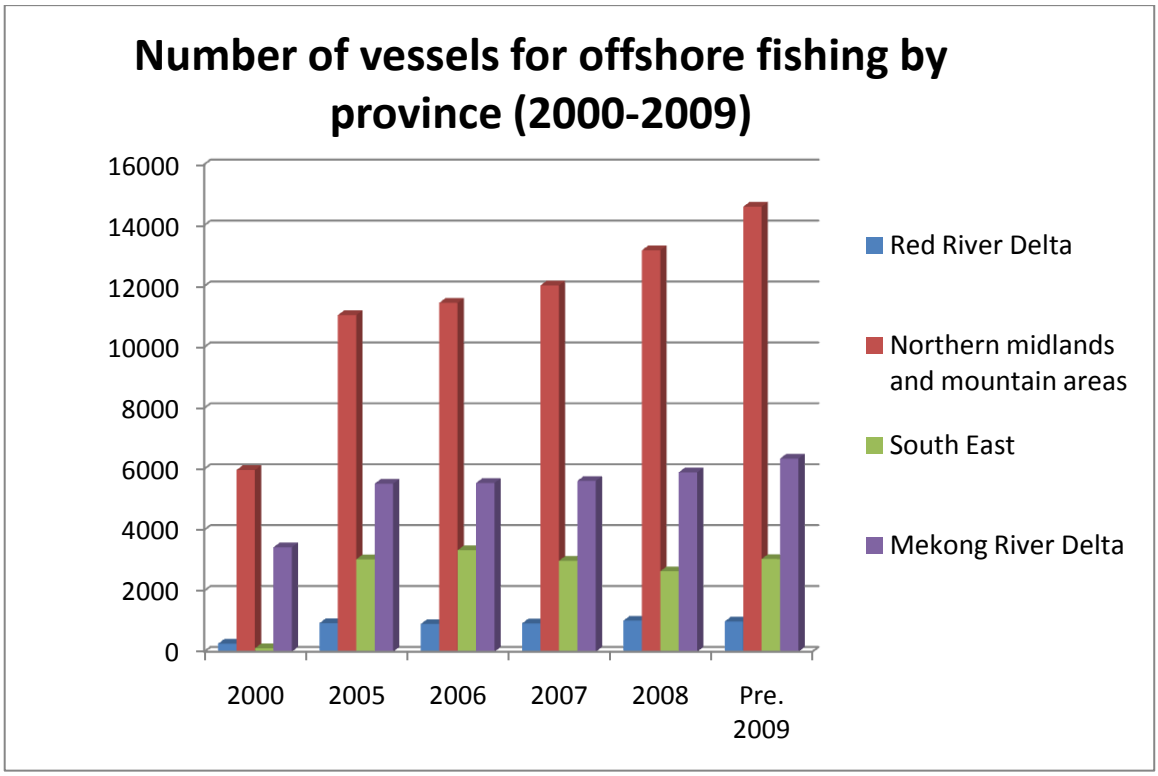


FIGURE 10 Number of vessels for offshore fishing by province (2000 - 2009 (The General Satistics Office of Vietnam, 2011)

Within the last decade, the number of fishing boats, size of boat and motive equipment on board has been improved impressively. Conversely, around 84% of the boats still have engine power lower than 90HP. Consequently, most of fishing activities take place in near-shore waters, creating high fishing pressure and high environmental risks on the costal zones. Furthermore, almost all of the fishermen are poor and they lack technique and necessary education, as a result, they cannot afford the larger and stronger boats in order to catch offshore, the earning per fishing boat has been falling down, the competition increases and the resources are overexploited. (Project GloBAL, 2011)

On the other hand, according to another academic research by the University of Copenhagen and the Central Institute for Economic Management, Ministry of Planning and Investment of Vietnam (Development Economics Research Group, University of Copenhagen and Central Institute for Economic Management, Ministry of Planning and Investment of Vietnam, 2010), the problem does not

come from the unaffordable cost of the modern and safer fiberglass vessels. The government has tried for many years with the intention of persuading fishermen to replace their old and wooden offshore vessels with this new type of boats. In addition, local as well as foreign banks are also well aware of the possible benefits from these new boats. Therefore, there is normally no problem concerning loans for fishermen. However, fishermen still hesitate to change their traditional vessels. Many of them, took the loans, bought new boats with 20% of the money loan and use the rest for something else. Therefore, these new boats are not efficient and not well-equipped for fishing offshore. They are left unused onshore afterwards. Money is lost and still, the situation does not change (Tran, 2011). According to the survey carried out by the same research team, fishermen are usually too attached to the traditional boats to understand the danger they are facing and the low benefit that comes along. Another serious constraint could be that the only Vietnamese company operating in the field of manufacturing fiberglass boats is the East Sea Fisheries Cooperation and their production capacity cannot meet the growing demand from the fishermen community. Hence, even though this firm owns a noticeable chilling technology onboard, which helps keeping the high quality of the captures, and given the fact that for the same size, fiberglass boats are not significantly more expensive than the wooden traditional vessels, a resistance from the fishermen community still exist.

The fishing gears for exploitation of marine resources in Vietnam are enormously diverse, rich in names as well as in scales. According to incomplete statistics, there are 20 groups of 6 types of fishing gear that are used in Vietnam. In 2005, there were 85000 registered vessels, divided by the type of nets as shown on the graph below:

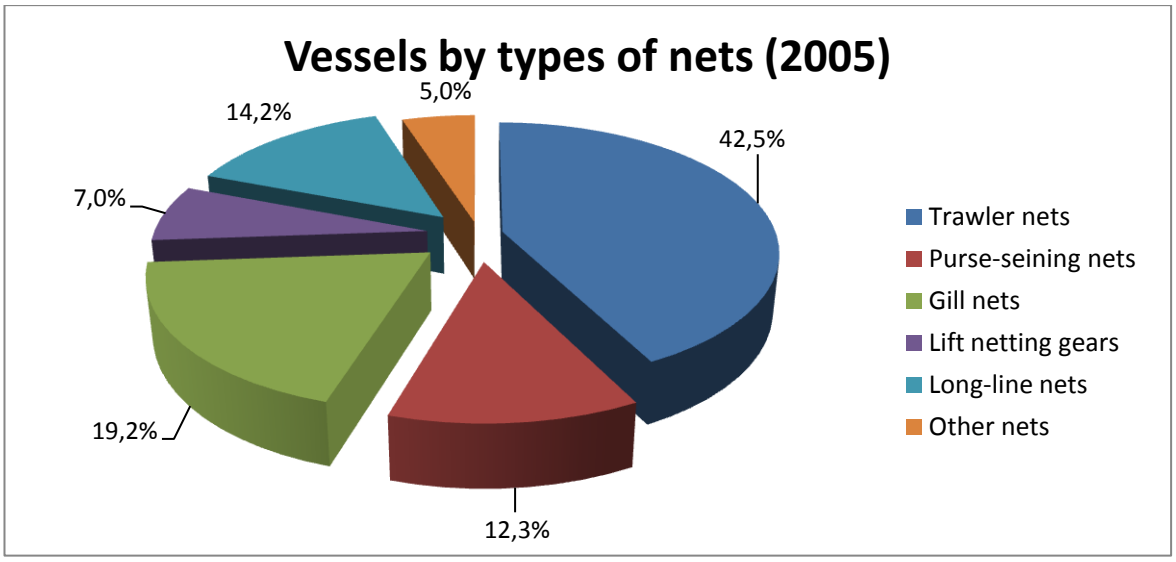


FIGURE 11 Vessels by types of nets (2005) (Hamman et al.2005, according to (Development Economics Research Group, University of Copenhagen and Central Institute for Economic Management, Ministry of Planning and Investment of Vietnam, 2010)

Besides, there are around 10 000 fishing boats with the engine of 33-45 HP that can catch offshore under favorable weather conditions, however, they are extremely limited in exploitation capacity. (Seminar on Biodiversity and Climate Change: The Relationship to Poverty and Sustainable Development, 2007)

As stated above, the shallow-water offshore zones of less than 60m in depth are overfished and exhausted of resource. There are only about 6675 vessels fitted with engines of 90HP or higher; out of more than 20 000 vessels all together and only around 100 of the vessels have the ability to fish in the deep sea because of their 400 to 500 HP engines. For that reason, the government is offering subsidies of about US$3,500 a year for fishermen who obtain new boats with an engine exceeding 90HP in order to persuade them to use larger and better equipped boats for offshore fishing. (Food and Agriculture Organization, 2001)

