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PATHOLOGY AND PHYSIOLOGY OF BUSINESS 'DWARFISM' AS A STRUCTURAL GROWTH DISENGAGEMENT CONDITION
A DYNAMIC RESOURCE-BASED-VIEW (*)

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Abstract

This paper focuses the subject of growth disengagement, in the perspective of those firms who have been keeping their structures, processes and relational systems unchanged for a very long time, for at least three generations. In Italy such phenomenon is commonly referred as *nanismo aziendale*, i.e. "business dwarfism".
The implicit hypothesis commonly adopted by socio-economic and political debate, according to which so called 'dwarf' businesses are meant as affected by a structural weakness and characterised by similar features, is critically discussed. An analysis of the phenomenon in the business growth and dynamic resource-based-view, allows us to demonstrate how the current approach to the problem context cannot be accepted.
In order to propose a different perspective, based on a case-study analysis, a first attempt taxonomy is sketched, according to two factors, i.e.: 1) the level of entrepreneur's inclination to change business *status quo*, and 2) business strategic assets' consistency level.
It is demonstrated how, although different business categories defined in the taxonomy are only sequential stages into an ideal 'dwarf' business life-cycle, both crisis and success patterns can be envisaged in any of them.
In particular, a number of possible growth and crisis patterns are defined in relation to each 'dwarf' business category, in order to profile pathological and physiological conditions of the phenomenon, into the hypothesis of discontinuity in the relevant business context.

Keywords: SME and micro-business growth, growth disengagement, 'dwarf' business, dynamic resource-based-view, feedback approach, stock-and-flow perspective.

(*) *Although this paper results from a joint research of the authors, different sections have been separately written as follows. The case-studies: "Antica Focacceria San Francesco", "Scatolificio Mineo", "Calzificio Vitrano" and "Pustorino" have been written by Vincenzo Fasone. The case-studies: "Terranova", "Pensabene Conserve", "Tutone" and "Salerno Packaging" have been written by Luca Raimondi. The remaining parts have been written by Carmine Bianchi.*

1. Small business "dwarfism" as a structural condition of growth disengagement in small and micro-firms: relevance of the field in the debate on growth and non-growth SMEs

Growth is commonly referred as a pre-condition for the development and long term survival of a business, particularly for small and *micro* firms, whose bounded size and structure are often a main cause of crisis.

SMEs are often expected to increase their activity volumes and investments, in order to move from a foundational to a more evolved state. However, the phenomenon of SME *growth disengagement* also exists.

This paper aims to explore under what circumstances structural non-growth in small and *micro* firms can be considered as either a pathology or a physiology.

According to Gibson (2002, p.1), "the notion that firms may have a capped growth objective is evident in many areas". In this view, there are many *micro* and small firms, where owner-entrepreneurs take actions that indicate they are concerned with maintaining a stable business. Growing out of this stability is not regarded as a primary objective. Empirical evidence of this phenomenon emerges from both statistics and case-study analysis.

Turok (1991, p. 29) has also remarked: "there is a considerable interest within the field of small firms policy and research in the identification of features that distinguish firms which grow from those that stand still or fail. This is thought important if more selective small firms policies are to be developed. Identifying distinctive features of more and less successful firms may also provide insights into the factors influencing small firm development and hence improve understanding of the growth process".

It has been also stated by Holmes and Zimmer (1994 p. 97) that: "an operational framework that distinguishes growth from non-growth small businesses does not exist". In order to minimise agency costs, non-growth owner-entrepreneurs are reluctant to enter new activities which will result in an agency relationship (Jensen and Meckling, 1976). This implies that the level of contracts is kept to minimum, and a greater use of casual and part-time labour is done. Holmes and Zimmer distinguished *Growth Capped* from *Growth* SMEs. In the first kind of firms, growth is sought and plans are developed to facilitate it. However, growth will only be financed by additional equity inputs of the existing owners or trading bank debt. Provided that new equity from outside sources is not an option, such firms have internal limits to growth. Conversely, the latter kind of firms is more prone to accept external capital sources to foster growth, which allows them to reach a larger size and foster change.

In an empirical research oriented to understand growth and non-growth motivations for an entrepreneur, Perren (1997) defined a number of relevant factors, such as: *a)* owner's growth motivation, *b)* management expertise for growth, *c)* resource access, *d)* demand for products or services. The author found that all non-growth firms share a negative set of owner's growth motivations, whose effects are particularly significant when the market shows a rising pattern of demand for the business products.

Similarly, Brown and Kirchhoff (1997) have investigated the effects of resource availability on entrepreneurial orientation. Concerning this, they distinguished two important factors: 1) perceived environmental munificence, and 2) resource acquisition self-efficacy.

