Emerging Strategies and Hypercompetitive Environments to Micro and Small Companies of Information Technology

Humberto C. C. da Silva, M.Sc.
FBV – Faculdade Boa Viagem
Rua Jean Emile Favre, 422 – Ipsep
Recife – PE, Brasil

Marcus A. V. Araújo, D.Sc.
FBV – Faculdade Boa Viagem
Rua Jean Emile Favre, 422 – Ipsep
Recife – PE, Brasil

Abstract

The information technology companies are facing an environment in which there is a great pressure by constant technological innovation and high competitiveness or hyper competitiveness. Environments like this are called Red Queen Effect, in which the efforts given off by companies, no matter how big they are, are only sufficient to be able to maintain the same level of competitiveness. In this scenario the use of the emerging strategies, proposed by Mint berg, can be a viable alternative for the formulation and implementation of business strategies for success. The ability to be more flexible can help companies facing turbulent environments. Especially small businesses, as they can reach hyper flexibility levels, enabling the change in direction and adjustments during situations of market changes. This theoretical paper analyzes the use of emerging strategies, as proposed by Mint berg in the environment of micro and small information technology companies, and how hyper flexibility can be an alternative to the use of emerging strategies can be given with a higher success rate.

Keywords: Strategic planning, Red Queen Effect, Emerging Strategies, Hyper competitiveness, Hyper flexibility.

Introduction

The Information Technology (IT) sector in Brazil is the 7th world market for IT, accounting for 5.2% of national GDP and $ 123 billion in 2012 (BRASSCOM, 2015), being the service sector accounting for 30% of this amount (IDC, 2015). According to SEBRAE (2013), 29% of companies created in the Brazilian IT sector end up closing before completing two years of existence. IT sector companies in general are created from an innovative idea, by entrepreneurs with technical profile and little or no management training. Still, 96% of Brazilian software companies are Micro and Small Enterprises (MSEs), formed by newly trained technicians or graduates originated from larger companies (Weber and Klein, 2013).

Small businesses, until they reach a state of stability, go through three stages of development: (1) formation, in which an idea is launched and becomes business, (2) early growth, in which the company wins markets and increases revenue and the (3) latest growth, which begin to face competition and the potential market begins to be reached. At this time, companies need to make a decision, expand and diversify or maintain current production (Weber and Klein, 2013).

In turbulent environments, also called "h*ypercompetitive environment*" (D'Aveni and Gunther, 1995), the constant revision of strategies, also called approach emerging strategies (Mintzberg, Ahlstrand and Lampel, 2009) is a requirement for businesses to stay lively and competitive. This reality is even more important in companies that are at the beginning of their life, they have difficulties viewing the market as a whole and what means are available so they can be profitable and, thus, survive their first years of life (Cavalcanti, Araújo and Moraes, 2005).

In these environments, a condition known as Red Queen Effect (RQE) can appear. The RQE is an allusion to a passage from the book "Alice in Wonderland". At one point Alice tells the Queen that "the more I run, still in the same place," and the queen replied that "to get somewhere you have to run at least twice the maximum you can.". In situations like that, in which the companies try to differentiate themselves from the competition, by seeking for innovation, and the competition responds to these innovations copying or creating their own news (Kauffman, 1995; Derfus, Maggitti and Grimm, 2008; Delacour and Liarte, 2015).

When it comes to technological innovation, Schumpeter (1985) has argued that a normal economy would always be in a state of imbalance due to endogenous forces of change that would be innovations. To remain competitive, companies need to conduct a process called "creative destruction", which would require a continuous search for innovative solutions to organizational problems, building a new strategic knowledge aiming to re-establish the equilibrium state, it would be changed again generating a new cycle of creative destruction, learning, rebuilding and rebalancing.

For companies with products and / or technology services, such as Information Technology, Biotechnology, etc., the imperative of creative destruction is even more intense (Vieira and Santos Pereira, 2007; De Oliveira, 2012; Viana, 2012), as the development cycle of these companies are linked is constant and even predictable. Moore's Law, which provides technology refresh cycles of approximately two years, is used by companies in the process of creating new products. Thus, the technological evolution is true not only by the competitive pressure, but also by the development cycle itself that companies start to use (WATSON, 2006).

