Boosting the Egyptian Exports:
Towards Developing a Comprehensive System Dynamics Based Tool for International Market Selection

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ABSTRACT

Egyptian economy has faced several challenges along the way for recovery, among these challenges comes the deficit in the balance of trade, although a lot of efforts were dedicated to this area but still the gap between exports and imports forcing the value of Egyptian Pound to go down the hill continuously. Egyptian exports are not proportional to the efforts exerted to increase it, nor to the potential of the Egyptian economy. Most of these efforts target the laws and regulations related to export issues, which is not enough alone, as there is a lack of efforts towards increasing the base of Egyptian exporters as well as their effectiveness. There is a reluctance to engage in export business among the major part of the Egyptian producers while the smaller part engaging in export business lack the up-to-date knowledge and tools needed to maximize the export benefits, as they just react to spontaneous orders from international markets. The research will try to give a comprehensive advisory guide for the exporting business and introduce the first steps towards achieving comprehensive systematic process to be used for selecting the optimum international markets, by integrating international business aspects with economic concepts in a dynamic system thinking approach. Since the main concern of any exporter is the financial benefits (price, revenues and market share) that he will get from exporting, though the research output will identify the major factors that affect the financial results of the product in the international market under study and the way each factor affects these results. The researchers will apply the results of research to rank the most suitable markets for the Finished Leather Goods (specifically the women leather shoes), using the screening process. Future research proposed building on this research; would be to simulate the results developed in the research in form of causal loop diagram into simulation model in the form of stock and flow to project the expected financial results in each country resulted from the screening step.

INTRODUCTION

Many people have gained pre-eminence in the world through their trade activities, among them are Etruscans, Phoenicians, Egyptians, Chinese, Spaniards, and Portuguese. (Czinkota and Ronkainen, 1996)

Introducing Egyptian products to the international markets in form of exports is the main concern of this research. Changing the export decision from a reaction attitude to proactive action is very important to grasp the opportunities flashing everywhere in the globe, relying on a systematic process for decision making to minimize the associated risks, maximize expected returns and ensure covering all the possible opportunities.

PROBLEM DEFINITION

A lot of individual and governmental efforts have been exerted for boosting the exports, however the results are not proportionally reflecting these efforts, as Egyptian producers lack the knowledge and tools that gives them courage to take a proactive actions to open new markets based on rational approaches. The industry of concern in this research is the finished leather goods as it has poor results in the international markets and its export figures declined from $11.2 million in 1997 to $1.93 million in 2001.

RESEARCH OBJECTIVE

The Purpose of this research is to find a systematic process for "International Market Selection" based on the system dynamics/thinking methodology to help the Egyptian exporters to allocate the most suitable markets for their products. The process will be developed by relating the PEST factors and internal market conditions of the desired market as the "independent variables" to the financial results of the required product to be exported as the "dependent variable". Also the research will highlight the most important elements to be investigated in case of export decision has to be taken.

STATE-OF-THE-ART

Globalisation is the starting point for this research, as it tends to be the most emerging word in nowadays world. Since it is uncontrollable, thus every nation should adapt itself to the globalisation rules and needs according to its unique characteristics.

There are two approaches for a Nation to deal with globalisation:

Approach 1: The companies as well as Nations take the initiative to allocate other markets across the boarders to enter and sell its products and services seeking to fulfil several needs.

Approach 2: The Nation defends itself and its internal market from invaders of other countries.

Such strategy is no more valid as no single country can close its borders and prevent the incoming products and services leaning on its own resources. But for each individual company, it can choose the suitable approach according to its capabilities, although the tiniest companies and least experienced entrepreneurs have the potential

to export. Going across the boarders needs a thorough study of where to and how to select an international market that realizes maximum profits for a certain product.

There are two approaches to define the most suitable international market; systematic and non-systematic approach:

Non-Systematic Approach: These are irrational ways of choosing target markets and subjected to personal opinions and feelings, furthermore it does not investigate the whole range of the factors affecting international business.

Systematic Approach: This is a rational way of deciding the target market based on thorough researches and studies, considering all the factors and conditions related to the desired market.