The issue of non-growth has also been analysed in the perspective of different stages through which a business is likely to evolve. On this concern, several categorisations have been proposed (Soderling, 1998).

According to Hanks *et al* (1993, pp. 11-12) "most of these studies have defined growth stages *a priori* … The lack of specificity and empirical rigour in these typologies may account for unexpected intrastage variance found in some analyses". Based on such remarks, the authors proposed a *taxonomic* approach to identifying and specifying stages in an enterprise life-cycle model, based on a multivariate analysis of empirical data, aimed to reveal common patterns and relationships in the data..

Adizes (1999 p. 154) has also proposed a theory for disengagement from growth. In particular, he has defined an *aristocracy* stage, characterising a business that has grown in the past until reaching a considerable size.

It has been also remarked that the concept of growth (in terms of business expansion) is embedded in the concept of entrepreneur. According to Gray (2002, p. 62), "entrepreneurs may be broadly defined as individuals who manage a business with the intention of expanding that business".

The concept of growth that is hidden in the above perspectives is mainly associated to an increase in business size, both in terms of turnover and assets.

Related to this perspective, the term *business dwarfism* [1] has been widely adopted in the last decades in the Italian political and socio-economic debate, in order to label a stereotype of business marginality and entrepreneurial mediocrity, based on a structural disengagement from growth.

"Dwarf" firms are commonly referred (Marchini I., 1986; Quagli A., 1997; Russo G., 1988) as those small and *micro* businesses whose structure and management routines have been kept unchanged over several decades, in terms of: structure [2], processes, and relational systems.

Among the different factors profiling "dwarf" businesses, most crucial are:

1. *age of the firm* since its foundation, which encompasses at least three generations;
2. *an unchanged size* over a long period, implying a stable and bounded number of employees, and a weak investment profile;
3. *bounded and local scope of geographical markets*, implying a limited range of relationships with external "actors".

An implicit assumption of this perspective, is that those smaller firms which have not been increasing their size for a long time – in terms of quantitative indicators – are affected by a structural disease. In order to help them to fix their supposed sickness, trade-union leaders and politicians have been used to suggest actions aimed to foster a dimensional leap. Some of the most commonly recommended levers are (Recanatesi, 2003):

- tax reductions and a higher labour market flexibility,
- low cost funding and financial assistance;
- inexpensive support in the introduction of a management team and specialised training in different functional areas.

The above mentioned approach is affected by a number of drawbacks which provide a fruitful basis for a research aiming to understand whether:

a) "dwarf" firms are always characterised by a lack entrepreneurship and a structural pathology;
b) growth, aimed to move into a "non-dwarfism" state, is a pre-condition for their survival and success in the long term;
c) "dwarf" business growth is only a matter of fostering a dimensional leap;
d) financial subsidies and other aids aimed to "inflate" the size of a "dwarf" business through different measures usually applied in other contexts [3] are consistent with the specific features characterising such firms.

In the next sections the analysis will be conducted as follows:

[1] In Italian *nanismo aziendale.*
[2] e.g. product portfolio, strategic product positioning, organisation, number of employees, production capacity, geographical markets.
[3] e.g. SME start-up and take-off or even in business units operating in larger firms.

- main drawbacks underlying the current approach to the “dwarf” firm concept will be emphasised, and the need to re-examine it according to a wider meaning of the term “growth” will be remarked;
- the relevance of a dynamic resource-based view to frame processes underlying “dwarf” business growth will be demonstrated;
- main results achieved from an initial case-study analysis will be discussed;
- the peculiar role different actors are likely to play to foster “dwarf” business survival and continuity will be emphasised.

2. Main drawbacks underlying the current approach profiling “dwarf” firms: the need to study the phenomenon in a business growth perspective

There are a number of reasons by the light of which it is possible to envisage some major weaknesses in the currently adopted approach in defining business “dwarfism”.

Most relevant are:

1. all “dwarf” firms are supposed to lack an entrepreneurial spirit, aiming to pursue success and long term growth;
2. growth is only considered as a matter of increasing business size, in terms of tangible assets. Since “dwarf” firms do not seem to grow (in terms of size), they are not supposed to own an endowment of strategic assets (Amit & Schoemaker, 1993; Dierickx & Cool, 1989) which will allow them to pursue success;
3. a *macro* and statistical perspective, aimed to cluster small and *micro*-firms into the class of “dwarf” businesses omits to consider the specific features of each of them;
4. a focus on *tangible assets* and *past performance* does not take into account the role played by a number of intangible resources, such as: entrepreneurial personal contacts or image;
5. a standardised view, according to which all “dwarf” firms have similar characteristics is implicitly based on an artificial hypothesis of stability in the specific context where they operate.

