THE SELECTION OF FOREIGN MARKET ENTRY STRATEGIES FOR EUROPEAN FIRMS

Yannis A. Hajidimitriou[*], Andreas C. Georgiou, Dimitris E. Porgianos

Department of Business Administration

University of Macedonia, 156 Egnatia Str.

54006 Thessaloniki – GREECE

Abstract

During the last two decades, the importance of the rapidly expanding global marketplace for the European firms' efforts for sustaining a competitive position and profit growth has become evident. One of the major strategic planning tasks undertaken by European firms is the expansion of their activities in markets outside the EU. Political, legal, financial, economic and cultural forces in the host countries influence these ventures. The existence of such factors as well as the unfamiliarity of the firm with the local business environment renders the careful examination and implementation of the expansion process imperative. The cornerstone decision in any international expansion attempt is the selection of the most appropriate entry strategy. This study presents a goal-programming, multi-period, multi-market model that evaluates factors of critical importance for the entry mode selection. The information produced can be of significant usefulness during the decision process and may assist the firm's management in deriving valuable conclusions.

Key words: *Entry Mode Selection, International Expansion, Foreign Direct Investment*

[*] Corresponding author: *tel*. 30 31 0891585, *fax*. 30 31 0891544, *email:* hajidim@uom.gr

1. Introduction

In the last two decades, the globalization of the marketplace has been proceeding at a rapid pace. One of the most important characteristics of globalization is the opening of the national markets to foreign firms, something that has led to intensified competition in these markets. Firms all over the globe realize that they cannot expect their sales and profits to grow at satisfactory rates unless they implement appropriate business strategies to sustain and possibly improve the competitiveness of their products in the international markets.

Under these developments, it is becoming more and more evident to firms that a major task towards maintaining their competitiveness is the expansion of their activities in foreign markets. Furthermore, as one might expect, international expansion is not a simple task. On the contrary, it is a very complicated one since it is greatly influenced by various external forces such as political, legal, financial, economic and cultural factors in the host countries. In fact, international expansion is carried out through a series of steps and decisions. One of the most important steps is the selection of the expansion strategy or entry mode. The latter is defined as the process of establishing the set of procedures through which the firm transfers its products, resources and activities to a foreign market (Root, 1994). It is widely accepted in the international business literature that the selection of the entry mode is of critical importance for the successful outcome of the venture since other decisions related to the expansion effort depend on the entry strategy (Andersen, 1997; Chen & Hu, 2002; Hill et al., 1990; Kim & Hwang, 1992; Madhok, 1996, 1997; Wind & Perlmutter, 1977).

Clearly the issue of international expansion is an important one for European firms

also, whether they contemplate expanding to European Union (EU) countries or to locations outside EU. It is a fact that the European Monetary Integration and the introduction of a common currency facilitate substantially the expansion of the firm's activities within the boundaries of the euro zone and, therefore, international expansion has now become a feasible strategic option for a larger number of EU firms. Consequently, European Unification renders the problem of selecting the appropriate entry strategy relevant and of critical concern to a larger number of European firms that will attempt to expand their activities to other EU countries. These thoughts led us to study the entry mode selection problem putting special emphasis on European firms. Furthermore, the modeling framework that will be presented in this paper may be easily enhanced to accommodate the case of an EU firm contemplating to enter markets outside the EU borders.

The rest of the paper is organized in the following manner. First, we provide a brief literature review related to international expansion strategies. In addition, the most important existing conceptual frameworks for selecting entry strategies are briefly presented. In the following section we describe the issues that motivated us to develop a quantitative approach to the entry selection decision process using multiple objective techniques. In the same section, we present the model formulation comprised by selection criteria and goals set by the firm, a lexicographic objective function and the associated rigid constraints. Finally, in the last section we explain the practical relevance and usefulness of the approach developed in this paper to management when they make entry-mode related decisions, present some final remarks and make suggestions concerning further research potential.