There are several tools to compare the countries in this approach, some of which are:

1. **Grids**
It can be used to compare countries on whatever factors are deemed important. The Grid constitute of several categories depending on the decision makers.

2. Opportunity risk matrix
This matrix is used to plot summary of the data produced by the grid, furthermore it shows the relative placement of each country in the future.

3. Country attractiveness-Company strength matrix
This type of matrices is used to highlight the fit between a company's specific product and the country under investigation, as well as the products' advantages on a country -by- country bases.

4. Environmental scanning
This is a systematic assessment of external conditions that might affect the company's operations. The factors and conditions that should be scanned can be categorized in four dimensions "PEST" representing the political, economical, social and technological factors of the country under investigation.

THEORETICAL FRAMEWORK

The study based on the theoretical framework that link the relevant factors contributing in the dynamics of the exports decision (figure 1).
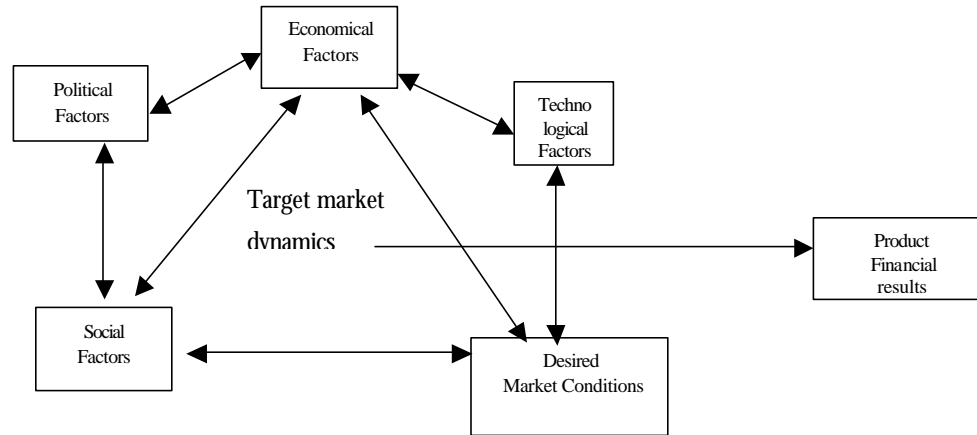

Figure 1: Conceptual Modeling for the study

RESEARCH QUESTIONS

The researchers have developed several questions to be able to tackle the subject in structural manner.

MAJOR RESEARCH QUESTION

What are the main factors that an exporter should consider when selecting an international market for his product?

The major research question is considered the main concern of the study, also it is considered as the (0 Level, very conceptual level or preliminary level) which should be broken down into dimensions level, this will be clear in the minor research questions. The study will focus on the main factors affecting the choice of the most suitable market for exports, represented by the political, economic, social, technological and internal market conditions of the country under study (as the independent variables).

These variables affect the financial results of the product in that country (as the dependent variable), which is represented in terms of revenues, market share and profit as the dimensions of the dependent variable. The final answer can be used to induce a process to be used in ranking of countries and hence facilitate the selection of the most suitable.

MINOR RESEARCH QUESTIONS

A group of minor questions had to be developed to be able to answer the above mentioned major question, which includes: *How do the Political, Economical, Social, Technological factors and the Internal market conditions of the Desired market have an impact on the financial results the product to be exported?*

DYNAMIC HYPOTHESES

The main concern of any exporter to a certain country is the financial benefits (revenues and profits) that he will get from exporting his product, so building on the *Invisible Hand theory* of Adam Smith, the supply and demand in the target market will induce certain price which is the main determinant of the profits and revenues the exporter is looking for.

The supply, demand and price interactions represent the market dynamics; which is affected by the political, economical, social and technological factors of the country under investigation, as those factors inter-react and affect the internal market conditions. This dynamics is being articulated in form of the causal loop diagram (see figure 2).