All of the above weaknesses are originated by the hypothesis according to which “dwarf” firms are implicitly meant as poor, in terms of entrepreneurship. This is intended to be a primary cause of the lacking growth of these companies. This idea cannot be shared, at least as a general principle.

In order to understand whether a “dwarf” firm is characterised by a lack of entrepreneurial spirit, *per se*, it is important to understand:

1. major reasons for becoming a “dwarf” business entrepreneur, and
2. main characters profiling the entrepreneurial function in such context (e.g., inclination to innovate, creativity, attitude to perceive business opportunities, propensity to undertake business risk) .

Concerning the first issue, if *social marginality* or *outside events* to which the entrepreneur has passively responded without any major commitment with his role would prevail, then the firm could be affected by a structural disease. Otherwise, it could not be possible to *a priori* state that the firm is affected by a structural pathology.

Also the characters profiling the entrepreneurial function ought to be re-considered by the light of the peculiarities of the business “dwarfism” phenomenon in each investigated firm. For instance, the *inclination to innovate* could not only be evaluated according to the entrepreneur’s attitude to create new products or undertake new processes; one should also consider the entrepreneur’s ability to build up strategic assets. Such an ability is often proved to exist, regardless the explicit will of the entrepreneur. In fact, the firm can be able to accumulate not only *basic*, but also *collateral* strategic resources [4]. Business capability to accumulate strategic assets is a pre-condition to build a sustainable competitive advantage and achieve consensus with stakeholders (Coda 1984), leading to growth.

Concerning the second issue, an *inclination to innovate* could be found also in those firms which have not been launching new products or undertaking new processes since a very long time. In fact, a growth disengagement strategy does not mean that an entrepreneur is unable to learn. On the contrary, a *non-growth* firm may tacitly accumulate a significant mix of strategic assets (e.g. knowledge, image, brand positioning, liquidity), most of which are kept unused [5].

The entrepreneur's inclination to change the business *status quo* is another factor profiling the entrepreneurial function. If such inclination is weak, an emerging instability in the business relevant context will be likely to provide, sooner or later, a major cause of crisis, due to the myopic behaviour of the entrepreneur. Conversely, although for several decades the firm could operate in very stable and bounded market niches and socio-geographical systems, a high propensity of the entrepreneur to detect changes in the "rules of the game" and modify the business idea, would be symptomatic of a physiological "dwarf" business behaviour. An implication of this is that an ideal *boundary* between successful and unsuccessful "dwarf" firms can be outlined by the light of the *hypothesis of discontinuity* in their own relevant context.

Concerning the propensity to *undertake business risk*, not only invested capital but also other factors ought to be taken into account. An important factor on this concern is the perceived value of the firm for the entrepreneur and his family's life. The higher is this value, the higher will be the risk. A higher risk will be, in turn, symptomatic of – other conditions being equal – a stronger entrepreneurial spirit. For instance, an entrepreneur may considerably value the firm as part of a cultural and economic wealth of the business-owning family, or a means to help his or her sons (once involved in the business administration) to practice cultural important values and beliefs.

The analysis conducted so far shows main weaknesses of the first two above stated assumptions currently adopted in analysing business "dwarfism".

Concerning the remaining assumptions, it is possible to observe that the use of only a *macro* and *statistical* perspective could not be proper in order to understand the phenomena occurring inside a "dwarf" business, as each firm has its own peculiarities.

"Dwarf" businesses can be depicted as dormant volcanoes, which might also keep quite for several decades – if not centuries – but could also erupt from a day to another. If one looks at the behaviour of a "dwarf" firm, one may have the impression of a high similarity with others. However, if one gives a closer look inside the "volcano", different kinds of structures and behaviours – in terms of magma, temperature, pressure, external solicitations, etc. – could be found. In other words, if we compare several "dwarf" firms each other, we may find different strategic assets' profiles, the perception of which may change according to the owner-entrepreneur's personal characteristics. Furthermore, the entrepreneur, may differently perceive the future of the company, as a function of his/her propensity to change the *status quo*, which can also depend on other internal and external factors. Consequently, if we analyse "dwarf" firms in the *perspective of discontinuity* affecting their own specific contexts, we may better appreciate the sharp differences in their behaviour, due to both subjective and objective factors.

[4] The former kind of assets (e.g. customer base, product system, personal contacts), relates to those intangible resources around which the firm has been operating since its foundation, and which have been exploited and kept stable over time in the fulfilment of current management routines. The latter category refers to those resources (e.g.: knowledge, image, brand positioning, liquidity) which have often been tacitly built as a result of current management routines fuelled by the exploitation of company *basic assets*, and often kept unused for a long time

[5] Such assets can be defined as *collateral*, while those which are currently used could be named as *basic*.