Regarding the equipment on the boats with engines exceeding 45 HP, 33% of them are provided with the satellite navigation devices, 21% have fish detectors, 63% are equipped with short-range radars and 12.5% have long-range radios. According to this statistics, it can be concluded that the fishing boats are still very

poorly equipped. Therefore, the boats are extremely limited in the capacity, ability and even safety. (Seminar on Biodiversity and Climate Change: The Relationship to Poverty and Sustainable Development, 2007)

Another problem with Vietnamese fishermen is that, they use homemade mines and electrical pulse to fish. These activities are not only unsafe for the fishermen themselves, but also, since the damage radius is about 8 to 10 meters; all the living species in that area are dead, threatening the aquatic environment. However, according to the unofficial statistics, no more than 20% of the dead aquatic species are caught. (Tran, 2011) That means, the rest 80% goes to waste. A high percentage of this waste includes young fish, making it impossible for them to reproduce afterwards. Hence, the water environment is more and more overexploited. "*Nowadays, there are very few people who fish with traditional ways and nets because of the low efficiency. Using electric shocks and homemade mines is both much faster and more profitable*." – said Hoang Van Tan, a fisherman in Phu Khanh, Vietnam As a result, even though they are aware that these activities are illegal, many of the fishermen still use them as their daily way of fishing (Duy, 2011)

3.3 Offshore captures

In the past decade, the output and export value of marine captures has increased continuously and it has put Vietnam among the leading countries in the world in this field. In 1990, total aquatic production was roughly 1million tons and the export turnover was US $200 million. By the end of 2003, the output increased 2.5 times and the export turnover increased 10 times in comparison with 1990. (Office of Fisheries of Vietnam, General Statistics Office of Vietnam)

The Vietnamese administration had set a Master Plan for Development of the Fisheries Sector during the period of 5 years from 2006 to 2010. According to this, the output of marine capture fisheries is due to achieve at least 1.5 to 1.7 million

metric tons. After the Plan finished, the total amount of offshore fishing reached around 1.8 million metric tons a year. (World Fishing, May 2011)

Following is a chart describing the offshore capture shares of different regions in Vietnam in 2009.

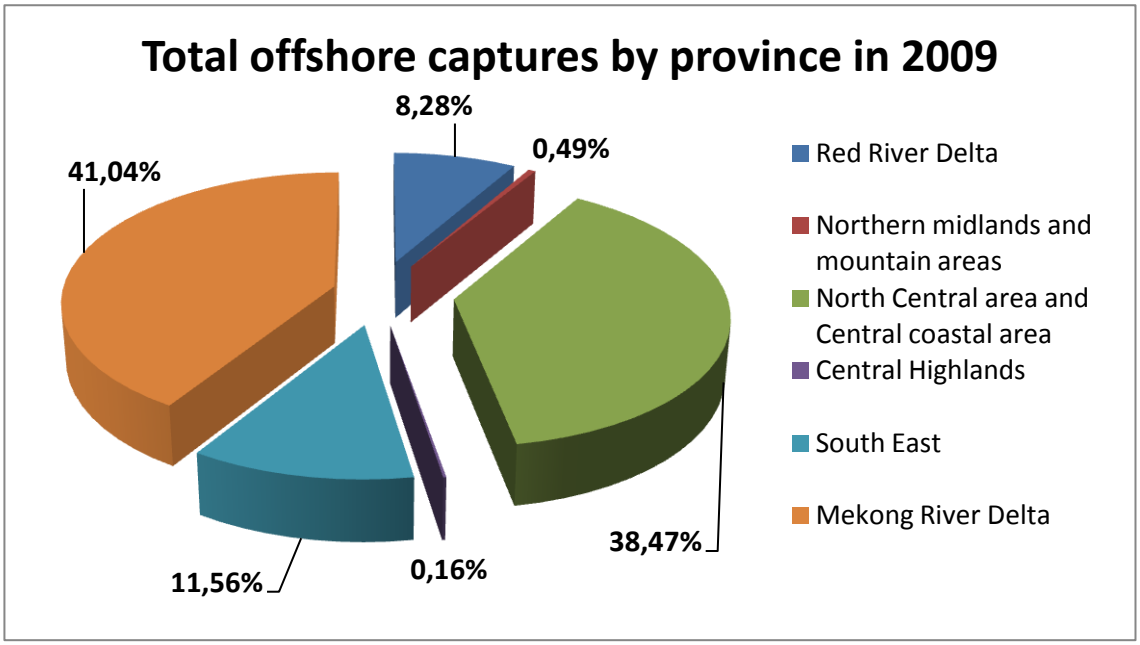


FIGURE 12 Total offshore captures by province in 2009 (The General Statistics Office of Vietnam)

As shown on the graphic representation, more than 50% of the captures offshore take place in the waters off-southern Vietnam (Mekong River Delta and the South East). The central waters follows with approximately 40% of the catch (This area includes North Central area and Central coastal area). The rest came from the Gulf of Tonkin in the northern region of Vietnam.

However, even though the government along with the banks encouraged the development of the offshore fishing by providing the favorable conditions and accessible loans as stated above, the number of marine captures per boat has decreased by nearly 47%. The chart below shows the comparison between the changes in total capacity, captures and the number of vessels for offshore fisheries from 2000 to 2009.

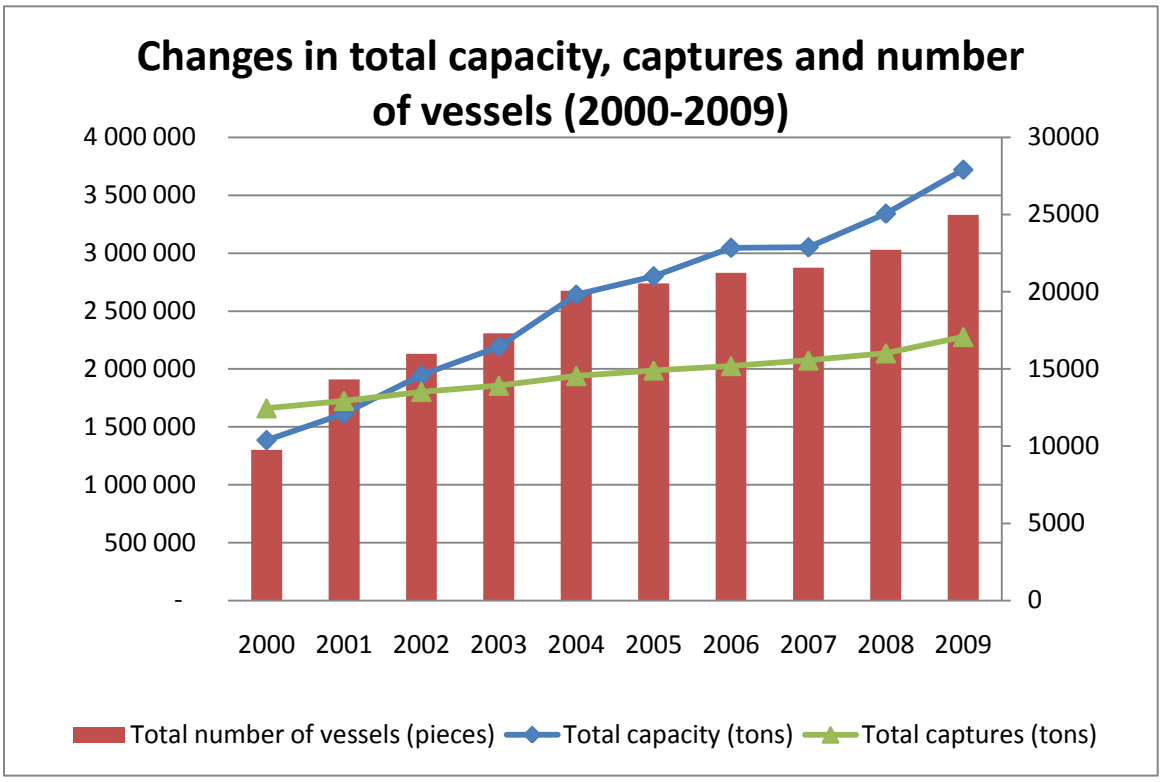


FIGURE 13 Changes in total capacity, captures and number of vessels (2000-2009) (The General Statistics Office of Vietnam)

From the graphic above, we can see that the total capacity of fishing boats for off-shore captures has been ameliorating with a high rate for the last decade. From not more than 1.4 million tons in 2000, in 2009 this number had increased over 2.5 times. However, the number of vessels increases even faster. This shows that each year the number of boats with small capacity augments quickly, creating a high pressure on the near shore waters and decreasing the profitability per boat. It is once again confirmed by the changes in the number of captures. In 2009, while the number of vessels boosted more than 15 000 pieces, the number of captures only went up to nearly 620 000 tons. This means, that whilst in 2000, the average capture per fishing boat was approximately 170 tons per year, in 2009, each vessel merely caught around 91 tons a year. In other words, the near shore waters are so overexploited and overcrowded that fishing boats are less and less profitable. Consequently, fishermen's income is not enough to allow them to purchase advanced equipment for further offshore fishing.