CAUSAL LOOP DIAGRAM (CLD)

Figure 2 shows the cause and effect relationship among the involved variables under study, that explains the dynamics of the export decision from the researchers' point of view.
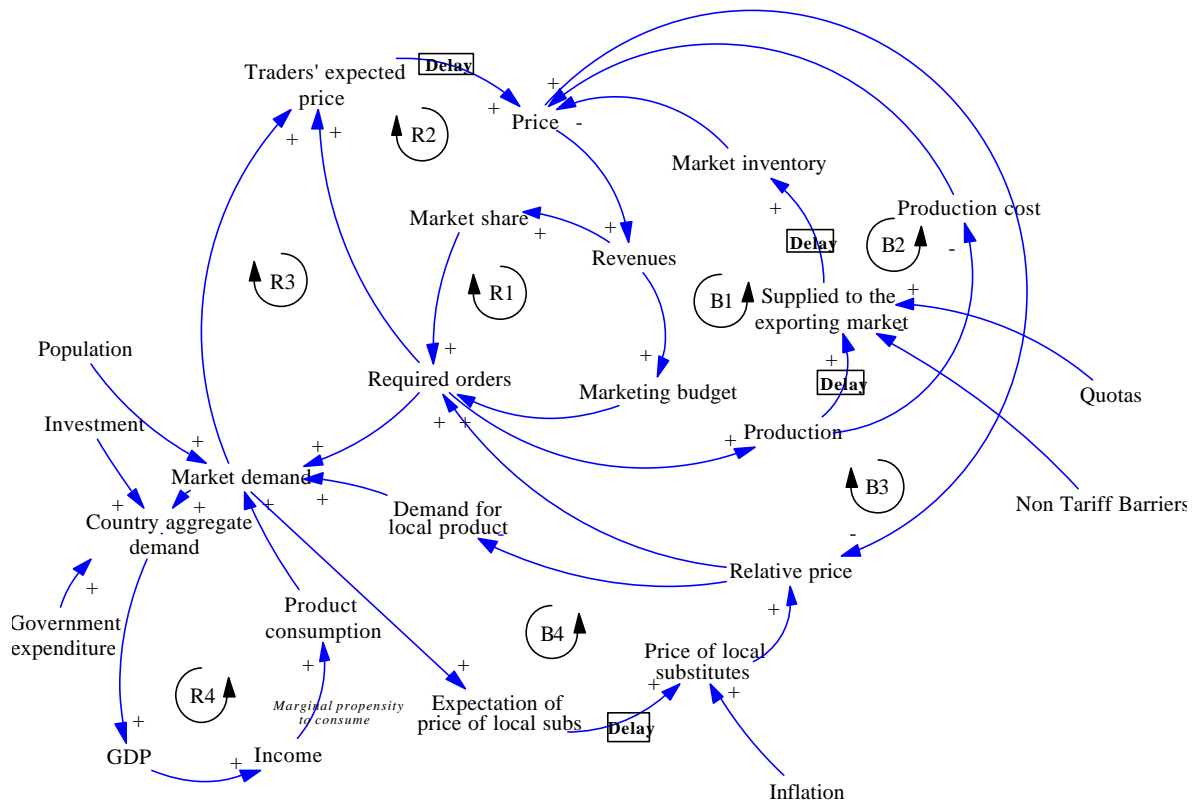

Figure 2: Causal Loop Diagram for Export Dynamics

Causal loop Terms

Term	Explanation
Required orders	The demand for the product under consideration in the market under study
Market inventory	The inventory of the product under consideration in the market under study
Market share	The share of the product under consideration in the market under study
Production	The production of the product under consideration in its home country
Market demand	The total demand for the product (imported and local) in the market under study
Relative price	Price of local substitute/ Price of the product under consideration

The major dynamic loops that show the relations between the variables:

GDP Effect Loop (reinforcing): The GDP affects the income of the household, so any increase in the GDP affects their consumption of a certain product according to their marginal propensity to consume leading to an increase in the demand of that product, consequently increasing the country's aggregate demand and its GDP as shown by the reinforcing loop "R4".

Supply Loops (B1 –B2 balancing): The supply side of the "*Invisible Hand Theory*" is resembled by the production in home country and the market inventory as in loop "B1", as the increase in production due to the increase in required orders will lead to the increase of market inventory consequently the price will decrease. In loop "B2" the increase in production leads to a reduction in the unit cost, which in turn will lead to a reduced price.

