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The two-way impact between data mining and mobile technologies

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Abstract

Mobile devices have changed almost everything in the way how we communicate, work and deal with data. In some way they have facilitated businesses around the world, but in many ways they have produced a vast amount of data that most of the time are very complex and difficult to deal with. Data mining is a valuable tool in dealing with this issue. This paper will try to explain the relationship between data mining and mobile devices and technologies and the possibilities that they offer to improve the way we operate in small or large enterprises, schools, etc.

Key words: data mining, mobile technologies, mobile devices.

Introduction

Data mining has been for a long time one of the most important tools for analysing, retrieving, etc., large amounts of data from databases. It has provided and is still provides methods by which we can extract valuable information from our data. On the other hand, mobile devices are a relatively new technological trend, but I no way less important in the IT realm. Mobile technologies have had tremendous

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speed of development and nowadays it is impossible to imagine our world without it.

“Data mining is a fundamental concept in the field of Information Retrieval. It is the process of analysing vast amounts of data in order to discover meaning beyond its explicit face value. For example, after collecting the browsing history of a user over a period of three months we could define a list of websites that the user visited and the time at which those sites were visited. A very simple application of data mining might be to then count the frequency with which each site was visited, and from this determine the user's favourite websites. We could also look at patterns in the time at which certain sites were visited; if the user visits the Sydney Morning Herald's website at 9am each morning this is a trend that we might want to incorporate into a user profile somehow. More complex patterns might also be present, allowing for work ows to be designed around a user's habits. These are just a few trivial examples.”(1)

Mobile devices and the Internet

As IT has progressed, people have found new ways to communicate and do business with each other. The continuous need for faster and more effective results has paved the way for the introduction of mobile devices. Today humankind travels around the world as it travelled around a country in the past. Trying to be updated about how things progress has made mobile devices a very important tool, because they can be carried on ones pocket, you can access the Internet with them, read emails and reports. In one word, in our competitive society mobile devices keep us on the line with what happens around us.

“Mobile devices have opened up access to new, richer types of data that were once difficult, if not impossible, to obtain. Users of mobile devices can record their surroundings with visual and audio capture devices, transmit their location to online services with GPS-capable devices, and provide a myriad of other useful contextual cues for software services to use in the construction of a user profile. Dedicated devices were once required for each of these forms of data, but with the power of modern mobile phones it is becoming easier to generate this data with a single device and provide a more complete ubiquitous experience. Applying data mining to this rich data allows for the construction of complex user profiles, or for the delivery of sophisticated services.”(1)

The Internet and mobile devices cannot be separated from each other. They represent the main link that we have with the world.

“The internet and web services usage on mobile devices are continuously and

rapidly increasing. Therefore the demand is to have efficient mobile interface that can effectively display information and efficiently utilize the small size mobile screen, low bandwidth and unreliable connection etc. Mobile devices, such as PDAs, Smartphones, Tablets etc. evolve rapidly from the digital calendars and address book to hosts of more complex functionalities. Because of improving mobile devices resources, it supports and adapting all forms of application from computer systems. However mobility and scaled-down technologies lead to some limitations as compare to computer system. Due to these limitations and deficiencies it is not straight forward to adopt or provide available facilities on mobile device as with desktop computers.”(2)

As we mentioned before all of this technological progress has given us an opportunity to do things better, but this has to do mainly with the end user, because there are people who need to do analysis of that big “tower” of data, or as IT experts call it, Big Data.

Software engineers have developed many applications that deal with the issue, but still, it requires a lot of work. Data analysis today is vastly superior than in the past, but there’s always something better than we can do.

“Analysis of data used for mobile is a complex process that often involves remote resources (computers, software, databases, files, etc.) and people (analysts, professionals, end users). Recently, mobile data mining techniques are used to extract useful data sets. Advancement in this research area arises from the use of mobile computing technology for supporting new data analysis techniques and new ways to discover knowledge from every place in which people operate. The availability of client programs on mobile devices that can invoke the remote execution of data mining tasks and show the mining results is a significant added value for nomadic users and organizations that need to perform analysis of data stored in repositories far away from the site where users are working, allowing them to generate knowledge regardless of their physical location. Aim of proposed work is to improve the mobile data mining techniques so that data retrieval for mobile devices will be faster in efficient mobility management using proper web services.”(3)

“We’ve witnessed several fast-moving revolutions in the technological landscape in the past few years, particularly related to the emergence of powerful, always-connected, and extremely popular portable devices. Smartphones and tablets let us receive information through multiple channels while generating massive amounts of information about us. Data collected from the sensors embedded in smartphones — especially GPS receivers — provide an incredible wealth of information that service providers and applications can collect, store, and analyze in real time.”