3.4 Coastal zone management

Giving the statistical data and the evaluations above, the coastal zone management meets a significant problem that needs to be solved as soon as possible. As of end of the first quarter of 2011, the estimated number of fishing boats is 132 000 pieces of different kinds, the major part of which, are poorly equipped. (Vũ M., 4 April 2011) The only way of controlling these boats while they are offshore is to use the direct monitoring systems which are located inland near the seashore, through forms of communication radios. The local governments face many difficulties in managing the exact coordinates of each vessel when they are offshore. This happens due to the fact that fishermen tend to hide their locations on purpose or intentionally report it incorrectly in order to keep secrets of their fishing locations. Therefore, when the weather and sea conditions worsen, it is hard to communicate with the boats and guide them to a safe anchorage.

According to the statistics of the Vietnam Maritime Administration, from January until November 2010, in the whole country, there were 28 cases of maritime accidents, which are 38 cases less than the same period of the year before (66 cases in 2009). Number of deaths was 9, decreased by 2 people (11 deaths in 2009), and the number of injures was 12 people and did not change. However, it is worth mentioning that just in the last month of 2010, the number of marine accidents reached nearly a dozen cases, in which, there were already three serious ones. In reality, over 70% of these accidents are caused by human factors. In the past few years, numerous seminars of the Maritime Conferences took place in order to find a solution to reduce the amount of accidents. Nevertheless, none of suggested solutions seem to be sufficient since even though the situation is not new, it is indeed worsening every year. (Đặng M, 6 January, 2010)

The investigative reports on the maritime accidents have shown that crew members of these wretched boats lack basic qualifications and legal knowledge, especially the legal provisions on maritime safety, for example: realm, safe speed, signal lights, and radios.

All the information in this practical part of the thesis showed that in Vietnamese offshore fisheries sector, there is undeniably a high and urgent demand for a sufficient application that provides detailed information about the weather forecast and the predicted sea conditions. It will be of a great help for the local government concerning the coastal zone management of the daily activities and the offshore trips for the fishermen. Moreover, it can also be used to study the potentiality of petrol resource by the corporations and companies. Last but not least, an application like mentioned above is correspondingly capable of serving different preserving and protecting activities regarding the environment.

In the next part of the thesis, we will discuss whether or not, the e-Nav forecast can possibly meet this demand by evaluating the company, their forces, core advantages and their products. Moreover, by analyzing the information gained from the theoretical and the practical part, challenges and threats that came from the culture differences and the consumer’s habits in Vietnam will be also indicated along with the possible solutions.

4 CASE STUDY

4.1 Potential-based analysis of the Vietnamese offshore fisheries sector

In this part of the thesis, PEST analysis will be applied to the Vietnam offshore fisheries market. This method, as mentioned in the "*State methods*", gives the company an overall view of the market. During the process of this research, the firm will understand more the actual situation of the targeted country, what to expect and the possible solutions for the threats and disadvantages.

- **Political (and legal) forces**

First of all, considering the political forces, the Communist Party of Vietnam is the sole leading party and this means that Vietnam is a communist country and it is considered illegal to form any opposition party. With this feature, Vietnam can be considered a rather stable politic structure.

As stated in the introduction part about Vietnam's economy (Vietnam's economy, 21), the Vietnam's policy on the economy is a free-market democracy, in which the communist government allows many different economic units to operate. However, the state still controls some of the main economic fields such as the electricity, water and fuel in order for the prices not to fluctuate too much in comparison with the global market.

- **Economic forces**

Foremost, the interest rate for saving accounts in Vietnamese banks is considered highest in the world, about 15% a year in 2010. According to Mr. Manh Ha (2011) this rate would probably be reduced 4-5% in the year 2011 to 10-11% by the government. This seems to be a reasonable reaction considering the inflation rate of

11.75% in 2010, highest that the world had ever seen. While this extraordinary interest rate creates advantages for saving accounts, at the same time, it will generate high interest rate for bank loans. Consequently, companies should take this issue into account when considering taking a loan for an expansion of their business operation.

Regarding the currency, as for May 25, 2011, 1€ equals to 29003.29 VND, while a year ago, during the same period, this rate was only 1€ equals 23374.03 VND. This means that the Vietnamese currency is losing the value in comparison with the euros. In other words, the situation creates advantages for foreign investors if they tend to exchange euros to VND. However, at the same time, if the customers pay in VND and afterwards NASCA exchanges to euros, the profit will be much lower than in other countries where they operate. (EUR exchange rates and currency converter, May 2011)

Besides, Vietnam is step by step transforming to keep up the pace of globalization. Signs of it can be seen everywhere with English description of products, posters, and business activities. In addition, Vietnam opens their door to the world and welcomes the foreign investments by having the favorable legislations and policies in every possible field of industry.

Although some years ago, China was the first choice when it comes to low labor cost, nowadays, it is getting more and more expensive. As a result, foreign investors turn to Vietnam. (Wooldridge A., 22 November 2010, from The World in 2011 print edition)

- **Socio-cultural forces**

Vietnam adds annually approximately one million people to the workforce. Specifically in the fishery sector, as mentioned above, there are more than 20 000 of new employments every year. However, as analyzed in the previous chapter and in the section *Culture*, their level of education is usually not high. Moreover, they are generally exceptionally attached to the tradition. Consequently, it is difficult per-

suading them to use innovative technologies and ameliorate their equipment for farther offshore fishing.

Concerning the income of the fishermen community, the minimum salary in Vietnam is 830 000 VND per month, if the exchange rate of 25 May 2011 is applied, this amount equals to 28.6€. The global price of a subscription to E-Nav forecast public version for a month is 25€. Therefore, it is impossible to use the same price list for Vietnam. On the one hand, the question is what is the price that the fishermen are willing to pay for such an application? On the other hand, what is the company's limit price in order not to make loss? This question will be examined in the next pages of the thesis.

If the cultural dimensions are taken into account, the CEO of NASCA Geosystems is from Uruguay but the company is based in France. Therefore, it can be assumed that the cultural dimension that is familiar with NASCA is the combination of France and Uruguay.

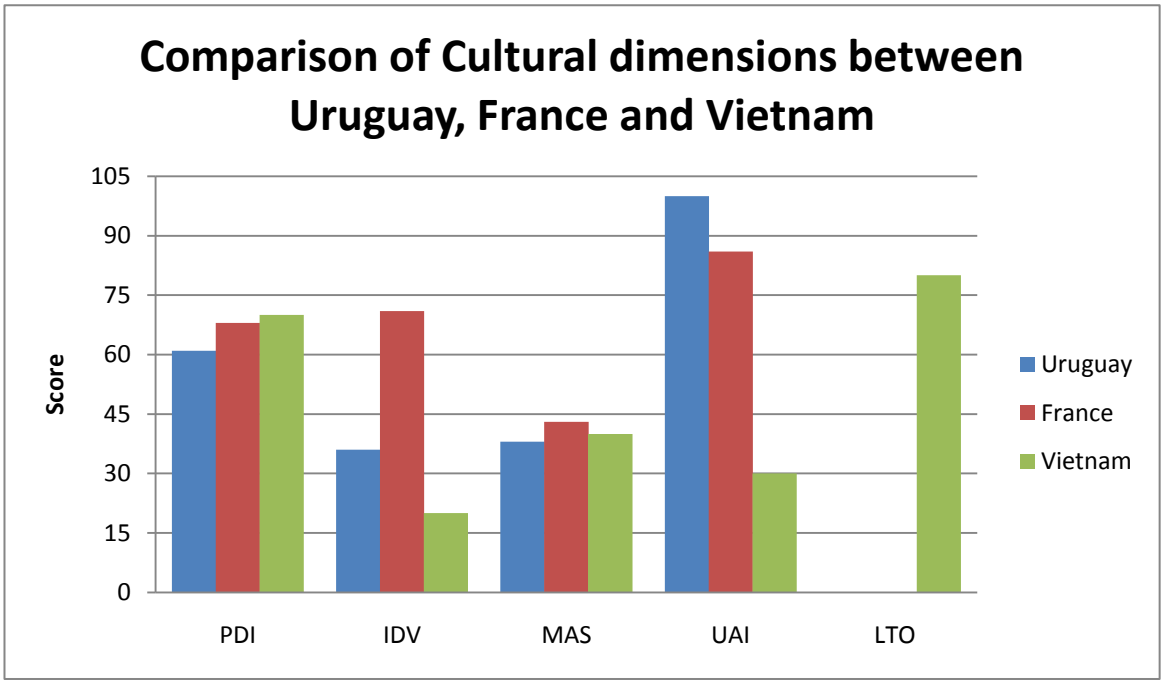


FIGURE 14. Comparison of Cultural dimensions between Uruguay, France and Vietnam (ITIM International, May 2011)

From the chart above, and as evaluated in the section "*2.1.1 Culture"*, it is obvious that there is a remarkable difference between these three countries. Vietnam is a country with high collectivism and long-term orientation, while on the other hand, in Uruguay and in France, short-term orientation is much more important (no figures available on the LTO index of these two countries). It is essential that NASCA understands this point as to find suitable solutions to reach the clients in the most appropriate way.