Market Demand loops (B3- B4 balancing): The demand part in Smith's theory is resembled by market demand which can be disaggregated into local part and imported part, our concern in this research is the demand for our product, represented by the term "required orders", so an increase in the required orders will be reflected in the market demand leading to an increase in the price which will lead to a decrease in the relative price leading to a decrease in the required order hence the price will go down as described in loop B3. The effect of substitute appears in Loops B3 & B4 as the increase in demand will increase the price of substitute which increases the relative price leading to a decrease in the demand for the substitute hence reduces the total demand as described in loop B4.

Market growth loops (R1-R2 reinforcing): The market growth in this model is maintained by the "marketing budget" which to be increased upon the increase in the revenues leading to an increase in the demand for that product "required orders", consequently the sales, market share and more increase in revenues as shown by loops "R1 and R2".

FINDINGS

Concerning the process that the researchers is proposing to be used –systematically- by the Egyptian Exporters for international market scanning to select the most suitable market for exporting their products, the research findings can be summarized as follows:

Export is a vital issue for Egypt, and should follow professional proactive actions. Systematic screening approach considers the whole world, which minimizes skipping any unforeseen opportunity.

Macro economic factors are of major importance in determining the most suitable market for exporting.

Political risks have minor effect in case of exports, its impact is realized in the form of government interference in trade by setting quotas for other countries and controlling imports by increasing or reducing the non tariff barriers, which affects the availability of the product in the market.

The GDP per capita of the country is an important factor that should be considered in case of international market selection, as it affects the household income, which determines the consumption in the country, and thus the aggregate demand is affected leading to changes in prices accordingly.

GDP growth rate should be considered as well, as it gives an indicator about the economy, whether it is facing a recession, slowdown or it is flourishing, which indicates higher opportunities.

The population specification in form of the age - gender structure in the countries under investigation give an indicator about the pool of customers for the product, affecting directly the demand for that product.

Technological factors in the countries under investigation are of minor impact, as they appear in the form of the degree of availability in telecommunication facilities and means of transportation, which affects the distribution of the product, thus its availability for the customers in time.

The causal loop diagram developed in figure 4.1 revealed that Adam Smith's "Invisible hand theory" have a dynamic concept in its core, as the macroeconomic factors interact between themselves and the market parties in Smith's theory.

CONCLUSION

Export is a strategic and essential direction for Egypt, although a lot of efforts are exerted to boost the exports but the results are not proportional to these efforts, the government is targeting the laws and procedures, but no real efforts dedicated for educating the producers or give them the required knowledge to help them overcome the fear of going across boarders to the right market. Nowadays through the international agreements, protectionism will vanish nevertheless the countries should

find there competitive advantage and to use models and approaches which helps to catch international markets. (Noonan, 1999)

Choosing a suitable market for export is a critical decision especially for a small or medium size company, though it must be given the proper attention to select the optimum market from the 230 countries of the globe. The criteria for this selection are a combination of macro and microeconomic factors.

The criteria include the political factors of the countries under investigation, although it may have a minor effect on the financial results of the concerned product in case of exports, but in case of other mode of international trade it has high impact and may presume high degree of risk.

The technological factors as well have a minor impact on the financial results of the product. Social factors represent the customer pool for the product, the customers are highly affected by the economic factors of the economy they are living in and consequently they have a big impact on the financial results of the product under investigation.

The conditions of the market under investigation represent the microeconomic side of the country, which describe the specific status of the product under investigation and the market dynamics that is affected by the macroeconomic factors and affecting directly the financial results of the product. All these factors are combined together and used in the screening process which allows the exporter to investigate the whole world and be sure not to skip any opportunity that may flash anywhere in the world.

So, building on the causal loop diagram developed in figure 4.1 that shows how each factor affect the financial results of the product, the researcher would propose that these factors used by the screening process comprise a simple, systematic and costless tool to rank the most suitable markets for exporting a certain product relative to each other.

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