In this context, considering the competitive environment in which are operated the micro and small companies in the Information Technology sector and the approach of Emerging Strategies proposed by Mintzberg, **this study discusses the Information Technology market for micro and small enterprises in the light of the concepts of hyper competitiveness (D'Aveni and Gunther, 1995)in the sector and Emerging Strategies (Mintzberg, Ahlstrand and Lampel, 2009).** The work is structured in four sessions. Initially the IT market characteristics are presented, showing how this fits in a hypercompetitive environment. In the second part shows the approach of Emerging Strategies proposed by Mintzberg, to discuss its use in the context of small IT market companies. The third part will you present theoretical propositions that may direct empirical research in the future. Finally, in the fourth part, will be presented the final considerations of the study.

2. The IT Market and hyper Competitiveness

The new "Knowledge Age" brought complexity to the process of innovation, making it faster and urgent (Vieira *et al.,* 2007). Schumpeter was the first economist to challenge classical economics, proposing its process of "creative destruction". For Schumpeter (1985), a normal economy is always in a unbalanced state due to intense innovation, which is the driving force of capitalism, able to drive development and change the existing state of equilibrium in the economy. In this scenario, technology companies stand out, because innovation is its strongest feature, being the key element for competitiveness between companies (De Oliveira, 2012).

In the case of the IT industry, some factors make it strategic for the Brazilian economy, given its structural dependence on innovations and have a high competitive level (Weber and Klein, 2013). A point worth mentioning is that in this sector, there is a high mortality rate of companies in the beginning of its operation, where 29% of new businesses fail to survive more than two years, due mainly to organizational management problems (SEBRAE, 2013).

Additionally to the challenge of survival and organizational management-related problems, the Information Technology market context has its own characteristics, the high speed of innovation, intense competition, and high dependence on the quality of its workforce. In the case of Micro and Small Enterprises in the Information Technology sector, some characteristics must be taken into consideration when they are studied (Weber and Klein, 2013):

- Scarce financial resources;
- Lean organizational structure;
- Personal communication with employees and customers;
- Low - skilled officials and managers;
- Low level of training of managers (administrative capacity);
- Autocracy and centralization by the leaders;

- Leaders with short-termism;
- Decision based on intuition and experience;
- Low impact on the external environment;
- Flexibility and rapid adaptation to the environment and customers.

This scenario of fierce competition and high innovation speed, create situations of hyper competitiveness. The hyper competitiveness is characterized by factors such as (1) speed, which becomes as important as any other factor that means company differentiation from competitors, (2) ongoing need to update products, prices and attention to customers, (3) competitive behavior directed to what the market is doing and continuous levels of change, (4) a competitive environment in which the advantage created by a company is quickly neutralized by competition, and (5) companies that have short-term strategies developed, because the long-term strategies are dependent on the success or failure of short-term strategies (Carlopio, Harvey and Kiessling, 2012).

This dynamic of intense competition and constant innovation generate an effect known as *Red Queen Effect* (RQE). This term was first proposed by biologist Van Valen (1973), to describe species that interact and evolve in dynamic environments and high competition. The term came from a passage from the book "Alice in Wonderland" in which Alice cannot advance even if you are running as fast as possible. The Red Queen replies, "Here, you see, you need to run as much as you can, just to stay in the same place. If you want to get somewhere, you must run at least twice as fast as that!" (Carroll, 1965: 210;. Kauffman, 1995; Derfus *et al,* 2008;. Delacour and Liarte, 2015).

Companies in the RQE type environments are obliged to answer all the moves made by competitors, leading the company's innovation situations, identification of the innovations made in the company by the competitors, reaction of competitors and rebalancing, until another innovation unbalances the system and manages the new cycle of innovation and reaction of competitors (Derfus *et al,* 2008;. Delacour and Liarte, 2015). Carlopio, Harvey and Kiessling (2012) argue that hyper flexibility is one of the tools that companies should use in order to operate successfully in hypercompetitive environments. The hyper flexibility is the company's ability to be flexible in many areas. The authors propose five subsystems so that companies can get organizational flexibility. Small businesses can take advantage of good characteristics as lean organizational structure, personal communication with employees and customers, and flexibility and rapid adaptation to the environment and customers, and so use hyper flexibility to face environments RQE type (Carlopio, Harvey and Kiessling, 2012).