It is personal

Today almost anyone can have access to information on their own on a cell phone, tablet, or even smartwatch.

“Computing is truly personal now, not only because we access information through mobile devices, but also because the information itself is usually highly personalized and relevant to our location and context. Typical examples are location-based services, such as Foursquare, which provide suggestions about restaurants and shops close to the area where users have checked in, and considers their previous mobility history. Other examples include search engines that are increasingly context- and location-aware. Moreover, users generate information themselves using mobile devices. For example, in June 2013, Facebook had, on average, 819 million monthly active mobile users. In other words, we should be talking not about the big data revolution but — at least as far as consumer applications are concerned — about the “big mobile data” phenomenon.”(4)

“The availability of client programs on mobile devices that can invoke the remote execution of data mining tasks and show the mining results is a significant added value for nomadic users and organizations that need to perform analysis of data stored in repositories far away from the site where users are working, allowing them to generate knowledge regardless of their physical location.”(5)

Domenico Talia and Paolo Trunfio have this to add in relation with data mining and mobile devices:

“The mobile data mining field may include several application scenarios in which a mobile device can play the role of data producer, data analyzer, client of remote data miners, or a combination of them. More specifically, we can envision three basic scenarios for mobile data mining:

- The mobile device is used as terminal for ubiquitous access to a remote server that provides some data mining services. In this scenario, the server analyzes data stored in a local or distributed database, and sends the results of the data mining task to the mobile device for its visualization.
- Data generated in a mobile context are gathered through a mobile device and sent in a stream to a remote server to be stored into a local database. Data can be periodically analyzed by using specific data mining algorithms and the results used for making decisions about a given purpose.

Mobile devices are used to perform data mining analysis. Due to the limited computing power and storage space of today’s mobile devices, currently it is not realistic to perform the whole data mining task on a small device. However, some steps of a data mining task (i.e., data selection and pre-processing) could be run on small devices.”(5)

Mobile invasion

The following table will give us a very good view of how large is the usage of mobile devices, and in return, we will understand the importance of data mining in dealing with data produced by all those numbers.

No.	Company	Country	Subscribers in million
1.	China Mobile	China	775.6
2.	Vodafone	UK	419.4
3.	China Unicom	China	285.7
4.	Airtel	India	275.2
5.	America Movil	Mexico	269.9
6.	Telefonica	Spain	254.7
7.	Axiata	Malaysia	239.7
8.	Orange	France	231.5
9.	VimpelCom Ltd.	Russia	209
10.	China Telecom	China	185
11.	MTN Group	South Africa	175.9
12.	Etisalat	UAE	167
13.	Telenor	Norway	166
14.	TeliaSonera	Sweden/Finland	160
15.	T-Mobile	Germany	142.5
16.	Saudi Telecom Company (STC)	Saudi Arabia	139
17.	Reliance Communications	India	135.8
18.	Verizon Wireless	USA	122
19.	Idea Celular	India	113.9
20.	AT&T Mobility	USA	116
21.	MTS	Russia	106
22.	Telecom Italia Mobile (TIM)	Italy	102.5
23.	BSNL	India	96.2
24.	Tata Teleservices	India	77.4
25.	Smart Communications	Philippines	72.5
26.	Turkcell	Turkey	70.7
27.	Aircel	India	66.9
28.	Maxis Communications	Malaysia	63.7
29.	MegaFon	Russia	62
30.	Ooredoo	Qatar	60.5

Table 1. Mobile Services by the numbers (2013; data by RBI, Financial Access)(6)

These huge numbers paired with the continuous improvement of mobile devices (fig.1) are a good representation of the importance of data mining of/on mobile

devices.

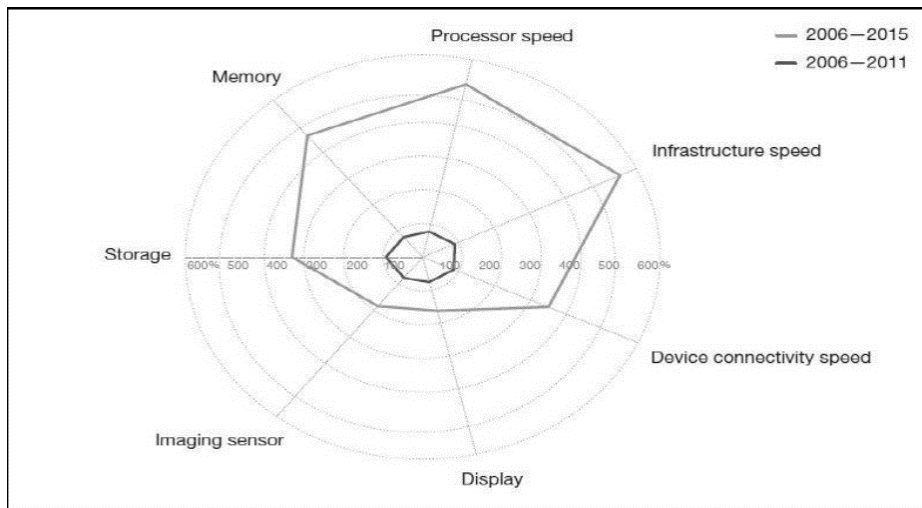


Fig.1 Development of mobile devices by year(6)

Is there a downside?