2. Literature review

The international business literature describes a wide range of foreign market entry strategies, which are available to the firm (Root, 1994). These strategies include a wide range of exporting methods, licensing, franchising, contract manufacturing, turn-key ventures, management contracts and the types of foreign direct investment (FDI), namely, the formation of an international joint venture, the establishment of a wholly owned subsidiary and the partial acquisition of a local firm. The establishment of a subsidiary may be accomplished through the acquisition of an existing local firm or the creation of a new business entity (green field strategy).

Given the relatively long list of alternative entry strategies available to the firm, the problem of selecting the most appropriate one has been under extensive investigation since the '60s. Andersen (1997) states that *''... the theoretical contributions have been more advanced in the area of foreign entry mode than in other topics of the firm's internationalization process''*. As a result, the international business literature provides several conceptual frameworks, which study the internationalization process and the choice of the correct entry mode as an important part of this process (Andersen, 1997; Calof & Beamish, 1995). Depending on the prevailing environmental conditions, which could be external or internal to the firm, these frameworks make recommendations about the most appropriate entry mode. The conceptual frameworks, which are the most well known in the literature, are the Chain of Establishment (Johanson & Vahlne, 1977), the Internalization Theory (Buckley & Casson, 1976; Rugman, 1980), the Eclectic Framework (Dunning, 1980), the Transaction Cost Approach (Anderson & Gatignon, 1986) and the Organizational Capability Perspective (Aulakh & Kotabe, 1997; Madhok, 1997).

The above conceptual frameworks provide groups of factors, which affect the entry strategy selection decision. However, all frameworks are based on judgment and none of them provides a quantitative methodology that provides management with the tools, which assist them to select the most appropriate expansion strategy. In addition to these conceptual frameworks, several statistical analyses have been conducted that consistently study the level of success of international expansion ventures focusing on the entry mode employed by the firm (e.g. Agarwal & Ramaswami, 1992; Aulakh & Kotabe, 1997; Brouthers, 1995; Contractor & Kundu, 1998; Erramilli, 1992; Kim & Hwang, 1992; Kogut & Singh, 1988; Tse et al., 1997). However, these studies constitute ex post analyses focusing on the successful application of an expansion strategy rather than providing a management tool that could be used to assist the decision making process. The lack of such a quantitative modeling approach was the major issue that motivated our research.

3. Methodology and the quantitative model

The problem of selecting an international expansion strategy is characterized by multiple and, possibly, conflicting business objectives, a wide range of selection criteria and the need to prioritize objectives and criteria. The prioritization reflects the company's strategic plans and objectives. Notice that the sets of objectives and selection criteria used in the process, as well as the priority level assigned to them, would be different not only for each firm but even for the same firm's attempt to enter the markets of different countries.

The problem attributes described in the previous paragraph justify the utilization of a multiple criteria modeling approach. More specifically, one of the techniques that

belongs to the multiple criteria modeling approach is the goal programming methodology. Goal programming can easily accommodate the mathematical representation of the problem's characteristics. In addition, it provides the necessary tools to develop a quantitative model that would make recommendations concerning the selection of the appropriate entry strategy. In particular, it provides the capability to effectively handle the conflicting nature of the goals and to incorporate multiple selection criteria. It also allows to structure the model in a way that will reflect the strategic objectives of the firm by assigning different priorities to goals and criteria and by introducing weighted objective functions as well as variable levels for the management's aspirations. Finally, it facilitates what-if and sensitivity analysis, thus enabling the firm's management to investigate several scenarios concerning internal and external environmental parameters. A detailed and comprehensive analysis of the goal programming method can be found in Ignizio (1985) and Schniederjans (1995).

The technique of goal programming was used in the last ten years to provide solutions to the problem of country selection, which is actually an international location selection problem (Hajidimitriou & Georgiou, 2000; Hoffman & Schniederjans, 1994; Min & Melachrinoudis, 1996; Schniederjans & Hoffman, 1992). Similar quantitative methodology was applied recently to provide recommendations in the process of selecting partner(s) for the formation of an international joint venture (Hajidimitriou & Georgiou, 2002).