The flexibility subsystems proposed by Carlopio, Harvey, and Kiessling (2012) for a company to achieve hyper flexibility are:

- **Technical flexibility: They are the operating systems of the companies responsible for the production of products of services;**
  - Flexibility of products and services;
  - Mix of flexibility;
  - Volume flexibility;
  - Delivery flexibility;
  - Flexibility routes;
  - Flexibility technologies;
- **Border Flexibility: Are the systems responsible for transactional exchanges with the environment;**
  - Flexible acquisition / change in infrastructure;
  - Economic flexibility;
  - Flexibility information;
  - Flexibility sales and distribution;
  - Advertising and marketing flexibility;
- **Maintaining flexibility: They are systems concerned with the maintenance, stability and predictability;**
  - Flexibility resources;
  - Structural flexibility;
  - Flexibility of workers and functions;

- **Adaptive flexibility: They are systems that address problems of organizational settings;**
  - Planning flexibility;
  - Flexibility research;
  - Development flexibility;
- **Management flexibility: These are systems that act on all other enterprise systems;**
  - Curtailment of flexibility.

3. Emerging Strategies

Charles Lindblom in his article "*The Science of 'Muddling Through*", 1959, proposed an alternative vision on how to address organizational issues, specifically the most complex, challenging the way business schools created and executed strategies. The author argued that in certain situations, administrators were required to counter the literature on strategic decision, policy, and planning, as solutions to complex problems were initiated into "branches" and then could evolve into the "root of the problem." Mintzberg, Supported in Lindblom ideas, proposed an approach called the "Emerging Strategies", linked to the "School of Learning" (De Araujo Filho, Barbosa and Barbosa, 2009). In this approach, the creation and adoption of new strategies should take place not only in tight times, as often occurred in the strategic planning processes, but recurrent and continuous way, as where there are not only new successful experiences, but above all from learning arising from unsuccessful, emphasizing the importance of working the strategic management of the company from a process of trial and error "as the organization adapts or learns" (Mintzberg, 1998, p. 14 ; Cavalcanti, Araújo and Moraes, 2005).

Adopting a strategic approach from Emerging Strategies is based on the assumption that strategies must be set from the company's responses to certain situations, with an emphasis on learning, whereas in conventional Strategic Management, based on deliberate strategies, the strategic actions are drawn from a formal planning, systematic, focused on the direction and control (De Jesus, 2013). For Mintzberg (1994) the traditional perspective of strategic planning is based on fallacies, which are based on three assumptions:

- All events involving the organization are predictable;
- There is a separation of "think" and "act" involving the development and implementation of strategies;
- Develop and implement strategies is a process that can format and repeated.

However, in the real world, Mintzberg (1994) argues that there are unpredictable situations that are not under the formulator control strategies (De Jesus, 2013). In this line, Clegg, Carter and Kornberger (as cited in De Araujo Filho, Barbosa and Barbosa, 2009) reinforce criticism of the strategic planning process indicating other fallacies of strategic planning:

- Disparity between managerial fantasy and organizational skills: the inability of managers of companies to conduct sophisticated strategies they develop.
- Disparity between real and clear and unpredictable future goals: it created the illusion that strategic planning can anticipate future developments.
- Gap between planning and implementation: planning creates complexities that cannot be controlled by new plans.
- Disparity between the planned change and emerging developments: the market may change to require changes that are very different from current perceptions.
- Disparity between means and ends: internal conflicts between parts of the organization often generate conflicts and contradictions with the organization's own strategies.
- Gap between a planning mind and body a planned: Support and resistance planning can divide the planned body.
- Disparity between order and disorder: Chaos, disorder, and noise interfere with discipline and continuity required by the strategy.

Mariotto (2003) proposed a model in which, from the general objectives of the organization, deliberate strategies and emerging can be performed. The author argues that the company needs to be aware of the use of emerging strategies, without losing control of the company's destinations, and learning from the results obtained by both emerging strategies as deliberate strategies.

The incompatibility of the traditional strategic planning process with the business reality is even more evident in the intense technological innovation and highly competitive environments. One of the characteristics of environments subject to consequences such as *Red Queen* is a reaction to what the competition is doing, in order to maintain the same level of competitors (Derfus *et al*, 2008;. Delacour and Liarte, 2015).