As with everything else, mobile devices have their downsides which in some cases can limit the ability to do things appropriately. This also effects data mining no matter if it is carried on the mobile devices themselves or if we try to mine mobile users using those devices. Here we will show some of the limitations as presented by Muzammil Khan, Ali Shah and Israr Ahmad on their 2014 paper “Framework for Interactive Data Mining Results Visualization on Mobile Devices”.

“Despite of rapid development in mobile technologies, mobile devices have potential differences as compared to conventional desktop computer systems. Many of these differences are in the form of limitations. The number of limitations or constraints discussed in regarding mobile devices can be categorizing by the relevancy among these limitations. We can categorize into four different categories, that as Bandwidth or Network related constraints, Screen or Display related constraints, Hardware or Software constraints and Mobility or Location Related constraints.”

Network Constraints

- ☐ Slow Connectivity
- ☐ Temporary Disconnection or Unreliable connection
- ☐ Low bandwidth

Screen Constraints

- ☐ Limited screen and small display
- ☐ Limited display and resolution
- ☐ Variable width and height ratio

H/W & S/W Constraints

- ☐ Limited processing capabilities
- ☐ Limited interaction techniques
- ☐ Limited input peripherals
- ☐ No full keyboard
- ☐ No mouse
- ☐ Limited memory and storage capabilities
- ☐ Device variability
- ☐ Limited graphical components and graphical libraries
- ☐ Complex and diverse data format
- ☐ Limited battery power or battery consumption

Mobility Constraints

- ☐ Auditory environment
- ☐ Visual environment
- ☐ Level of attention or concentration

They are watching

Data mining and surveillance has been an issue of debate for a long time. It is especially related to mobile devices because they are the main tool by which the surveillance is carried out. This issue comes to view when we deal with matters of national security.

Many times the ethics of surveillance is put to question by a lot of people. Today with the enormous usage of mobile devices it is easier for someone to get into the privacy of others. Sometimes the country or state does these things on the basis of security, especially in times of a terrorist attack, but we cannot know for sure that we are not being watched other times also.

The Snowden affair is the best example of why so many people are debating about surveillance. From all the fuzz we learned that the largest IT companies such as Microsoft, Apple and Google have been put to pressure by the government to give information about particular people. This directly has to do with mobile devices and technologies knowing that Microsoft has the Windows Mobile Platform, Apple has its iOS and of course Google with Android. In other words this has to do with the ethics.

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Oscar H. Gandy makes a very nice description of how data mining and surveillance can be misleading based on the needs of the government. He has this to say:

“Data mining systems are designed to facilitate the identification and classification of individuals into distinct groups or segments. From the perspective of the commercial firm, and perhaps for the industry as a whole, we can understand the use of data mining as a discriminatory technology in the rational pursuit of profits... People tend to be outraged when they discover, or are informed that they have been discriminated against. There is some value, therefore, in supplying the press with egregious examples of individuals, or communities, or classes of people, who have been victimized by data mining, and by the use of profiles based on irrelevant attributes like

race or ethnicity. Of course, it is hard to predict how the public will respond to a growing

awareness that discrimination is widespread, and that they are clearly at risk. In part it is a question about what people believe to be fair, and what they believe the circumstances demand. Unfortunately, I remained concerned that the use of data mining in the so - called “ war against terrorists” will soften us up for its use in the war against global competitors, or against the threat to shrinking profits, and a few “horror stories” about some “so-called victims” of discrimination will do little to shift the tide.”(7)

Mobile, data mining and the social web

The social web is an environment where people communicate the most. It is a vast area of data that could be mined. The social web mainly comprises Facebook, Twitter and LinkedIn and considering the large number of accounts on those sites and the huge multimedia exchange between users, data mining is a must, if managers of those sites want to have an overall control upon them. What is more important is the fact that these sites are mainly accessed by mobile devices.

“As humans, what are some things that we want that technology might help us to get?

- We want to be heard.
- We want to satisfy our curiosity.
- We want it easy.
- We want it now.