We now proceed to present the formulation of the problem under investigation. The model reflects a manufacturing firm that has already determined the country where it wishes to expand its activities. The alternative entry modes considered are licensing, contract manufacturing, joint venture, partial acquisition and, finally, the two forms of

establishing a wholly owned subsidiary, namely, the acquisition of a local firm and the green field strategy.

The output of the facility in the foreign country could be a single product or, in aggregate terms, a major category of products. In the model, I represents the number of entry strategies ($I = 6$) and J is the total number of the local and the foreign markets that will be served by the new facility. The optimization horizon is denoted by T. Three groups of decision variables are included in the model. More specifically variables, X_{ijt}, for $i = 1,...,I$, $j = 1,...,J$ and $t = 1,...,T$, correspond to product units produced using entry mode i and shipped to market j at time t. The binary variable Y_i takes the value of one if the i entry strategy is selected and the value of zero otherwise. Finally, the variables L_{it} stand for the labor needed at time period t if entry mode i is employed.

It is assumed that the management of the firm has determined certain strategic goals and it has also set priorities on them. In the model, these goals take the form of soft constraints. The top priority goal is the profit goal, which takes the following form.

$$\sum_{i=1}^{I=6}\sum_{j=1}^{J}\sum_{t=1}^{T}\left[\left(e_{jt}r_{it}p_{ijt} - c_{it} - m_{it} - ts_{ijt}\right)X_{ijt} + FR_t \cdot Y_1\right] -$$

$$-\sum_{i=3}^{I=6}\sum_{t=1}^{T}\left(w_{it} + tr_{it}\right)L_{it} - \sum_{i=1}^{I=6}E_iY_i +$$

$$d_{pr}^- - d_{pr}^+ = b_{pr} \qquad (3.1)$$

We can distinguish three parts in expression (3.1). The first part is a triple summation over entry strategies, markets and the time parameter. Within the summation, p_{ijt} denotes the price of a product unit produced under strategy i and sold

to market j at time t. The exchange rate between the host country and the market j at time t is denoted by e_{jt}. Let us point out that if a transaction occurs between two countries of the euro zone then e_{jt} takes the value of 1. Obviously, the exchange rate takes the same value when the output produced is sold in the local market. Licensing royalty parameter r_{it} takes a value of less than one if licensing is involved. Notice that throughout the model formulation the licensing strategy is given the index value of $i = 1$, while for all $i \neq 1$ the licensing parameter equals to one and does not affect the calculations. The unit production cost is represented by c_{it} and the raw material cost by m_{it}. Both depend on the entry strategy and the time parameter. The transportation cost for a unit produced under strategy i and shipped to market j at time period t is denoted by ts_{ijt}. As implied by the binary variable Y_1 ($i = 1$) the fixed annual licensing fee FR_t is added to the total profit expression for all periods t if and only if the method of licensing is selected.

The second part of the profit goal contains other cost factors such as labor wages (w_{it}) and training costs (tr_{it}) as well as the initial costs for the establishment of the facility E_i that vary according to the mode selected. In the third part, b_{pr} is the profit aspiration level, set by the management, whereas d_{pr}^- and d_{pr}^+ are deviational variables indicating under- or overachievement of the profit aspiration level. The undesirable deviational value is incorporated into the objective function formulation, which in the present case is the underachievement of the profit goal d_{pr}^-.

In addition to the top priority goal of total profit, the firm could determine qualitative and quantitative selection criteria, which in turn generate goals. We assume

that in general S selection criteria are set by the management. The nature of the criteria chosen depends on the firm's strategic plans and objectives as well as on the management's attitude towards risk. A list of criteria that could be used in the selection process is presented in Table 1. Notice that some of the criteria, such as exchange rate risks, export restrictions, import restrictions and profit repatriation laws are not relevant if a firm contemplates expanding its production activities in one of the countries of the euro zone. In fact, with the exception of the exchange rate risk criterion, the other three of the criteria mentioned above do not apply if the international expansion venture targets one of the EU countries.