- **Technological forces**

Technology is considered one of the main difficulties while considering the fishermen. While the cost of the equipment is not always a problem thanks to the government's support and accessible bank loans, fishermen do not have the necessary technical skills. This was proven by the late appearance of the long-range radios which were being used no more than in the last 5 years. While many of the other industries have been familiar with this innovation for over two decades, fishermen community was lack of knowledge and required skills. (Tran D. L., 13 May 2011)

4.2 NASCA Geosystems Company

NASCA Geosystems is an information technology consulting company specializing in consultancy of the Geographic Information Systems (GIS). Established in 2001 by experts in Geographic Information Research Service, the firm created and was part of the Littoralis group, an organization which includes 14 French and German companies focused in Integrated Coastal Zone Management. NASCA Geosystems has only 5 people; however, the consortium has brought together more than 350 engineers who share the same goals and interest.

The company first and foremost operates in the development of land management systems. More specifically, the main part is dedicated to the coastal and marine areas. Their activities support the whole process of the client's project. From the

conception and design of the architecture systems to providing software, development of specific module, data integration, and even the maintenance and training, the company has the appropriate solutions for every step.

Expansion to Vietnam

In February 2007, People's Committee of Hai Phong, Vietnam and Brest Métropole Océane (a multi-stakeholder cooperation, multidisciplinary) had signed a cooperation agreement. Since then, a long-lasting and multidisciplinary partnership has been established between the two cities. It was in this context that in 2008, a cooperation project management for Hai Phong Bay was initiated by the coastal group Littoralis (in which, NASCA Geosystems is the creating company), some other organizations from Brest, France and the People's Committee of Hai Phong, Vietnam. It is because of this project that NASCA Geosystems has decided to expand their market to Vietnam. (François A., 12 May 2011)

In order to understand more about the company's advantages as well as disadvantages, the SWOT analysis tool will be applied.

- **Strengths:**

Established and managed by the experts in the field of meteorology and oceanography, the company has created a good reputation in the field of GIS previsions. The main strength lies in the innovative nature and the characteristics of the projects. Over 30% of the company's budget is dedicated to the research and development activities. Additionally, with the partnerships and networks in the world of research, NASCA has its own way of owning and using the leading tools and methods. Specifically, the products and the services provided are more innovative than the existing ones on the market. On the other hand, with only five people in the company, it is easy to manage and create changes in plans. Moreover, the firm has prepared a Vietnamese version of the applications and the website in order to be accepted easier in the Vietnamese market.

In addition, the firm has already distributed their products in France, England and Uruguay. As a result, they are familiar with different cultures and they found a solution to adapt their products internationally. Even though Vietnam is yet another country with its own culture and business style, but with the experienced gained during previous expands, the company will once again find a solution to reach Vietnamese customers.

Moreover, as mentioned above, NASCA Geosystems already created a network and reputation with Vietnam through the cooperation project in 2008. Therefore, the company can partly rely on this network to distribute their product and also to find future partnerships.

- **Weakness:**

Because of its small size, the company is short of personnel concentrating exclusively in the business approach and the international trade. This weakness is also one of the main problems of the Littoralis consortium. Since there is no staff actually working for the group, Littoralis only relies on the personnel of the member companies.

For the reason mentioned above, regarding the project of Vietnam, NASCA Geosystems neither has a sales office in Vietnam nor a staff member that can communicate in Vietnamese. This aspect will create troubles in finding the clients, promoting the products, maintaining the customer service and providing the technical support.

- **Opportunities:**

Vietnam is one of the most remarkable developing countries with a reasonable and stable economic growth rate. As indicated in the previous part of the thesis, Vietnam has a long coastline: therefore, many of the marine industries are growing fast, including offshore fisheries. Besides, the solution to control the conflicts at the coastal zones is needed. Moreover demands also come from the local government

and the environmental organizations that need the supportive applications for management of the fishing boats and industrial activities near shore. This involves the establishment of the territorial development policies and the integrated management of the coastal areas.

Another opportunity comes from the leisure activities that start to play a more and more important role in the daily life of Vietnamese people. Since the life is getting better, people earn more and they also spend more on the entertainment. Leisure boats, therefore, are appearing more and more often on the coastal zones of Vietnam. It will create a huge market for the navigation applications dedicated to this particular industry.

- **Threats:**

There is a fierce competition in this field in Vietnam with the firms that came before and have already built a strong network with large and famous shipping companies. Moreover, they have offices in Vietnam, with Vietnamese staff crew which help a great deal in advertising and in providing the customers service. Especially in this information technology's section, most often the technical support is even more important than advertising.

Threat also comes from the low level of education of the fishermen. Since the application requires a computer on boards, it is essential that users have certain skills. Moreover, another threat that should be taken into consideration is the preservation of the computers once they are installed on the vessels. Each trip offshore of a fishing boat can take up to three months. Aside from that, the traditional wooden boats are simple and therefore, computers under those conditions can only last up to a month.

In addition, regarding politic and legislations, first of all, the threat comes from the political and administrative decision making. Since the products provided involve in the management field, it is essential that these tools and software be well-adapted to these activities. Secondly, identifying funding channels for local and internation-

al environmental project will also be a challenge to the company. Thirdly, it is also a question how to find a suitable type of partners for the future development of the company since afterwards, NASCA would like to establish their private facilities, and step by step self-finance the projects instead of looking for funds from different organizations and local government.

(François A., 12 May 2011)

The four factors that were analyzed above should give the readers an overall view about the position and situation of the company. In the following part of the paper, the products provided by the company will be analyzed using the marketing mix analysis tool.

4.3 NASCA's products and e-Nav forecast application

The first section that NASCA Geosystems' research developments are designed for, are all the different kinds of activities in the field of Operational Coastal Oceanography, including commercial, industrial tourism, fishing activities and recreation activities that occur in the coastal waters. These tools support the operational management of these activities on a daily basis. Secondly, there is a group of research developments that is dedicated to the Geographic Information Systems software. These products, created by the company itself, involve in supporting the decision making and allow consideration of users' subjectivity, different levels of accuracy and confidence data, as well as information gaps. Therefore, the products and applications may be modified, adjusted, personalized according to the demands of the costumers. (François A., 12 May 2011)

E-Nav forecast

E-Nav forecast is a group application which was created based on the Geographic Information Systems that provides the weather forecast and the predicted sea conditions in the cartography form. There are two existing versions of the product:

e-Nav forecast free version and e-Nav forecast commercial group version. In the commercial group, there are two approaches: an application for public (can be used by individuals and fishermen) and the professional version for corporations, organizations and local government.

In the following pages of the thesis, e-Nav forecast commercial version (both public and professional version) will be carefully analyzed using the Marketing mix analysis tool with the intention of creating a general picture of the application for the readers.

- **Product:**

The product exists in two adaptations: one is dedicated to the public, like individuals and fishermen; the second one is for industrial activities, for example, supporting the research of resources or protecting the environment. E-Nav forecast is one step more innovated compared to the existing applications because it is not only limited to the provision of weather forecast and sea prediction. It is the result of a particular data treatment as to provide the end users a unique tool that support the daily coastal management of the industrial and commercial activities. For both of them, the interface is in Vietnamese and easy to use. After downloading the data, users can simply create bulletins to see the sea conditions at the chosen point. Moreover, they can also generate graphics, charts, tables and information boards to analyze the changes of the parameters overtime. Each data pack contains prevision for the next 7 days. Therefore, once a pack is successfully downloaded, users can utilize this information without connecting to the internet. Consequently, the public version is handy and useful for both preparation step and the actual offshore trip of the seafarers.

