

Teaching notes

A big step for a small company: How can Fumajet scale its innovation globally?

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Abstract

Objective: This paper is a teaching case designed for graduate and undergraduate courses on subjects involving international business, international marketing, or international entrepreneurship. It describes how a small entrepreneurial company – Fumajet – could recognize and exploit an international opportunity, and the dilemmas its founders confronted regarding the choice of internationalization strategy and entry mode. **Dilemma or problem:** Faced with several potential alternatives to structure Fumajet's international activities, the entrepreneurs had to analyze and select an international entry mode strategy to present to the recently created board of directors, following a significant infusion of capital into the company. **Relevance/Originality:** Grounded in real-life experiences, this case study draws from primary and secondary sources gathered over two years, presenting students with a real, practical, and relevant dilemma. By the end of this case study, students should be able to apply these learnings to real-world scenarios. The unique challenges portrayed make this case study particularly engaging and thought-provoking for students.

Keywords: International Opportunity. Foreign Entry Mode. Emerging Market. International Strategy. International Entrepreneurship.

Um grande passo para uma pequena empresa: Como a Fumajet pode escalar sua inovação globalmente?

Resumo

Objetivo: Trata-se de um caso de ensino, projetado para cursos de pós-graduação e graduação em disciplinas de negócios internacionais, marketing internacional ou empreendedorismo internacional. Descreve o processo de identificação e exploração de oportunidade internacional por uma pequena empresa empreendedora – Fumajet – e os dilemas de decisão de seus fundadores em relação à estratégia de internacionalização, e modo de entrada. **Dilema ou problema:** Diante de diversas alternativas potenciais para estruturar suas atividades internacionais, os empreendedores precisam analisar e selecionar uma estratégia de modo de entrada internacional para apresentar ao recém-criado Conselho de Administração após recente entrada de recursos financeiros. **Relevância / originalidade:** Baseado em uma situação real, este estudo de caso utiliza dados coletados de fontes primárias e secundárias ao longo de um período de dois anos. Provê assim aos estudantes uma situação real, relevante e usual para tomada de decisão. Ao final deste estudo de caso, os alunos devem ser capazes de aplicar esses aprendizados a cenários do mundo real. Os desafios únicos retratados tornam este estudo de caso particularmente envolvente e estimulante para os estudantes.

Palavras-chave: Oportunidade Internacional. Modo de entrada estrangeira. Mercado Emergente. Estratégia Internacional. Empreendedorismo Internacional.



TEACHING NOTES

Case synopsis

This teaching case presents the efforts by a small Brazilian firm, Fumajet, to structure its international activities. Founded in 2009 in Rio de Janeiro by Marcius Costa and Marcelo Machado, the company developed the Motofog, an innovative implement designed for combating urban vectors and agricultural pests. With increasing interest from foreign customers, the entrepreneurs recognized an opportunity to expand abroad, identifying several options for systematically entering international markets. The case presents several dilemmas regarding how a small firm can actively enter foreign markets. The options considered were: (i) forming partnerships with foreign firms in specific markets, (ii) utilizing foreign distributors, or (iii) licensing the technology. Faced with these alternatives to structure international activities, and after an institutional investor provided fresh funds to expand the business, Costa must analyze and select an international entry mode strategy to present to the newly formed board of directors.

Teaching objectives

The objectives of this case and its associated teaching plan are as follows: (i) to encourage students to examine the options available to an entrepreneurial firm from a small emerging market company when contemplating entering international markets with an innovative product; (ii) to foster students' ability to recognize constraints related to potential entry methods and the alternative courses of action that can be pursued.

The case is rich enough for different applications, although not with these teaching notes. At several points, the case mentions Fumajet's challenges regarding knowledge and technology transfers, including the need for international training, coding, externalizing and translating manuals and documents, and sending work teams for knowledge transfer. Although these teaching notes do not delve into these topics, they present attractive alternative uses for the case should an instructor need to address them. The company's growth and internationalization process can also promote highly interesting discussions and learning opportunities pertaining to internationalization theories. Finally, the case may be used for strategic marketing purposes, fostering insightful discussions concerning the company's weaknesses and strengths,

as well as international market opportunities and threats (SWOT analysis).

Target audience

This teaching case is designed for graduate and undergraduate international business, marketing, and entrepreneurship courses.

Sources of information

The case is grounded in factual information recorded in several face-to-face interviews with one of the entrepreneurs over the course of two years. In addition, data was gathered from secondary sources, including the company's official website, business magazines and newspapers, and internal documents. The data were triangulated, reconciled, organized, and adapted for teaching purposes.

Brief literature review

The case draws upon literature on foreign entry mode and internationalization constraints. Although no mandatory prior reading is required for students or instructors (aside from the case itself), we suggest a number of literature sources for instructors seeking to deepen their understanding of the topics.