In the context of the current discussion, these are just a few observations that are generally true of humanity. We have a deeply rooted need to share our ideas and experiences, which gives us the ability to connect with other people, to be heard, and to feel a sense of worth and importance. We are curious about the world

around us and how to organize and manipulate it, and we use communication to share our observations, ask questions, and engage with other people in meaningful dialogues about our quandaries.”(8)

This phenomenon that we call human nature, which means being curious, wanting to communicate and wanting to know more, which are the driving forces of the social web, is the main source for generating more data which need to be transformed into information and finally into knowledge, something that needs data mining.

Conclusion

In this paper we have tried to present the most important issues regarding data mining and mobile technologies. We learned that both of these fields are closely connected with each other and together they provide undisputed tools and methods in managing the large amounts of data that decision makers, managers and end users have to face on the IT realm. No matter if we use a cell phone, a tablet, a laptop or a smartwatch, we are part of a large worldwide network of data mobility and that is why it is very important to have a general overview of the relation between these two fields. We have tried to explain the importance of mining mobile devices and mining from mobile devices; this is a two-way relationship with one goal; achieving better results for greater success.

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The development of Tourism and Seaports marketing in the Region of Vlora

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Abstract

The services are very important in the economy and the businesses are focused in this form. The marketing of services has the same elements as the marketing of products, but has some differences.

Marketing have a special role in the performance of tourism and maritime ports. The elements of marketing mix play the important role in tourism and port services, price is an important element, it remain important element, but also complex element about the high competition and service offered, recalling here the service features regarding services in general.

In this study will examine the available literature related to marketing of services, tourism, marine ports, high competition of their, the role of tourism in the economy, the role of marketing to improve port services, the role of the ports and tourism for development of the economy.

This paper will conclude with a marketing aspect of the marketing mix elements and in particular with the trend for development of marketing seaport and in the other hand the development of Vlora region.

The study aims identifying the role of elements of mix marketing for the development of the tourism and the sea ports, the role of infrastructure and the price element, their point of connection for the developing of them and their role in the economy.

Questionnaires are used for gathering data. The questionnaires included both open-ended and closed questions.

Keywords: *marketing, ports, competition, tourism, price, marketing mix*

JEL Classification M31

Marketing strategy, as being an indication of how each element of the marketing mix will be used to achieve the marketing objectives. This definition gives a complete reliance on the mix and therefore the utilization of the elements is the strategy. These give us strategies relating to products, distribution, and sales promotion and pricing. These elements of the marketing mix are sufficient for non-service businesses but services' marketing requires additional elements different from manufacturing. An expanded marketing mix presents a more appropriate model and reflects the traditional elements plus three new ones.

Product or service being offered- Buying the service product is really buying specific benefits and value from the total offering. A service product is a complex set of value satisfaction.

Price charged and terms associated with its sale. Pricing decisions are of great importance in determining the value for the customer and play a role in creating an image for the service. Price also gives a perception of quality.

Promotion - the communication programme associated with marketing the product or service.

Place is the distribution and logistic function involved in making a firm's products and service available.

People are an essential element in both production and delivery of most services and they are becoming part of the differentiation by which service companies seek to create added value and gain competitive advantage.

Processes are all the procedures and routines by which a service is created and delivered to the customer including policy about some of the customer involvement and employee discretion issues.

Physical evidence, also known as provision of customer service, is more demanding, requiring higher levels of service provided and the need to build closer relationships with customers.

Each of these marketing mix elements interacts with each other and they should be developed so that they are mutually supportive in obtaining the best possible match between the internal and external environments of the organisation. In developing a marketing mix strategy, service marketers need to consider the relationship between the elements of the mix.

Port marketing - Even though service marketing has been developing dramatically in the past few decades the port industry have been largely neglected as far as marketing is concerned.

In order to understand a port as a commercial enterprise which is offering services

to international markets, it is necessary to define its role in the chain of transport as well as the macroeconomic function of a seaport for the national economy and the geographical region where the port is located. As far as influence upon the region and national economy is concerned, a port has a double function, employment and transport.

A seaport has an important direct and indirect employment function in the region. The high value added which is produced in the port creates on the one hand a substantial income and on the other revenues in form of taxes for the government. The macroeconomic function of the seaport has to be taken into account mainly in terms of transport and port policy.

As far as the transport function is concerned, this plays an important role as link in the international chain of transport. In this respect port services are part of the logistics costs for international trade. As a general rule it can be stated, that in the chain of transport 5 to 10 percent of the overall costs are port related.

Notwithstanding the direct cost benefit ratios in the port, external economies and diseconomies can affect the national foreign trade depending on the efficiency of the seaport.

Characteristics of Port Services -Compared with other industries port services are characterized by some typically unique aspects:

1- The most important aspect of port investment as compared for example with other transport investments is that capital allocated in seaports is very largely immobile. That means if there is a misallocation of capital for investments, a correction is only possible after the depreciation period of the investment.