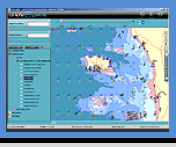
	Public versions		Public and professional versions		Professional version
Packs / Functions	**e-Nav Viewer** 	**Basic** 	**Standard** 	**High definition** 	**e-Nav Pilot** 
Covered Area	Worldwide	Worldwide	Regional	Local	Worldwide Regional Local
Format	Software	Web	Web	Web	Software
Ladder of the forecast	10km (0.1°)	50km (0.5°)	10km (0.1°)	10km (0.1°)	10km (0.1°)
Days of one pack	4	7	4	4	4
Update's frequency	1 hour	3 hours	1 hour	1 hour	1 hour

TABLE 4. E-Nav forecast product group with features (E-Nav forecast, May 2011)

The diagram above describes the different subscriptions of E-Nav forecast. E-Nav viewer and E-Nav basic are free and more adjusted for the public and individuals (like fishermen). E-Nav pilot consists of not only the weather and sea forecast, but it also is capable of calculating the road for marine navigation. With rather high price and small mesh, this software is more suitable for professional use such as the cruise-line corporations. The standard and high definition versions can be utilized by both public and professional units because they have a rather average price.

Concerning the flexibility of the professional versions, since the application was developed and is owned by the company itself, it can be easily adapted and modified to meet the specific requirements of the different industrial activities and the project from the client's side.

As for the maintenance, after-sale service and customers' service, these activities will be provided and manage by the local partner (yet to be found). Only in case of technical problems, the local partner will communicate with NASCA and NASCA will provide the appropriate solutions.

- **Price:**

The price of the public version will be fixed by the local distributing partner. As stated by Mr. Francois, the CEO of NASCA Geosystems (12 May 2011), the selling activities of the public version is a secondary activity, thus, profitability is not the most significant issue. As the matter of fact, the price is flexible and will probably be low because of the living standard of fishermen in Vietnam. With this strategy, NASCA's aim is to reach the highest possible number of clients and make the best use of the word-of-mouth makreting. In other words, it is one of the marketing strategies that NASCA Geosystems have been using since the foundation of the company.

The price of the professional version, on the other hand, will be still kept the same as in other countries since these firm customers (mostly organizations and huge corporations) stand in the relation with the international market and they are less subject to the living standard of the local population. Following is the price table of the application and its subscriptions:

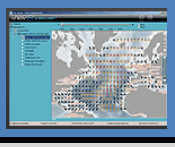
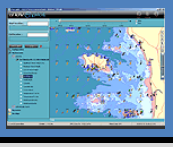
Packs	Basic	Standard	High definition	e-Nav Viewer	e-Nav Pilot
					
Price	Free	25€/month	25€ / 10 tokens	Free	149€ + subscription e-Nav Forecast

TABLE 5. E-Nav forecast price table (E-Nav forecast, May 2011)

- **Place:**

E-Nav forecast, both public and professional versions, will be distributed through two channels.

On the one hand, the distribution on the internet that is global. It is prepared directly by NASCA on their commercial website. On the other hand, the distribution is made by the local partner. The company and the potential customers will communicate through the internet and the local partner organization. Subsequently, based on the available products, further discussions on the possible ways of tailoring these existing products according to the specific needs and demands from the clients and their projects will be considered. This channel was chosen as a solution to overcome the disadvantages from the local language, the communication styles and the fact that not all of the potential clients, who mainly are fishermen, are familiar with computer and internet.

- **Promotion:**

In the promotion part, foremost, NASCA Geosystems looks for a local partner who will afterwards, be in charge of the product distribution. The first possibility is that the partners will know about the company through the reports about the previous project of NASCA on the television. At the same time, since NASCA Geosystems

already created a network with VEOLIA – the leading global company operating in the environment field, the Vietnamese office of VEOLIA will seek out partners for NASCA. During this time, the website is the most economic and easy channel of promotion.

Once the local partner is found, NASCA will then implement a local marketing campaign based on the experience and the network of that partner with the People's Committee in different regions, local governments, etc. Therefore, it is essential that NASCA finds the suitable partner.

In conclusion, the three out of four aspects of the Marketing mix are completely and absolutely dependent on the local partner organization. Therefore, the most important action to be taken is to find the local partner.

(François A., 12 May 2011)

5 CONCLUSION

This thesis focused on evaluating the demand for e-Nav forecast in the Vietnamese marine industry and more specifically, the fishery sector. E-Nav forecast is weather and sea condition forecast application developed and provided by NASCA Geosystems. By using both qualitative and quantitative research method, the author indicated the main problems of the fishery sector. Afterwards, e-Nav forecast itself was evaluated in details based on the information gathered on the market's demand.

After the study is finished, the results show that the main problem comes from the fishermen, more specifically, their low education, and the fact that they are too attached to the traditional wooden boats and tools to actually understand the danger and the risk they are facing. Additionally, the local government is also one of the major actors in the development of the fishery sector. Even though they have made many incentive policies for fishermen, the situation still does not improve. During the research process, the author found it difficult to understand the actual reason why fishermen hesitate to upgrade their equipment in order to increase the income and their lives. Especially giving the fact that for many years now, both national and local governments have put a great amount of effort in supporting the fishermen in numerous ways by creating free vocational and primary schools, furnishing the boats with innovative equipment, and establishing accessible loans with low or even no interest rate, there should be no reason not to change their lives. Yet, the major part of the fishermen community still does not show any positive reaction.

The study's outcome concerning NASCA Geosystems proved that the company does not pay much attention on the marketing analysis. Specifically, the tools such as SWOT, Marketing mix and PEST were not used efficiently. For example, NASCA only indicated the internal factors of SWOT, namely Strength and Weakness, however, the external factors which are threads and opportunities were left out. With the Marketing mix tool, the company focuses much on the product (which is a necessary investment to differ their offers from other existing products on the market) while the three aspects (place, price and promotion) are depended on the local partner who is still not found. In the author's opinion, PEST analysis is the most important state methods regarding the Vietnamese project. The reason is that Vietnam is strongly different from France and Uruguay, with unfamiliar culture, language, business ethnics, consumers' behavior, economic situation, views and level of education of innovative technologies and political issues. Hence, it is essential that NASCA invests in the further research projects to better understand the target market and prepare the appropriate international business marketing campaigns in this potential emerging market. The following table will demonstrate in brief the main issues of the research:

	State methods	Research results NASCA
PEST	Political factors	Different legislation but favorable policies for fisheries sector
	Economic factors	High GDP growth but high inflation, currency not stable
	Socio-cultural factors	High power distance, low individualism, a moderate masculinity and uncertainty avoidance, and high long-term orientation.
	Technological factors	Difficulties with persuading fishermen to use computers and complications with maintenance of computer onboard

Marketing mix	Product	Competitive, has unique features
	Price	Specific price strategies are used
	Place	Distribution via Company's website and local partner (yet to be found)
	Promotion	Through local network and dependent on the local partner (yet to be found)
SWOT	Strength	Experienced with different cultures, possession of technologies.
	Weakness	Small sized company, no marketing department, no representative in Vietnam
	Threads	Language and culture barriers.
	Opportunities	High economic development rate in Vietnam

TABLE 6. Conclusion of the research on NASCA Geosystems

Regarding the demand for e-Nav forecast, the research results confirmed that there is indeed a potential market in Vietnam and e-Nav forecast is capable of meeting the required criteria. However, since there is still a noteworthy hesitation from the fishermen community, it will be a challenge as to persuade them to use the application. This was proven by the late appearance of the long-ranged radios which started to be used by fishermen only in the last five years. Nonetheless, if NASCA can find an appropriate local partner that is able to influence the fishermen community, there is no doubt that they will succeed.

However, as to define the word "appropriate local partner", NASCA should create a detailed list of the necessary characteristics that they search for in a local partner. The author suggests the following points:

1. Capability of communicating in Vietnamese without any difficulties. This consists of all four skills of communication: speaking, writing, listening and reading.
2. Capability of communication in French, Spanish or English without any trouble. This point is compulsory to communicate with NASCA Company.
3. The partner organization needs to have a wide network all over Vietnam. This issue is required for advertising, marketing and promotion projects.
4. Deep knowledge and understanding on the local market, potential customers, competition, legislation, economic and other aspects of the society.
5. Adequate knowledge and understanding on NASCA Geosystems, its products, services and activities.
6. Enthusiasm, honesty, dynamism, and persuasion are also some of the important characteristics of a good local partner. Honesty is especially significant since NASCA has to trust the local partner 100%. However, this difficulty can be overcome with a strict, clear and detailed licensing contract.

It is recommended that NASCA Geosystems continue the sales in Vietnam through their website and at the same time, search dynamically for a suitable local partner at the Vietnamese market since their business in Vietnam relies on this matter. Moreover, it is suggested that NASCA develop a marketing department within their company and agree on a certain budget for future promotion strategies and international business marketing campaigns in the emerging country Vietnam. In addition, further research studies and market analysis projects should be carried out by the company on this particular subject.