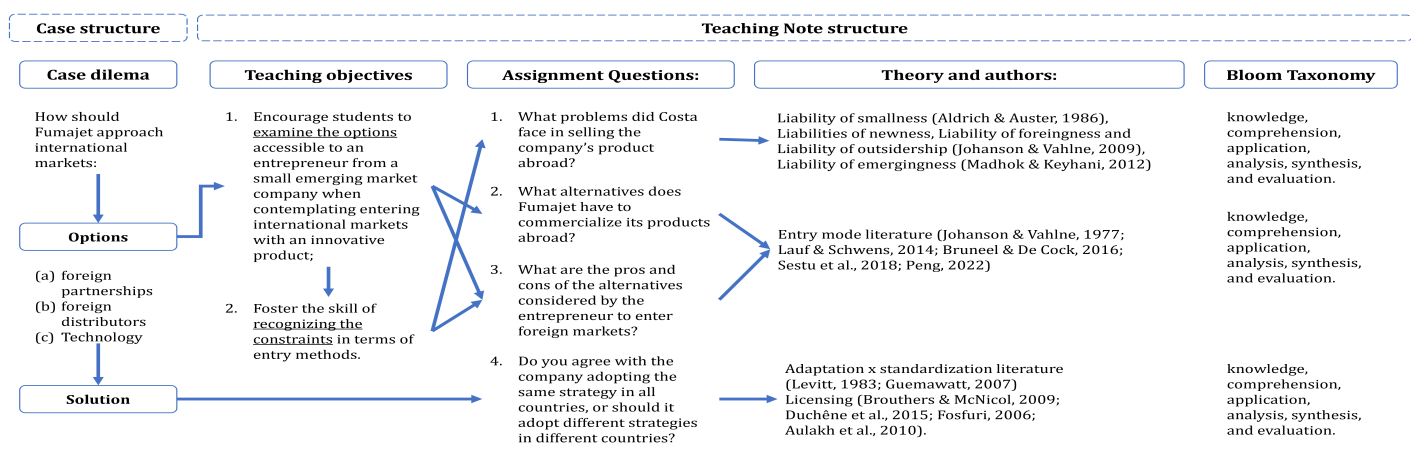
The literature on entry mode decisions is vast, but only a portion addresses small and medium-sized companies. If the instructor wants to provide theoretical and empirical support to the discussion on foreign entry mode decisions, three literature reviews have looked at the foreign entry modes used by small and medium-sized firms: Lauf and Schwens (2014); Bruneel and De Cock (2016); and Sestu et al. (2018). These three reviews can provide interesting insights to help with the discussion. Peng (2022, chapter 6) presents a more generic view.

There is also a substantial body of literature on internationalization constraints. If instructors want to discuss liabilities, Kahiya (2017) offers an insightful paper.

Theoretical linkages

Figure 1 summarizes the theoretical linkages of the main parts of the case and the teaching notes:

Figure 1
Theoretical Linkages



Note: Prepared by authors based on literature. Aldrich and Auster (1986); Johanson and Vahlne (2009); Madhok and Keyhani (2012); Johanson and Vahlne (1977); Lauf and Schwens (2014); Bruneel and De Cock (2016); Sestu et al. (2018); Peng (2022); Levitt (1983); Guemawatt (2007); Brouthers and McNicol (2009); Duchêne et al. (2015); Fosfuri (2006); Aulakh et al. (2010).



Suggested teaching plan

This teaching plan calls for students to read and prepare the case, plus a session lasting 120-180 minutes, with time allocated as outlined below. Instructors can shorten or eliminate certain questions if additional time is necessary.

Suggested class time allocation

- Beginning of session and division of class into small groups (10-15 minutes)
- Discussion of assignment questions in small groups (25-40 minutes)
- Case introduction (15-25 minutes)
- Case analysis (about 60-90 minutes)
- Closure (about 10 minutes)

Requirements for case application

Instructors will need multimedia equipment (a computer with sound capability – if playing video suggestions – and a video projector) to apply the case. Small breakout rooms would also be ideal for discussing the assignment questions in small groups. If unavailable, instructors can divide students into small groups in the main room if there is sufficient space between the groups.

Assignment questions

1. What problems did Costa face in selling the company's product abroad?
2. What alternatives does Fumajet have for commercializing its products abroad?
3. Regarding the alternatives, what pros and cons must Costa consider when entering foreign markets?
4. Do you agree that the company should adopt the same strategy in all countries or adopt different methods in different countries?

Introduction

As an introduction to the case and a warm-up for discussion, the instructor can start by presenting a summary of the case and then list the main events described in it on the board, prompting initial questions to stimulate the students to develop the company's timeline. The summary could cover the following topics:

- Company creation
- Institutional and government support
- The first attempt to establish a partnership abroad and its results
- Unsolicited orders from abroad
- Current situation

Alternatively, the instructor can show one or both of the following videos, which tell Fumajet's story and showcase the product and the entrepreneurs. Please note that these videos are in Portuguese (subtitles are available only in Portuguese).