Table 1. List of selection criteria

1	Political Risk
2	Exchange Rate Risks
3	Export Restrictions
4	Import Restrictions
5	Legal Restrictions
6	Profit Repatriation Laws
7	Investment Insurance
8	Security Costs
9	Availability of Distribution Networks
10	Availability of Acceptable Partners
11	Availability of Human Resources
12	Power of Labor Unions
13	Product Life Cycle Stage
14	Cultural Differences
15	Strategic Position of the Country
16	Incentives for Foreign Investments
17	Protection of Intellectual Property
18	Size of Local Market

Each additional criterion could be treated individually and it could provide a particular mathematical form of the associated goal. Nevertheless, in the general case we could use a generic form for these goals given by expression (3.2).

$$\sum_{i=1}^{I=6} a_{is} Y_i + d_s^- - d_s^+ = b_s \text{ , for } s = 1,2,....,S \qquad (3.2)$$

The above summation extends over all possible entry modes. The coefficient a_{is} represents the level of achievement of criterion s when entry strategy i is used and b_s reflects the aspiration level for the criterion. If the criterion is qualitative (such as "Legal Restrictions") the coefficient a_{is} is a subjective score provided by the decision maker, commonly on a scale from 1 to 5. In this case, a utopian aspiration level would be to set b_s equal to 5. If the criterion is quantitative (such as "Security Costs") the coefficient a_{is} corresponds to the value calculated for strategy i, whereas the aspiration level may reach a reasonable upper or lower level within desired limits set by the decision maker. The deviational variables d_s^- and d_s^+ represent the under- and overachievement of the aspiration level.

We are now in the position to provide a general formulation for the goal programming objective function. Ultimately, the overall objective should be the minimization of all undesired deviations. In this respect the goals may be further categorized in priority groups according to their importance for the achievement of the firm's strategic objectives. Moreover, a ranking within each group can be accomplished by establishing a relative weight for each criterion. The definition, prioritization and ranking of goals should reflect the firm's strategic plans and objectives.

The next stage in the formulation process is to construct a lexicographic minimization function. This function takes the following form.

Lexicographically minimize $\mathbf{z} = \{z_{pr}, z_1, z_2, ..., z_M\}$ (3.3)

where

$$z_{pr} = d_{pr}^- \quad \text{and} \quad z_m = \sum_{j \in P_m} w_{mj}\left(d_{mj}^- + d_{mj}^+\right) \quad \text{for} \quad m = 1, ..., M$$

In expression (3.3) each priority group is represented by $z_{\bullet}$ and the set of all priority groups form the vector $\mathbf{z}$. The profit goal is assigned the highest priority and the undesirable deviation is represented by $z_{pr} = d_{pr}^-$. The remaining goals are included in M priority groups and the appropriate deviational variables are weighted accordingly to form the expressions z_m. In z_m the weight of criterion j within priority group m, $m = 1, ..., M$, reflects its relative importance and it is denoted by w_{mj} whereas P_m represents the set of criteria included in the priority group m.

The approach in structuring the objective function, described in the previous paragraphs, is neither exclusive nor exhaustive. This is due to the flexibility provided by multiple objective techniques, and in particular of goal programming, in selecting, prioritizing and ranking of goals, an inherent characteristic of this methodology. Another approach that could be considered in goal ranking is the one where all goals are assigned weights according to their overall relative importance. Then it is possible to formulate a single linear objective minimization function. In this case the simple simplex approach can be used to solve the optimization problem. In all cases, the values of the weights must be determined with caution in order to assure that commensurability of goals is not violated.

The lexicographic minimization is also restrained by a set of rigid constraints. The

first constraint is provided by equation (3.4) and it assures that exactly one entry strategy is selected.

$$\sum_{i=1}^{6} Y_i = 1 \qquad (3.4)$$

The second set of constraints handles product demand limits. The presence of the demand constraints stresses that, regardless of the strategy selected, the total output produced and shipped to market j at time t should not exceed the product demand D_{jt} in that market at time t.

$$X_{ijt} \le D_{jt}, \text{ for } i=1,...,6, \ j=1,...,J \text{ and } t=1,...,T \qquad (3.5)$$