2. Another typical characteristic of port investment is that most of the capital is used for infrastructure and that the depreciation period and the lifecycle is usually very long.

Therefore long-term planning is needed for these long-term investments. In this planning normally all main departments of the seaport have to be involved. The marketing section is therefore of utmost importance.

3. The product of ports, i. e. port service, cannot be stored if there is overproduction nor can it be sold from stock if there is an underproduction. This is the most important reason why planning and market research activities in this service industry are integrated compared with other industries.

4. The demand for port services is always a derived demand. It is mainly derived from foreign trade. Therefore a seaport offers its services on various markets which differ very much in terms of elasticity of demand and supply. The elasticity of demand is the main reason for the intensity of competition between seaports.

5. The port's service is only a minor part in the transportation chain from the shipper's premises to the receiver's premises. This argument became very obvious

after the implementation of container services. Containers enabled long distance journeys of cargo both by sea and land and the cost is much higher than the cost of port services. In the new logistic dominated reality, this fact has become more important for just-in time concepts of the industry.

This latest argument, in particular, shows that the market position of a port is to a high degree dependent on the prices and services of the shipping lines calling at the port and the services and prices of the hinterland transport system serving the port.

Factors Determining Port Choice - According to that study the factors that mainly influence port choice are:

- Frequency of the number of departures of regular lines,
- Available transshipment facilities;
- Special facilities for the handling of specific cargoes.

Another analysis, which was made on request of the port of Dunkirk by Lesourne and Loue (1978), was published in 1979. Four hundred and fifty industrial concerns were consulted on the elements that they thought to be important in the choice of ports. Most important to them were the following factors:

- Total cost,
- Port equipment,
- Number of regular lines, volume of traffic;
- Accessory costs,
- Quality of port services.

The conclusion of this research was that in many cases the industrial concerns did not have substantial knowledge about port facilities but they were mostly interested in the number of regular lines and in the total cost involved using the port.

Interport competition can no longer be considered in terms of hegemony. Port traffic is determined more by cost and service advantages. However, there is some evidence that non cost factors play an important role in the general cargo trades. Reliability, speed and quality of service are more important than price. The most important factors appear to be elements concerned with the transport and handling of containers in the port. The elements regarding the security and the size of the port nowadays do not seem to be of a great importance. Port competition is of a very complex nature and has also changed considerably since the introduction of multimodal transport. There is no longer a direct cost relation between a customer and a port as all port expenses are matters that are under control of the ship-owner. Shippers need not be interested in a specific port or its handling

capabilities as the multimodal transport operator relieves them of this concern. The port has simply become a point passed on the way to final destination.

The Functions of Port Marketing -An active marketing attitude of a port means that it does not wait for potential buyers of its services but conducts careful market research and makes production, trade and investment decisions based on it. It also means that the port maintains relationships directed to potential customers in order to encourage them to buy services offered by the port.

In order to support this attitude the main aims of port marketing strategy should include the following:

1. Creating port services in such a way that they meet requirements and expectations of the customers or marketplace. To be able to fulfil this aim the marketing department should conduct an analysis of the situation of the port in the marketplace. This analysis should indicate what services potential customers require, what services are offered by competitors and what can be done to increase attractiveness and competitiveness of services offered.

2. Influencing the market by advertising, public relations, and acquisition, in other words creating demand for port services. For this reason the port customers' preferences and tastes, trade customs and legal regulation typical for a particular market must be identified.

Sensitive issues such as investigating possible promotion conditions, defining potential competitors and their marketing methods, market segmentation according to possibilities and the opportunities to function in it should be of a great importance in every marketing department.

3. Maintaining an active sales policy. Achievement of this aim depends on conducting effective market activities. They should lead to creating and enlarging a group of loyal customers and enhancing their relationships with the port, initiating their needs by creating new port services and differentiation and finally introduction of new methods of distribution (Nesztal, 1996).

4. The last thing, which needs to be considered in this section, is the control and analysis of the effects of marketing activity. It mainly means evaluation of the changes that appeared in the market as a result of marketing activities and the change of customers' opinions concerning port services and image. Very important is also information about the changes in the volume and structure of sales and generated profits and losses. The analysis results not only provide evaluation of the position in the market in comparison to major competitors but also enable the making of conclusions regarding up to date marketing activity and plans for future activities.

Marketing Research in Seaports- Methods and techniques of marketing research in ports do not vary very much from methods used in other types of industry. One of them is the well-known SWOT analysis, which is normally the starting point of decision-making process. Strengths and weaknesses of the port in comparison to the main competing ports should be analysed.