"Pensar em desistir, se disser que não pensa, é mentira" - YouTube.

Fumajet no programa Pequenas Empresas Grandes Negócios - YouTube.

This introduction should take 15-25 minutes at most. Afterwards, the instructor should proceed to the case analysis using a transition statement, such as: *Now that we've reviewed the company's movements in the international market, let's consider the rationale behind them.* The transition statement will help to introduce the assignment questions.

Case analysis

Assignment question #1:

What were the problems the entrepreneur faced in selling his company's product abroad?

Students may identify several problems typically faced by a small firm (Table 1), particularly those related to the resource constraints associated with internationalization. The instructor should encourage students to (1) discuss which of the problems were faced by Fumajet (asking for examples); and (2) discuss the company's strengths (Table 2).

Table 1

Problems typically faced by small firms:

Problems (*)	Fumajet (Yes or No?)
Lack of financial resources	Initially, yes, but not after injection from BNDES
Lack of (adequate) human resources	Yes (only 1 English speaker, need of owner's supervision)
Lack of management time	Yes (partners have no time to focus on international strategy)
Lack of knowledge	Yes (no knowledge of international markets)
Lack of relationships in foreign markets	Yes (need to develop, only sparse connections)
Lack of production capacity	Yes (no capacity for both domestic and international focus)
Lack of a standardized internationalization process	Yes (case problem)

Note: (*) For a discussion of these problems, please refer to Aldrich and Auster (1986), Kahiya (2017), and Mittelstaedt et al. (2003). Prepared by authors based on literature.

Table 2

Fumajet's Strengths

Strengths
Innovative product (patented)
Low-cost product (financial and operational savings compared to alternative - large vehicles)
International media exposure (motofog innovative characteristics and awards)
Entrepreneurial orientation (global and growth mindset)
Product designed to serve developing countries (knowledge of the context in which the product is used – product suitable for EM infestations and difficult-to-reach terrains)

Note: Prepared by authors based on literature.

The instructor should use Table 1 to introduce essential concepts from the literature that are common to small entrepreneurial firms from emerging markets:

- Liability of smallness and liability of limited resources (Aldrich & Auster, 1986) - disadvantage a small firm faces due to its size, which results in limited resources compared to larger competitors.
- Liability of newness – liability resulting from being new and unknown in a market.
- Liability of foreignness and Liability of outsidership (Johanson & Vahlne, 2009) – liabilities stemming from not being native to a particular market and therefore lacking the necessary connections for success.
- Liability of emergingness (Madhok & Keyhani, 2012) – liability associated with being from an emerging market country. Fortunately, this does not apply to Fumajet, because many of its orders come from developing countries.



Assignment question #2:

Given all these liabilities and constraints, what alternatives does Fumajet have for commercializing its products abroad?

The instructor should encourage students to list the options drawn from the case and, from there, show them the general internationalization entry modes. A business has three main general types of internationalization alternatives/entry modes to choose from (see Figure 2):

1. Non-equity based
 - a. **Exporting**
 - b. Establishing contractual agreements in the target market (licensing, franchising, alliances).
2. Equity-based (greenfield or acquisitions): establishing a wholly or partially owned/joint venture subsidiary in the target market.

Table 3

Pros and cons of the alternatives

Alternative	Main advantage	Disadvantages
Foreign partnership	Higher potential income	Need to invest in and oversee production facilities
		Difficulty in identifying the right local partner
		Need to understand local specificities
Foreign distributor	Higher potential income	Lack of standardization of foreign contracts
		Need to control each foreign operation
		Need to protect the company's intellectual property from partner's opportunistic behavior
Technology licensing	Limited direct involvement in international operations	Need to provide maintenance and after-sales service
		Need to identify the right licensee
		Need to control licensee
Lower investments (production, services)		Need to protect the company's intellectual property from licensee's opportunistic behavior

Note: Prepared by authors based on literature.

Table 4

Assessment of liabilities - Can these alternatives help Fumajet overcome the liabilities identified in assignment question #1?

Alternative	YES	NO
Foreign partnership	Liabilities of smallness	
	Liabilities of newness	
	Liability of emergingness	
	Liability of outsidership	
Foreign distributors	Liabilities of smallness	
	Liabilities of newness	
	Liability of emergingness	
	Liability of outsidership	
Technology licensing	Liabilities of smallness	
	Liabilities of newness	
	Liability of emergingness	
	Liability of outsidership	

Note: Prepared by authors based on literature.

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Due to Fumajet's small size, Costa should have considered an equity-based alternative.