The third set of constraints is related to the estimated capacity of the facility. It also assures that, unless strategy i is selected, no production takes place under that strategy. In the following expression CAP_{it} represents the capacity limit of the production establishment under strategy i at time t.

$$\sum_{j=1}^{J} X_{ijt} \le CAP_{it} \cdot Y_i, \text{ for } i=1,...,6 \text{ and } t=1,...,T \qquad (3.6)$$

The following group of constraints (3.7) associates labor productivity with production capacity. It assures that the total production of an establishment at time t using entry strategy i does not exceed the production capacity implied by personnel productivity. The parameter PD_{it} denotes productivity per worker under strategy i at time t. Notice that this set of constraints does not apply to the cases of licensing and contract manufacturing.

$$\sum_{j=1}^{J} X_{ijt} \le PD_{it} L_{it} \ , \text{ for } i=3,4,5,6 \text{ and } t=1,...,T \qquad (3.7)$$

The appropriate non-negativity and bound constraints given in the following expressions conclude the model.

$$Y_{it} \in \{0,1\} \text{ and } X_{ijt}, L_{it} \geq 0 \text{ for all } i, j \text{ and } t.$$

The consideration of alternative entry strategies by the model is reflected in its formulation through specific terms, as in the case of licensing, or through the values of the parameters of the model. Finally, a preliminary testing of the model with the use of hypothetical but highly realistic data revealed that the model operates in a very satisfactory manner under various scenarios and the results obtained are very promising, taking into account the complexity of the problem.

4. Concluding Remarks

In this paper we presented a quantitative model that could be used to enhance the effectiveness of the process of selecting the appropriate strategy to enter a foreign market. The model comprises a lexicographic goal programming approach and takes into account the company's strategic plans and objectives. The detailed description of the model was accompanied by an indicative list of potential selection criteria.

The major contribution of this research paper is the development of a multi-objective quantitative approach dealing with the entry mode selection problem. To the best of our knowledge, it is the first time that such a quantitative model appears in the relevant literature. The methodology proposed in this paper could be useful to the management of firms contemplating to enter foreign markets in several ways. First, it provides management with the capability to evaluate strategic objectives of conflicting nature and to incorporate in the evaluation process criteria of different strategic importance. Furthermore, the model is flexible enough to facilitate the process of

performing extensive what-if and sensitivity analysis. Consequently, management can easily evaluate alternative scenarios, concerning several hypotheses such as the inclusion or exclusion of strategic goals, the variability of aspiration levels as well as the alteration of the priorities set upon goals and criteria. It is apparent that the level of detail and complexity of the model concerning the goals and the objective function is a decision that is left to be made by the interested parties. Finally, even if the firm does not adopt the optimal solution suggested by this methodology, it would still benefit from the attempt to formulate and solve such a model, since management is forced to collect the appropriate information and data and carry out a thorough and detailed analysis of all aspects of the problem under investigation.

The issues presented in the previous paragraph show that the approach proposed in this research paper constitutes a valuable quantitative management's tool that increases its capabilities to study and analyze the aspects associated with an international expansion venture. At the same time the capability to do so helps to reduce the risks implied by a decision, which is of great importance for the firm in its effort to sustain profit growth and international competitiveness.

Further research on the subject can by all means follow various courses and directions. For example, it would be interesting to build models specific to particular industries such as the food industry, the pharmaceutical industry, the hospitality industry etc. The models could be further refined to include uncertainty about some of the aspects of the problem in the form of stochastic goals and constraints. Furthermore, an interesting extension of the model would be to include the capability of the simultaneous selection of location and entry strategy.

References

Agarwal, S. & Ramaswami, S. (1992). Choice of foreign market entry mode: Impact of ownership, location and internalization factors. Journal of International Business Studies, 23/1, 1-27.

Andersen, O. (1997), Internationalization and market entry mode: A review of theories and conceptual frameworks. Management International Review, 37/2, 27-42.

Anderson, E. & Gatignon, H. (1986). Modes of foreign entry: A transaction cost analysis and propositions. Journal of International Business Studies, 17/3, 1-26.