Another very popular type of analysis of port marketing research is analysis portfolio, designed by Boston Consulting Group. The portfolio model, presents in the form of a matrix the internal and external environment of the port. The BCG matrix is based on the assumption that two factors, market growth rate and relative market share, are the critical factors in determining business success. The BCG portfolio model uses market share as a proxy for competitive position, and growth rate of a business as a proxy for market attractiveness. This analysis allows appropriate financial assets allocation between various groups of services in such a way that guarantees long-term profitability.

Marketing Management in Seaports -The process of marketing management in a seaport is of a complex nature. It consists of a number of stages appearing in strictly defined order and dependent on each other.

Marketing activity plays a key role in the process of port development and for that reason should be considered equally important with other functions of management. In this context marketing is one of the factors of economic development of a port and therefore all port activities should fulfil its requirements.

The success of marketing management depends very much on precise implementation of the mission, which should be understood as the present and future role of the port In national and international goods' exchange via sea transport, and also in the national and international transportation system. The management of the port's mission should have a clear vision of the port's future development.

The Importance of Logistics- The borders between the industrial nations continue to open for more sophisticated goods; the result has been divisions of labour with competition among all those participating in production and trade.

Today's ports seek to gain the position of logistics and distribution centres. Their position on the market is no longer solely determined by the quality of the products. A decisive co determinant is the quality of logistics with which the position of the product is supported in the market. The supply of goods will only be accepted if just-in-time delivery that can be assured without a large capital commitment in local inventory stock and expedited by smooth-running logistics over the entire chain of operation and information. It is hardly ever possible for one

organisation to undertake the construction of these interconnected logistics chains with both worldwide dimensions and the required logistics services.

Productivity in logistics means using the combined resources of all participants in the supply chain in the most efficient way to provide high quality cost effective customer services (Byrne and Markham, 1991).

The maritime sector in Albania

Albania is a small country of 28,748 km², situated in south-eastern Europe at the western part of the Balkan Peninsula. 1/3 of its border is extended on the sea side, about 440 km, making it a coastal country with favorable natural conditions which have not been properly assessed for the development of the Maritime Sector.

Even though, the Maritime Transport Sector, responding to the economic development of the country has a long history of development after World War II. The years 1979 – 80 were marked by an important economic development, especially in the minerals industry which determined a significant development in the Navy and Commercial Marine. The state decided to buy transatlantic ships from 12,500 to 16,000 TDW, with a total processing capacity of approximately 90,000 TDW, for the transportation of export - import.

Albanian owners continue to buy ships, especially general cargo but in general they are old and damaged with many technical problems lowering the standard of



Albanian fleet in general. Inland Transport as a subsector of Maritime Transport includes not only transports in rivers and lakes, but also the transport of goods between the ports of Durrës, Vlorë and Saranda Shengjin.

Nowadays, according to the modern world development model, the maritime traffic and maritime issues is considered as a crucial factor for our country's economic activity. For all coastal areas, sea has been a source of benefits for further economic development and international reputation. Infrastructure routes do not require funds to be built and maintained, but ports needs to be built, as points of departure and arrival of the maritime routes and of connection with the land shipping.

Although Albania is a coastal country with a favorable geographic position, the maritime sector is in the process of development in the following areas: Legislation and the National Maritime law, Implementation of the requirements of international maritime conventions, sea ports, shipping, port safety and navigation security and environmental protection.

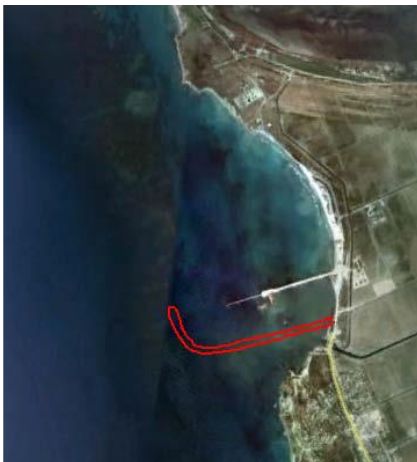
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The Albanian Sea Ports are located from North to South along the Coast. In order to localize both existing port and landing facilities along the coast, as well as future prospective locations, the Consultants have placed a Kilometre Identification line along the Albanian Coast, as presented on the map in Appendix I, starting at the River Mount of the Bunes River in the North, at the Border with Montenegro. Ports and Locations are referred with their Coastal Kilometre as reference.

The most Northern Albanian commercial port is the Port of Shengjin, at Coastal Km 18. Traditionally the port was used for the import of building materials and petroleum products, as well as the export of small volumes of copper ores. After the government decision to concentrate the handling of liquid bulk, such as the petroleum products in the two ports of Porto Romano, near Durres, and Petrolifera, near Vlora, the only recent cargo activities in this port have been mainly related to the import of cement for the regional construction industry. Small ferries are coming in from Bari in Italy since 2009. Fishing vessels are crowding the port, as adequate facilities are still to be developed, which may occupy space currently used by the Navy.