Assignment question #3:

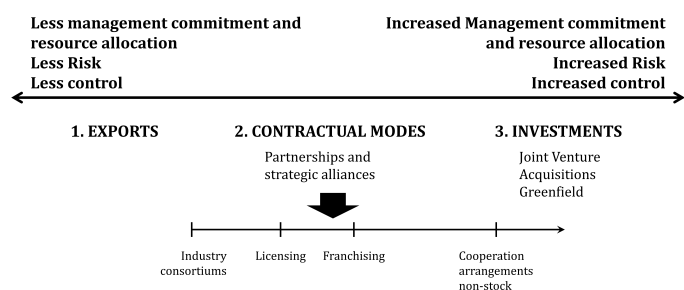
Given the alternatives, what are the pros and cons of the entrepreneur's alternatives for entering foreign markets?

The case presents the pros and cons of the three non-equity alternatives involving partners/contractual agreements. The instructor should ask students to remember the pros and cons of each alternative. This step is relatively easy and requires little more than organizing the available information (see Table 3).

The first two alternatives (foreign partnership and foreign distributor) would require Fumajet's involvement in the exporting procedures, particularly for the local companies selling the equipment, and to make a substantial investment in expanding production facilities. Moreover, the problem of limited available management resources would heavily weigh against the first two alternatives. The technology licensing alternative would have the most negligible impact on Fumajet's resources, but it would probably be the least profitable. Operational control issues are more prevalent in the first two alternatives, but the licensing alternative presents a greater risk of Fumajet losing its intellectual property.

In addition to discussing the pros and cons of each alternative, an interesting additional question the instructor could pose to the students is the following: (see Table 4)

ENTRY MODES IN FOREIGN MARKETS



Assignment question #4:

Should the company adopt the same strategy in all countries or adopt different strategies in different countries?

There is an ongoing debate in International Marketing (Levitt, 1983; Guemawatt, 2007) regarding whether or when companies should standardize their strategies/products or adapt to local markets. There has been no definitive answer, however, as both arguments have pros and cons, with the main consideration being costs (margin) versus client satisfaction (revenues).

In the case of small enterprises like Fumajet, the main issue would be managerial control. One of the company's weaknesses/problems is the need for more managerial time. Marcius Costa might find a partner or employ a staff member to oversee international operations, but this individual would need to be highly trustworthy and competent. So far, they have yet to find such a person in-house. Therefore, the most reasonable option is adopting the same strategy for almost all international activities.

Closure

For closure, the instructor could conduct a poll by asking the students one last question: Which alternative do you think is the most viable for Costa to pursue? Alternatively, if there is enough time, the instructor could divide the class into three groups; each group would argue for one alternative.

Students will probably choose technology licensing because it seems like the most efficient option for Fumajet at this point, not to mention the fact that it is the one that fits the entrepreneurs' desire the best (they would not have to oversee production). Nevertheless, the many issues involved in licensing must be considered, and special attention should be given to the possibility of losing intellectual property rights. To delve more deeply into the licensing discussion, we recommend synthesizing the main issues in the literature by Brouthers and McNicol (2009), which provides a good discussion of the critical aspects of licensing. Issues concerning intellectual property protection are examined by Duchêne et al. (2015) and by Fosfuri (2006). Aulakh et al. (2010) adopt a transaction cost approach.

Nonetheless, it is worth noting that other students may disagree, as giving up control is also personal; consequently, there is no right or wrong answer to the question. The instructor may point out that there are many paths that entrepreneurs could follow, and each company is unique in some ways. Thus, although the reasons to adopt one international path or another are valid in certain circumstances, each decision must be analyzed by assessing the nature of the firm's resources and capabilities, including the characteristics of the product line offered in foreign markets. The answer may also differ depending on the characteristics of the foreign market chosen.

To close the discussion, the instructor can tell students that this is a real case and that the company had yet to decide on a unified international strategy by the time of publication.

Case Study

This teaching notes is an integral part of the case study.

Pacheco, H. F., Rocha, A. da, Mello, R. C. de, & Kogut, C. S. (2024). A big step for a small company: How can Fumajet scale its innovation globally? *REGEPE Entrepreneurship and Small Business Journal*, 13(2), e2342. <https://doi.org/10.14211/regepe.esbj.e2342>

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The authors declare that there is no conflict of interest.

Authors' statement of individual contributions

Roles	Contributions			
	Pacheco H. F.	Rocha A. da	Mello R. C. de	Kogut C. S.
Conceptualization	■			■
Methodology				■
Software			N. A.	
Validation	■	■	■	
Formal analysis	■			■
Investigation		■		
Resources	■			
Data Curation		■		
Writing - Original Draft		■		
Writing - Review & Editing	■	■	■	
Visualization		■	■	
Supervision	■	■	■	
Project administration	■			■
Funding acquisition	■	■		

Note: Acc. CRediT (Contributor Roles Taxonomy): <https://credit.niso.org/>

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