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APPENDICES

Appendix 1. List of harbours in Vietnam

(*Source: http://www.thuyenvien.vn/quangcao/cangbien/index.htm*)

1. Harbours of the North (From Quảng Ninh to Ninh Bình)

1. **Cẩm Phả Harbour**
Lý Thường Kiệt Str., P. Cửa Ông, TX. Cẩm Phả, Tỉnh Quảng Ninh
Tel: 033. 865045
Fax: 033. 865320

2. **Dầu B12 Harbour**
Khu I, Bãi Cháy, TP. Hạ Long
Fax: 033. 847091

3. **Khách Hòn Gai Harbour**
Đường Lê Thánh Tông, P. Hòn Gai, TP. Hạ Long, Quang Ninh
Tel: 033. 628234
Fax: 033. 628473

4. **Quảng Ninh Harbour**
1 Cái Lân, P. Bãi Cháy, TP. Hạ Long, Tỉnh Quảng Ninh
Tel: 033. 825627
Fax: 033. 826118

5. **Mũi Chùa Harbour**
607 Lê Thánh Tông, TP. Hạ Long
Tel: 033. 740007
Fax: 33.828544

6. **Caltex (Cty TNHH nhựa đường Caltex) Harbour**
Xã Tam Hưng, Thủy Nguyên, TP. Hải Phòng
Tel: 031. 3875586

7. **Chùa Vẽ Harbour**
8A Trần Phú, TP. Hải Phòng
Tel: 031. 3766030
Fax: 031. 3765784

8. **Chuyên dùng măng Nghi Sơn Harbour**
Số 2 Ngô Quyền, Q. Ngô Quyền, TP. Hải Phòng
Tel: 031. 837391

9. **Hải Phòng Harbour**
8A Trần Phú, Q. Ngô Quyền, TP. Hải Phòng
Tel: 031. 3859945 - 031. 3859456
Fax: 031. 3859973

10. **Đài Hải Harbour**
70 Ngô Quyền, TP. Hải Phòng
Tel: 031. 3837483
Fax: 031. 3837485

11. **Đoạn Xá Harbour**
15 Ngô Quyền, P. Vạn Mỹ, Ngô Quyền, TP. Hải Phòng
Tel: 031. 3765029
Fax: 031. 3765727

12. **Tatal Gas Hải Phòng Harbour**
Phường Đông Hải, Q. Hải An, TP. Hải Phòng
Tel: 031. 3766545 - 031.3766535

13. **Thăng Long Harbour**
Km 5,5, QL 5, Đường Hùng Vương, Hồng Bàng, TP. Hải Phòng
Tel: 031. 3749171
Fax: 031. 3749172

14. **Thượng Lý Harbour**
Số 1 Sở Dầu, P. Sở Dầu, Hồng Bàng, TP. Hải Phòng
Tel: 031.3850632
Fax: 031. 3850333

15. **Transvina Harbour**
280 Ngô Quyền, Vạn Mỹ, Hải Phòng
Tel: 031.3765252
Fax: 031.3765252

16. **Vật Cách Harbour**
Km9, QL5, Quán Toán, Hồng Bàng, TP. Hải Phòng
Tel: 031. 3850410 - 031. 3850321
Fax; 031. 3850319

17. **Xăng dầu Petex Hải Phòng Harbour**
Xã Đông Hải, Huyện An Hải, TP. Hải Phòng
Tel: 031. 3766224 - 031.3749171

18. **Xi măng Chinfon Harbour**
Thôn Tràng Kênh, Thị trấn Minh Đức, Thủy Nguyên, TP. Hải Phòng
Tel: 031. 3875480

19. **Diêm Điền Harbour**
Khu I, TT Diêm Điền, Huyện Thái Thụy, Thái Bình
Tel: 036. 732011 - 036. 853276
Fax: 036. 853276

20. **Hải Thịnh Harbour**
TT Thịnh Long, Hải Hậu, Nam Định
Tel: 0350. 876038

2. Harbours of the Northern Center (From Thanh Hóa to Hà Tĩnh)

1. **Thanh Hóa Harbour**
   Xã Quảng Hưng, TP. Thanh Hóa, Tỉnh Thanh Hóa
   Tel: 037. 910062
   Fax: 037. 910112

2. **Tổng Hợp Nghi Sơn Harbour**
   Xã Nghi Sơn, Tĩnh Gia, Thanh Hóa
   Tel: 037. 862237
   Fax: 037. 862373

3. **Bến Thủy Harbour**
   Số 10 Tràng Thi, Tp. Vinh
   Tel: 038. 847144
   Fax: 038. 847142

4. **Dầu Hưng Hòa Harbour**
   Số 4 Nguyễn Sỹ Sách, Tp. Vinh
   Tel: 038. 3846218
   Fax: 038. 3597572

5. **Dầu Nghi Hương Harbour**
   Số 4 Nguyễn Sỹ Sách, TP. Vinh
   Tel: 038. 3830557
   Fax: 038. 3845801

6. **Nghệ Tĩnh Harbour**
   10 Tràng Thi, TP. Vinh, Tỉnh Nghệ An
   Tel: 038. 847144
   Fax: 038. 847142

7. **Vũng Áng Harbour** (Thuộc cảng Hà Tĩnh)
   Xã Kỳ Lợi, Huyện Kỳ Anh, Tỉnh Hà Tĩnh
   Tel: 039. 821541 - 039. 868006
   Fax: 039. 821313 - 039. 868116

8. **Xuân Hải Harbour**
   Thị Trấn Xuân Hải, Huyện Nghi Xuân, Tỉnh Hà Tĩnh
   Tel: 039. 821541 - 039. 825027
   Fax: 039. 821313 - 039. 825027

9. **Hà Tĩnh Harbour**
   TX Gia Lách, Huyện Nghi Xuân, Tỉnh Hà Tĩnh
   Tel: 039. 821544 - 039. 821541
   Fax: 039. 821313

3. Harbours of the Central Center (From Quảng Bình to Quảng Ngãi)

1. **Cáng Gianh Harbour**
   Thôn Thanh Khê, xã Thanh Trạch, Huyện Bố Trạch, Tỉnh Quảng Bình
   Tel: 052. 866017 - 052. 866297
   Fax: 052. 866133

2. **Nhật Lệ Harbour** (Phân cảng Nhật Lệ)
   P. Đồng Mỹ, TX. Đồng Hới, Tỉnh Quảng Bình
   Tel: 052. 824359
   Fax: 052. 823599

3. **Quảng Bình Harbour**
   Thôn Thanh Khê, Xã Thanh Trạch, huyện Bố Trạch, Tỉnh Quảng Bình
   Tel: 052. 866133

4. **Xăng dầu Sông Gianh Harbour**
   Bắc Trạch, Bố Trạch, Quảng Bình
   Tel: 052. 866230

5. **Cửa Việt Harbour**
   Xã Gio Hải, Huyện Gio Linh, Tỉnh Quảng Trị
   Tel: 053. 857363
   Fax: 053. 824280

6. **Chân Mây Harbour**
   14 Lê Lợi, TP. Huế
   Tel: 054. 820449
   Fax: 054. 833577

7. **Thuận An Harbour**
   TT. Thuận An, Huyện Phú Vang, Tỉnh Thừa Thiên Huế
   Tel: 054. 866037
   Fax: 054. 866164

8. **Hải Sơn Harbour**
   96 Yết Kiêu, P. Thọ Quang, Q. Sơn Trà, TP. Đà Nẵng
   Tel: 0511. 831100 - 0511. 831623
   Fax: 0511. 831520

9. **Liên Chiểu Harbour**
   Kim Liên, Hòa Hiệp, Liên Chiểu, Đà Nẵng
   Tel: 0511. 770211
   Fax: 0511. 770211

10. **Khê Harbour** (thuộc Cty xăng dầu khu vực 5)
    1 Lê Quý Đôn, Q. Hải Châu, TP. Đà Nẵng
    Tel: 0511. 821632 - 0511. 824585
    Fax: 0511. 822874

11. **Nại Hiên Harbour** (thuộc Cty xăng dầu khu vực 5)
    1 Lê Quý Đôn, Q. Hải Châu, TP. Đà Nẵng
    Tel: 0511. 821632 - 0511. 824585
    Fax: 0511. 822874

12. **Đà Nẵng Harbour**
    26 Bạch Đằng, TP. Đà Nẵng
    Tel: 0511. 835675 - 0511. 822513
    Fax: 0511. 822565