Cavalcanti Araujo and Moraes (2005), analyzed critically the Emerging Strategies proposed by Mintzberg. The authors point out that there are weak points in the form of problem solving proposed by Mintzberg, as they consider that there is not a total unpredictability of the environment, which in complex environments, it is necessary a constant review of the strategy, but that it should be, still, deliberate, and ultimately, the use of purely emergent strategies can generate an uncontrolled situation (Cavalcanti, Araújo and Moraes, 2005). However, despite the aforementioned shortcomings, the authors point benefits while adopting emerging strategies. It is argued that, in small businesses and in situations of RQE, there are great benefits when a flexible approach is used to define strategies and emerging strategies, such as: (Cavalcanti, Araújo, and Moraes, 2005):

- There is a difficulty of business managers who are starting, to establish the means by which the objectives are achieved. These are designed as events evolve;
- One of the key features for the success is the knowledge acquired during the learning process;
- Small businesses have greater ability to be flexible, allowing adaptation to the changes and establish new competitive advantages making use of creativity.

4. Theoretical Propositions

Constant technological innovation and corporate strategic vision from the point of view of what the competition is doing is one of the prerequisites for a business environment to experience situations known as RQE (Derfus *et al*, 2008; Delacour and Liarte, 2015). Information Technology companies, in particular, face these situations, which are intensified to the point that the small business, in most situations, reacts to what is being put by the competition (Weber and Klein, 2013). This scenario allows outlining the first theoretical proposition:

Proposition 1: The higher the level of technological innovation in the business sector, greater is the need of the use of emerging strategies for information technology companies by RQE account.

Another point identified in the literature regarding the hypercompetitive environments, or those in the RQE type situations, is the need to adapt the strategy so that you can keep at least the position in relation to competition (Derfus *et al.*, 2008; Delacour and Liarte, 2015). The need is concentrated, so the initial development of short-term strategies and, given its success, the establishment of long-term strategies (Carlopio, Harvey and Kiessling, 2012). This type of planning, in which companies define short-term strategies and only from the success or otherwise of these, provide new paths to follow in a new short-term cycle, it is what Mintzberg (1994) defines as emerging strategies. For small businesses, this situations are intensified as they, in many situations, do not get a view of all, thus, needing to constant adjust in its course (Cavalcanti, Araújo and Moraes, 2005). This context allows it to be prepared the second theoretical proposition:

Proposition 2: The higher the level of competition in the business environment, higher will be the need to use emerging type strategies for small businesses.

The ability to have a flexible strategic management is vital to small businesses. Can change direction and so. Adjust the company to the new market reality; it is a weapon that allows the company to survive the turbulence (Carlopio, Harvey and Kiessling, 2012). Carlopio, Harvey, and Kiessling (2012) propose five different types of flexibility for the company to achieve the degree of hyper flexibility. Being these the technical flexibility, the flexibility of borders, the flexibility of maintaining, flexibility of adaptiveness and the flexibility of management. The ability to change quickly, and so adapt, can mean the difference between being inside or outside the market. Given this scenario, we present the theoretical propositions:

Proposition 3a: The higher the technical flexibility of the company, higher will be its ability to change strategy and to take advantage of emerging type strategies.

Proposition 3b: The higher the flexibility of borders of the company, higher will be its ability to change strategy and to take advantage of emerging type strategies.

Proposition 3c: The higher the flexibility of maintaining of the company, higher will be its ability to change strategy and to take advantage of emerging type strategies.

Proposition 3D: The higher the flexibility of addictiveness of the company, higher will be its ability to change strategy and to take advantage of emerging type strategies.

Proposition 3e: The higher the flexibility of management of thecompany, higherwill be its ability to change strategy and to take advantage of emerging type strategies.

5. Final Considerations

Micro and small enterprises are the regional development engines, both in Brazil and in other countries (De Barros and Miranda, 2008). In this scenario, the Information Technology companies have a key role as the IT sector accounts for about 5.2% of GDP, in an environment where 96% of software development companies are classified as Micro or Small Business (Weber and Klein, 2013). The high competitiveness in the sector, which is driven by innovation, causes effects on companies seeking to be always up to date and offering what the competition offers, generating an environment known for RQE *(Red Queen Effect)*, where innovation becomes replicate what competitors are doing quickly, and by applying not deliberate strategies.

The use of not deliberate strategies, and emerging as defined by Mintzberg (1994), need not be a completely trial and error process, but part of a larger strategic process in which the company uses the emerging strategies as an alternative to unplanned situations that stand in the way of any company (Mariotto, 2003). Finally, the flexibility that small businesses have can be a weapon for them to survive in turbulent environments and high competitiveness. This flexibility has to be identified and used in order to enable the company's objectives are achieved, without the loss of control by constant trading strategies just to meet a new market bias.

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