Aulakh, P.S. & Kotabe, M. (1997). Antecedents and performance implications of channel integration in foreign markets. Journal of International Business Studies. 28/1, 145-175.

Brouthers, K.D. (1995). The influence of international risk on entry mode strategy in the computer software industry. Management International Review, 35/1, 7-28.

Buckley, P. & Casson, M. (1976). The future of the multinational enterprise. New York: Holmes & Meier.

Calof, J.L. & Beamish, P.W. (1995). Adapting to foreign markets: Explaining internationalization. International Business Review, 4/2, 115-131.

Chen, H., & Hu, M.Y. (2002). An analysis of determinants of entry mode and its impact on performance. International Business Review, 11, 193-210.

Contractor, F.J. & Kundu, S. (1998). Modal choice in a world of alliances: Analyzing organizational forms in the international hotel sector. Journal of International Business Studies, 29/2, 325-358.

Dunning, J.H. (1980). Toward an eclectic theory of international production: Some empirical tests. Journal of International Business Studies, 11/1, 9-31.

Ekeledo, I. & Sivakumar, K. (1998). Foreign market entry mode choice of service firms: A contingency perspective. Academy of Marketing Science, 26/4, 274-292.

Erramilli, M.K. (1992). Influence of some external & internal environmental factors on foreign market entry mode choice in service firms. Journal of Business Research, 25, 263-276.

Hajidimitriou, Y.A. & Georgiou, A.C. (2000). International site selection decisions using multiobjective methods. American Business Review, 18/2, 87-95.

Hajidimitriou, Y.A. & Georgiou, A.C., (2002). A goal programming model for partner selection decisions in international joint ventures. European Journal of Operational Research, 138/3, 649-662.

Hill, C.W.L., Hwang, P. & Kim, W.C. (1990). An eclectic theory of the choice of international entry mode. Strategic Management Journal, 11, 117-128.

Hoffmann, J. & Schniederjans, M.J. (1994). A two-stage model for structuring global facility site selection decisions: The case of the brewing industry. International Journal of Operations and Production Management, 14/4, 79-96.

Ignizio, J.P. (1985). Introduction to linear goal programming. London: SAGE Publications.

Johanson, J. & Vahlne, J.-E. (1977). The internationalization process of the firm – A model of knowledge development and increasing foreign market commitments. Journal of International Business Studies, 8/1, 23-32.

Kim, W.C. & Hwang, P. (1992). Global strategy and multinationals' entry mode choice. Journal of International Business Studies, 23/1, 29-53.

Kogut, B. & Singh, H. (1988). The effect of national culture on the choice of entry mode. Journal of International Business Studies, 18, 411-432.

Madhok, A. (1996). Know-how-, experience- and competition-related considerations in foreign market entry: An exploratory investigation. International Business Review, 5/4, 339-363.

Madhok, A. (1997). Cost, value and foreign market entry mode: The transaction and the firm. Strategic Management Journal, 18, 39-61.

Min, H. & Melachrinoudis, E. (1996). Dynamic location and entry mode selection of multinational manufacturing facilities under uncertainty: A chance-constrained goal programming approach. International Transactions in Operational Research, 3/1, 65-76.

Root, F.R. (1994). Entry strategies for international markets. San Francisco: Jossey-Bass Publishers.

Rugman, A. M. (1980). Internalization as a general theory of foreign direct investment: A reappraisal of the literature. Weltwirtschaftliches Archiv, 116, 365-379.

Schniederjans, M.J. (1995). Goal programming: Methodology and applications. Boston: Kluwer Academic Publishers.

Schniederjans, M.J. & Hoffmann, J. (1992). Multinational acquisition analysis: A zero-one goal programming model. European Journal of Operational Research, 62, 175-185.

Tse, D., Pan, Y. & Au, K. (1997). How MNCs choose entry mode and form alliances: The China experience. Journal of International Business Studies, 28/4, 779-805.

Wind, Y. & Perlmutter, H. (1977). On the identification of frontier issues in multinational marketing. Columbia Journal of World Business, 12, 131-139.