13. **Đà Nẵng Harbour** (Khu Sông Hàn)
    26 Bạch Đằng, Đà Nẵng
    Tel: 0511. 822513 - 0511. 835675
    Fax: 0511. 822565

18. **Kỳ Hà Harbour**
    Xã Tam Quan, Huyện Núi Thành, Quảng Nam
    Tel: 0510. 871305 - 0510. 871308
    Fax: 0510. 871301

14. **Đà Nẵng Harbour** (Khu Tiên Sa)
26 Bạch Đằng, Đà Nẵng
Tel: 0511. 822513 - 0511. 835675
Fax: 0511. 822565

15. **Nguyễn Văn Trỗi Harbour**
Đường 2/9, TP. Đà Nẵng
Tel: 0511. 639106 - 0511. 626313 - 0511. 626318
Fax: 0511. 623755 - 0511. 621964

16. **Sông Hàn 9 Harbour**
156 Bạch Đằng, TP. Đà Nẵng
Tel: 0511. 822977 - 0511. 826718
Fax: 0511. 834796

17. **Xi măng Hải Vân Harbour(Cty xi măng Hải Sơn)**
65 Nguyễn Văn Cừ, Đà Nẵng
Tel: 0511. 842172
Fax: 0511. 842441

19. **Kỳ Hà - Quảng Nam Harbour**
Thôn 2, xã Tam Quang, Huyện Núi Thành, Quảng Nam
Tel: 510.872787
Fax: 0510. 872787

20. **Dung Quất Harbour** (Bến số 1)
208 Hùng Vương, TX Quảng Ngãi, Tỉnh Quảng Ngãi
Tel: 055. 610432 - 055. 610472
Fax: 055. 610431

21. **Sa Kỳ Harbour**
Xã Bình Châu, Bình Sơn, Tỉnh Quảng Ngãi
Tel: 055.626431
Fax: 055.626138

4. Harbours of the Southern Center (From Bình Định to Bình Thuận)

1. **Quy Nhơn Harbour**
2 Phan Chu Trinh, TP. Quy Nhơn, Tỉnh Bình Định
Tel: 056. 892363 - 056. 892159
Fax: 056. 891783

2. **Thị Nại Harbour**
Số 2 Trần Hưng Đạo, TP. Quy Nhơn, Tỉnh Bình Định
Tel: 056. 892991
Fax: 056. 892097

3. **Xăng dầu Vũng Rô Harbour**
33 Lê Thánh Tông, Thị Xã Tuy Hòa, Tỉnh Phú Yên
Tel: 057. 823246
Fax: 057.523315

4. **Ba Ngòi Harbour**
9 Nguyễn Trọng Kỷ, P. Cam Linh, TX. Cam Ranh, Tỉnh Khánh Hòa
Tel: 058. 854307 - 058. 854565
Fax: 058. 854536

5. **Dầu Mũi Chụt Harbour**
10B Nguyễn Thiện Thuật, Nha Trang, Khánh Hòa
Tel: 058. 822651 - 058. 822173

6. **Hòn Khói Harbour**
108 Đường 2/4, Nha Trang, Khánh Hòa

7. **Đầm Môn Harbour**
248 Thống Nhất, Nha Trang
Tel: 058. 821283
Fax: 058. 823846

8. **Nha Trang Harbour**
5 Trần Phú, P. Vĩnh Nguyên, TP. Nha Trang, Tỉnh Khánh Hòa
Tel: 058. 590867 - 058. 590021 - 058. 590022
Fax: 058. 590017

5. Harbours of the Ho Chi Minh city (HCM city – Bà Rịa – Vũng Tàu)

1. **Dầu K2 Harbour**
907 đường 30/4, Phường 11, TP. Vũng Tàu
Tel: 064. 848691 - 064. 848420
Fax: 064. 832195

2. **Dầu nhà máy Điện Phú 2-1 Harbour**
TT Phú Mỹ, Huyện Tân Thành, Tỉnh Bà Rịa - Vũng Tàu
Fax: 064. 876964

3. **Dầu PTSC Harbour**
54 đường 30/4, P. Thắng Nhất, TP. Vũng Tàu
Tel: 064. 832636

13. **Long Thành Harbour**
Phước Thái, Long Thành, Đồng Nai
Tel: 061. 841188
Fax: 061. 841207

14. **Đồng Nai Harbour**
Phường Long Bình Tân, TP. Biên Hòa, Tỉnh Đồng Nai
Tel: 061. 832225 - 061. 834139
Fax: 061. 831259

15. **Phước Thái (VEDAN) Harbour**
Phước Thái, Long Thành, Đồng Nai

4. **Hạ Lưu PTSC Harbour**
65 đường 30/4, P. Thắng Nhất, TP. Vũng Tàu
Tel: 064. 838504
Fax: 064. 838313

5. **Phú Mỹ Harbour**
Phường Phú Mỹ, Q. Tân Thành, Tỉnh Bà Rịa - Vũng Tàu
Tel: 064. 876603 - 064. 876604
Fax: 064. 876600

6. **Thượng Lưu PTSC Harbour**
65A đường 30/4, P. Thắng Nhất, TP. Vũng Tàu
Tel: 064. 838105 - 064. 838104
Fax: 064. 838344

7. **Vietsopetro Harbour**
150 Lê Lợi, Tp. Vũng Tàu
Tel: 064. 839871
Fax: 064. 838655

8. **Vũng Tàu Commercial Harbour**
973 Đường 30/4, P11, TP. Vũng Tàu
Tel: 064. 848312 - 064. 848544 - 064.848549
Fax: 064. 848193

9. **VIKO WOCHIMEX Harbour**
Xã Phước Khánh, Nhơn Trạch, Đồng Nai

10. **Gas PVC Phước Thái Harbour**
KCN Gò Dầu, Long Thành, Đồng Nai

11. **Gò Dầu A Harbour**
(thuộc Cảng Đồng Nai)
Phường Long Bình Tân, TP. Biên Hòa, Tỉnh Đồng Nai
Fax: 061. 831259

12. **Gò Dầu B Harbour**
(thuộc Cảng Đồng Nai)
Phường Long Bình Tân, TP. Biên Hòa, Tỉnh Đồng Nai
Fax: 061. 831259

25. **Cát Lái Harbour**
25 Nguyễn Thị Định, P. Cát Lái, Q2, TP. Hồ Chí Minh
Tel: 08. 8976394 - 08. 7421190

26. **Cảng VITAICO Harbour**
Đường Lê Phụng Hiểu, P. Cát Lái, Q2, TP. Hồ Chí Minh
Tel: 08. 8976050 - 08. 8976049
Fax: 08. 8976185

27. **Cảng Xăng Dầu Cát Lái Harbour**
Phường Cát Lái, Q2, TP. Hồ Chí Minh
Tel: 08. 8976046 - 08. 8976423
Fax: 08. 8976045

28. **Xăng Dầu Nhà Bè Harbour**
TT. Nhà Bè, Huyện Nhà Bè, TP. Hồ Chí Minh
Tel: 08. 8738587 - 08. 8738588

16. **Phú Đông Harbour**
Xã Phú Đông, Nhơn Trạch, Đồng Nai

17. **Bến Nghé Harbour**
Đường Bến Nghé, P. Tân Thuận Đông, Quận 7, TP. Hồ Chí Minh
Tel: 08. 8723317
Fax: 08. 8728383 - 08.8726499

18. **Dầu thực vật Nhà Bè Harbour (NAVIOIL)**
58 nguyễn Bỉnh Khiêm, Q1, TP, Hồ Chí Minh
Tel: 08. 9102180
Fax: 08. 8290586

19. **ELF Gas Sài Gòn Harbour**
Khu phố 5, P. Tân Thuận Đông, Q7, TP. Hồ Chí Minh
Tel: 08. 8720407

20. **Lotus** (Cty Liên Doanh Bông Sen)
1A Nguyễn Văn Qùy, P. Phú Thuận, Quận 7, TP. Hồ Chí Minh
Tel: 08. 8730147 - 08. 8730148

21. **Rau Quả Harbour**
1 Nguyễn Văn Qùy, P. Phú Thuận, Quận 7, TP. Hồ Chí Minh
Tel: 08. 8730095
Fax: 08. 8733342

22. **Sài Gòn Harbour**
3 Nguyễn Tất Thành, Quận 4, TP. Hồ Chí Minh
Tel: 08. 9401030 - 08. 8254362

23. **Tân Thuận Đông Harbour**
Phường Tân Thuận Đông, Quận 7, TP. Hồ Chí Minh
Tel: 08.8726221 - 08.8721873
Fax: 08. 872519