Expansion possibilities to this port are limited. The land side is surrounded by hills and the narrow access road crosses the small town through a rapidly expanding tourist area. The present depth of the entry channel and port basin is limited to around 5.00 meter, and would need dredging work for the accommodation of larges vessels, which will subsequently require annual maintenance.

The oil terminal of Porto Romano (Km 88) is located in the Southern section of the



2.5 Km long Porto Romano Bay, North of Durres. The terminal is built as a privatized concession, as part of the Government decision to concentrate the handling of the petrochemical liquid bulk in two locations outside the traditional ports. The management of this terminal is at present in the process of completing the construction of a breakwater South of the terminal jetty for protection against the South-West waves during the winter period. A similar Northern breakwater is planned. Depths in the access channel to the terminal are in excess of 13 meter.

No other construction activities are planned along the coast of this bay. However,

on the land side there is a vast area of limited habitation and use, on which the location of an Industrial Zone and an Energy park are projected. Road construction is under way to link the terminal and its tank farms to the national road system.



The Durres Port is the main port of Albania and located on the sea front of the city of Durres, where it has historically developed as a city port. In recent years the port has been handling over 75 % of the country's imports and exports of commercial cargo, of a total of about 3 million ton per year. This comprises of containers, general cargo,

cereals, and dry bulk, such as chrome ore, steel scrap, cement, clinker and coal.

Ferry services arrive from Bari and other ports in Italy.

In 2008 a Port Master Plan was developed, which foresees handling of a maximum throughput of around 9 million ton per year, which, depending on the estimated scenario, will be reached sometime between 2020 and 2030. For this capacity the port will need a substantial expansion through reclamation on both sides of the Eastern pier and dredging of the channel from the present 9 meter draft to 13 meter depth. Furthermore expansion is hindered by the presence of the old shipyard and tank farm as well as some wrecks in the port basin. The only component of the new master plan layout being implemented till today is the ongoing construction of the new ferry terminal.



The Petrolifera Oil Terminal (Km 205) is located 5 Km North of the Vlora Port. The terminal is built as a privatized concession, as part of the Government decision to concentrate the handling of the petrochemical liquid bulk in two locations outside the traditional ports. The terminal jetty is protected by two rock breakwaters, reaching deep water access. The area between the bases of the breakwaters is laid out as the terminal and tank farms. Nevertheless a significant space is vacant, and the Consultants were informed that this area is not needed for future terminal development and is

free for other commercial commodity handling, if required.



The Vlora Port is considered the second largest port of Albania, but handles a substantial smaller volume of cargo (around 15 % of country total), mainly consisting at present of importing cement and other building materials. The predominant function of the port is the

ferry service from Brindisi in Italy. It is, as all existing ports in Albania, a traditional city port, with limited space for port area expansion.

With funding from the Italian Government a new port development plan was prepared and the

tender procedure for the construction of the new ferry terminal and one commercial berth is

ongoing, as well as an improved road link of the port area with the national road system.



Saranda is the Southern most port city and is fast becoming a centre of tourist development on the Albanian coast. This city port traditionally served to import the goods, mainly building materials, needed in the city and environs.

Under World Bank funding a port restructuring project is under way, which will turn the city port into a facility for ferries and cruise ships.

A condition of the financiers was that the port city would be fully dedicated to tourism and people friendly activities, and consequently all commercial goods handling is being moved to the small port in the Limion Bay, originally used for the Navy, which will now provide space for the fishing fleet and one jetty for transfer of general cargo.

Albania is set to become a major entry point into the European Transport Corridor VIII, which is considered vital for the economic growth of the South Eastern European region. Furthermore the landlocked neighbour countries, Kosovo and Macedonia, will largely rely on a maritime entry point for their import and export flows. However, to achieve optimum economic benefits for these corridors, as well as for the developing Albanian National Industry and Trade, full use must be made

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of Economies of Scale to reduce transport unit rates. Considering the relative short, 350 km, Albanian coast line, one major and modern port will be effective. Such “Balkanport” can be the “Europort” for South- East Europe.

Tourism and marina development

Coastal Tourism Development in Albania is in its infancy. The present restriction on small motor crafts in Albanian coastal waters has till today blocked the development of marina facilities along this coast. But this is all expected to change rapidly in the near future, as it has in recent years in the neighbouring countries along the Mediterranean. Tourism will become one of the major sources of income for the country.