24. **VICT Harbour**
Đường A5, Khu Phố 5, P. Tân Thuận Đông, Quận 7, TP. Hồ Chí Minh
Tel: 08. 8729999
Fax: 08. 8724888

29. **Cty tư vấn thiết kế Cảng kỹ thuật biển**
92 Nam Kỳ Khởi Nghĩa, Q.1, Tp. HCM
Tel: 8.8211486
Fax: 8.8216274

30. **Sài Gòn Petro Harbour**
Phường Thạnh Mỹ Lợi, Q2, TP. Hồ Chí Minh
Tel: 08. 9307991 - 08.9307037/215 (văn thư) - 08.9307989(P.KD)
Fax: 08. 9307642

31. **Sài Gòn New Harbour**
Đường Điện Biên Phủ, P22, Quận Bình Thạnh, TP. Hồ Chí Minh
Tel: 08. 8999034 - 08. 8980379

6. Harbours of the Mekong delta

1. **Mỹ Tho Harbour**
   Xã Bình Đức, Huyện Châu Thành, Tỉnh Tiền Giang
   Tel: 073. 853048
   Fax: 073. 853049

2. **Vĩnh Long Harbour**
   170/2 Phạm Hùng, P.9, TX. Vĩnh Long, Tỉnh Vĩnh Long
   Tel: 070. 822635 - 070. 826124
   Fax: 070. 825291

3. **Cần Thơ Harbour**
   27 Lê Hồng Phong, Phường Trà Nóc, TP. Cần Thơ
   Tel: 071. 841252

4. **Phúc Thành Harbour**
   Xã Phước Thời, Huyện Ô Môn, Cần Thơ
   Tel: 071. 862804
   Fax: 071. 860214

5. **Tatal Gas Cần Thơ Harbour**
   Lê Hồng Phong, P. Trà Nóc, TP. Cần Thơ
   Tel: 074. 883154
   Fax: 071. 883172

6. **Trà Nóc - Cần Thơ Harbour**
   Lô 18 KCN Trà Nóc, TP. Cần Thơ
   Tel: 071. 841328
   Fax: 071. 841457

7. **Đồng Tháp Harbour**
   Phường 11, Thị Xã Cao Lãnh Tỉnh Đồng Tháp
   Tel: 067. 891321
   Fax: 067. 891121

8. **Năm Căn Harbour**
   TT. Năm Can, Ngọc Hiển, Cà Mau
   Tel: 0780. 877200
   Fax: 0780. 878163

9. **Mỹ Thới Harbour**
   Quốc lộ 91, P. Mỹ Thạnh, TP. Long Xuyên, Tỉnh An Giang
   Tel: 076. 831447
   Fax: 076. 831129

7. Harbours of Côn Đảo and the islands in the North-West

1. **Cảng Bến Đầm - Côn Đảo (Vũng Tàu)**
   1007/36 Đường 30/4, P11, TP. Vũng Tàu
   Tel: 064. 621047 - 064. 830010
   Fax: 064. 621047

2. **Cảng Hòn Chông**
   Rạch giá, Kiên Giang
   Tel: 077. 854315
   Fax: 077. 854648

Appendix 2. Email Interview's questions and answers (with Mr. Atilio Francois, CEO of NASCA Geosystems)

1. **What does your company specialize in?**

NASCA Géosystèmes est une entreprise spécialisée dans les systèmes d'information géographiques. Elle travaille essentiellement dans la mise en place de systèmes de gestion territoriale avec une préférence pour les zones côtières et marines. Son activité va depuis l'audit et conception de l'architecture du système, la fourniture des logiciels, le développement de modules spécifiques, l'intégration de données, jusqu'à la maintenance et la formation du personnel.

2. **Can you talk about the history of the company?**

Crée en 2001 par des spécialistes de l'information géographique de la recherche publique, elle intègre dès sa création le consortium d'entreprises Littoralis, consortium de 14 entreprises françaises et allemandes spécialisé dans la Gestion Intégrée des Zones Côtières. NASCA Géosystèmes ne compte que 5 personnes, mais le consortium rassemble plus de 350 ingénieurs. L'entreprise mène des projets propres ou des projets au sein du consortium. Dans le cas des projets propres, ceux-ci se situent dans une fourchette de 50 à 100 K€ par projet, tandis que les projets du consortium se situent en général dans une fourchette de 500k€ à 1 M€.

3. **What are the strengths/weaknesses of the company?**

La force principale se situe dans le caractère innovant des projets menés. Plus de 30% du budget de l'entreprise est dédié à la Recherche/Développement. Avec des liens privilégiés avec le monde de la recherche, NASCA est en pointe des outils et méthodes utilisées.

La faiblesse principale est, de par sa taille, l'absence de personnel dédié exclusivement à la démarche commerciale. Cette faiblesse se ressent aussi au niveau de Littoralis, car le consortium n'a pas de personnel propre et s'appuie sur le personnel des entreprises. Il n'y a donc pas de personnel dédié la démarche commerciale internationale.

4. **Why have you chosen to go to Vietnam?**

Depuis l'accord de coopération signé en février 2007 entre le Comité populaire de la ville d'Hai Phong et Brest métropole océane, une coopération multi-acteurs, pluridisciplinaire et pérenne s'est établie entre les deux villes. C'est dans ce contexte qu'a été initié en 2008 un projet de gestion de la baie d'Hai Phong, en partenariat entre le groupement Littoralis (IDHESA Bretagne océane, NASCA GEOSYSTEMES), l'Université de Bretagne Occidentale, Brest Métropole Océane et le Technopôle Brest Iroise d'une part, le Comité populaire d'Hai Phong et l'institut de recherche IMER (Institute for Marine Environment and Resources) dépendant du VAST (*Vietnam* Academy of Science and Technology) d'autre part.

5. **Have you thought of any opportunities/difficulties that await your company in Vietnam (political factors, economic factors, social factors, technological factors)?**

Les opportunités viennent du développement rapide que le Vietnam et les besoins de gérer les conflits d'usage dans la zone côtière. Ceci implique la mise en place de politiques de développement territorial et de gestion intégrée des zones côtières.
Les difficultés sont de plusieurs ordres:

a) Comprendre la structure politique et administrative de la prise de décision pour pouvoir adapter les outils d'aide à la décision
b) Déterminer les circuits de financement locaux et internationaux pour les projets environnementaux
c) Bien cerner les types de partenaires adaptés au développement de notre démarche: structures privées, instituts étatiques devant s'autofinancer,...

6. **How do you plan to overcome the difficulties?**

Nous recherchons activement une entreprise locale avec laquelle établir un partenariat et lui confier la commercialisation de nos prestations, services et produits.

7. **How will you distribute the product (commercial version of eNav-viewer)?**

La distribution a deux aspects parallèles et complémentaires:
D'une part la distribution sur internet qui est mondiale. Cette distribution est faite directement par NASCA sur son site de vente

D'autre part, la distribution fait par le partenaire local. Celui-ci s'appuie sur les produits internet et voit avec les clients potentiels comment adapter les produits aux besoins spécifiques des clients.

8. **Why do you think that there is a market for eNav-viewer in Vietnam?**

Le marché est mondial et non seulement vietnamien. Les produits eNAV sont une innovation par rapport à l'existant car ils ne se limitent pas à la fourniture de prévisions météo-océaniques, ils sont le résultat d'un traitement spécifique pour fournir aux utilisateurs des produits directement utilisables pour la gestion quotidienne des activités commerciales et industrielles. Il ne s'agit pas d'informer sur l'état de la mer, il s'agit d'intégrer les prévisions dans la gestion opérationnelle des activités littorales.

9. **What is your plan of advertising it?**

Pour l'instant, le site internet est le moyen les plus économique et facile mettre en place. Une fois trouvé le partenaire local, nous mettrons en place une campagne de communication locale, basée sur l'expérience de ce partenaire.
Nous comptons aussi avec la communication institutionnelle à travers les partenaires institutionnels: Comités Populaires, Ministères, ...

10. **How will you adapt the price of the product to the Vietnamese living standard?**

Ce problème sera géré par le partenaire local. S'il s'agit de clients individuels il s'agit d'un produit unique qui ne nécessite pas de travail d'adaptation pour chaque client. Le prix peut être adapté sans problème car il s'agit d'une activité secondaire par rapport aux produits professionnels.
C'est ceux-là qui représentent la principale source de revenus et comme ils se situent par rapport un marché international ils sont moins soumis au niveau de vie de la population.

11. **How will you communicate with the clients and manage the after-sale maintenance?**

Tout ce travail sera confié à notre partenaire local. Il est impossible d'assurer ce type de travail à distance.