All coastal cities have significant tourism potential and will be an attraction to both national and international tourists. Furthermore, the various marine entry points into the country will in the near future become the gateways to tourism into the inlands with mountain resorts and eco ventures

The beach areas cater at this moment mainly for national holiday makers and the Consultants have observed seemingly uncontrolled development along certain sections of coast and beach line, of small and medium size hotels and apartment blocks catering for these temporary guests. However, there are still large coastal sections untouched, which provides opportunities for international resort developers to implement large scale integrated tourist resorts, such as 1000 room resort hotels, with extensive facilities including golf courses and marinas, catering for the affluent regional and international tourists.

Tourists will first arrive by air and road, but in increasing numbers from the Mediterranean, by ferry, cruise liner and soon by private yachts.

During recent years and till today Albania does not allow the use and operation of motor yachts in its coastal waters due to security reasons and illegal transport of goods and persons. However, with significant increase of the government border security enforcement and the impending opening of borders, this restriction is expected to be lifted in the near future.

Due to the lifting of this ban on yachting, the restrictions on travelling of national residents and the development of Albania and its beaches as a Foreign Tourist Destination, a strong demand for Marina Facilities along the coast is expected. Several applications for concessions to build and operate such marinas have already been received by the Albanian Government.

In order to benefit most from the economic opportunities of the influx of foreign tourists, those tourists should be concentrated in the areas where entertainment outlets are present and where they can spend their money. At the moment, and

still in the foreseeable future, these locations will be the existing traditional coastal cities. It is therefore strongly recommended to develop the first marinas at those locations, as it is less economically attractive to have the tourists spend their time in isolation. This may happen later, when further development of tourist facilities along the rest of the coast is progressing, but in the interest of the economy, and the development of employment opportunities in the coastal cities it is recommended to “cream off” this market first.

At present the traditional city ports do not provide for marina and yacht landing facilities and space, but it is foreseen that in the coming years these ports will be flooded with pleasure vessel arrivals and berthing, and this is difficult to prevent. Space and facilities will have to be planned in each of the city ports, apart from other dedicated marina and resort developments along the coast.

Tourism will be an important component of the future Albanian economic growth. In order to make full use of the benefits of coastal tourism, as well as providing efficient corridors for tourists to visit the Albanian hinterland resorts, the Traditional City Ports are vital. These are not only ideal for this purpose, but will certainly rapidly develop as such in the medium term, when Albanian waters are opened up for yachting. This significant “green” tourism pressure will be an impediment to operation and development of commercial port activities.

Commodities and the transport corridors -Albania is set to become a major entry point into the European Transport Corridor VIII, which is considered vital for the economic growth of the South Eastern European region. Furthermore the landlocked neighbour countries, Kosovo and Macedonia, will largely rely on a maritime entry point for their import and export flows. However, to achieve optimum economic benefits for these corridors, as well as for the developing Albanian National Industry and Trade, full use must be made of Economies of Scale to reduce transport unit rates. Considering the relative short, 350 km, Albanian coast line, one major and modern port will be effective. Such “Balkanport” can be the “Europort” for South-East Europe.

Conclusions

Ports as traditional transit points play an emerging role in the new global era. Port managers forced to deal with new competitive environment by adopting strategies such as profit or revenue maximization in order to reach their goals. Marketing in services has been developing very rapidly, first in services such as travel, leisure and food industry, progressively dominating every domain of life. The countries were able to operate independently and implement principles of the free market. The emergence of the market economy brought the need and desire for marketing. In Albanian marketing efforts were first noticed in consumer goods and services but

as the state owned enterprises were exposed to reconstruction and privatisation, marketing became an important part of their economic activities. This also affected heavy industry, transportation and of course the maritime economy including ports.

The Consultants recommend the development of the Albanian Marina capacity with great caution and careful planning. In order to optimize the income of new tourism initiatives and local enterprises, Marina Facilities are first proposed to be provided in the Green Ports, as detailed in this Port Strategy Concept. These Green Ports are located in the existing coastal cities with excellent opportunities for commercial income and employment.

Vlora has a very favorable geographical position and a large sum of natural and cultural assets. Tourism is the economic future seen for the region developing. Tourism industry is a promoter of sustainable development but it will bring better management and stewardship that have appropriate effects and provide a long-term development, canned and preserved natural and cultural resources. Tourism development will help in employment and total income per destination; accelerated social and economic development throughout the destination; Improvement of living conditions at the destination; beginning of economic activities; Creating a positive international image of the country as tourist destination; increase foreign currency income and tax revenues for the government; social tourism development, and sustainable environment.

However the challenges that face in front of sustainable regional development are numerous like Control of the territory, territory management, and territory regulation. County of Vlora Region should develop a research project for the Region of Vlora, anticipating the development of the region for a long period of time.

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