Based on the above two factors, our research has been oriented to analyse similarities and dissimilarities in behaviour about strategic assets' accumulation and depletion processes between different "dwarf" business categories.

Although it may seem an oxymoron, we believe that an analysis aimed to understand the business "dwarfism" phenomenon must be based on the perspective of growth. This implies that business strategic assets' dynamics is investigated under the hypothesis of change in the relevant context where the firm operates.

3. Reframing business 'dwarfism': a dynamic resource-based and growth combined perspective

In order to pursue such a research approach, a dynamic resource-based view, combined with the perspective of growth depicted above, has been adopted by the authors. To this end, processes affecting the current endowment of business strategic assets have been analysed through a feedback approach.

According to this point of view, strategic assets are seen as *stocks* of available factors which are scarce, not easily tradable, difficult to imitate, industry and firm-specific. They are gradually built through an *inflow* driven by current management routines (Nelson & Winter, 1982), and the interaction between the firm and its relevant environment. They are also subject to an *outflow* associated to inertial depletion, resulting from either physical/technical aspects (e.g. obsolescence) or shifts in the industry *dominant logic* [6] (see figure 1) (Prahalad & Bettis, 1986; Morecroft, 1998; Morecroft & Glucksman, 1998).

3.1. Reframing business 'dwarfism' (*continued*): a stock-and-flow feedback approach to model strategic assets' dynamics

The different symbols adopted in figure 1 to depict the *stock* of strategic resources and the *flows* measuring their acquisition and depletion, are here used in order to focus the conceptual difference between the two concepts. In fact, through a hydraulic metaphor, a *stock* can be represented as a reservoir containing a given set of resource, which is available at a certain time. Conversely, the corresponding *flows* are represented as "valves" which are intentionally or unintentionally opened at a different strength, in order to make the acquisition or draining of a given resource possible from a period to another. It follows that stocks are measures related to a *specified time* and are the effect of flows which have been influencing them in the past (Forrester, 1961). Flows are, instead, measures related to an *interval of time* and are the result of both decision makers' intentional or emergent strategies, which originate management routines, and the result of the dynamic interaction of the business with its relevant external environment. An implication of this, is that – in order to affect the current stock of business strategic assets – one must take into account the *delay* incurring between the time when action takes place (by influencing flows) and the period when it will produce its effects.

--- FIGURE 1 ABOUT HERE ---

Both the perception of the current level of strategic assets and the delay through which it will change from today to a given future time are often difficult, and provide a major source of complexity in managing business growth. In fact, strategic assets cannot be easily measured in quantitative terms (being them referred to intangible factors) and oscillations in their levels over time are often misperceived by business actors. They can be prone to ignore them or implicitly depict them in their minds according to a static and linear approach. Furthermore, their involvement in current activities may lead them to disregard major delays associated to strategic assets' accumulation and inertial depletion processes [7].

[6] "In an evolving business environment, such a company must be adaptable; indeed its resource system may change out of all recognition from one competitive era to the next. To achieve this adaptability, a company must successfully manage its own metamorphosis from dependence on one source of sustainable advantage to dependence on another (Morecroft, 1998).

[7] Major implications of the above issue for smaller firms are analysed in: Bianchi, 2002.

By focusing the concepts of stocks and flows, business actors are enabled to manage the specific complexity underlying oscillations in strategic assets' endowment, leading to a change in the business growth potential.

Based on the above principle, managing strategic assets' dynamics implies that decision makers define a desired level of each asset and continuously monitor whether a gap between its current and desired level exists. If a gap is detected, the firm will act on policy levers aimed to fill it during a given time horizon. Figure 2 shows this concept, by depicting the effects of a balancing feedback loop [8] on the dynamics of generic strategic assets over time. It also makes delays impacting on strategic assets accumulation and depletion processes explicit [9].

--- FIGURE 2 ABOUT HERE ---

If the firm is able to properly deploy the endowment of its available strategic assets, internal current management routines and the interaction with the relevant environment are likely to drive the inflows originating strategic assets building processes. This means that the acquisition of new strategic assets or the strengthening of those which are already available is possible through a systemic deployment of other strategic resources the company currently owns. The stock of new assets is, in turn, available to the firm in order to foster other assets' building processes. For instance, a given customer base available to a firm is a strategic asset whose exploitation, through the current management routines, may allow the firm to enhance learning processes which are an inflow to the stock of knowledge, which is another strategic asset. The stock of knowledge built over time is a resource which will be likely, if properly exploited, to improve – other conditions being equal – the processes underlying the acquisition of new customers, thereby affecting the customer base.

The reinforcing feedback loop [10] commented above is depicted in figure 3. The figure also shows the exponential behaviour produced by the dominance of the loop previously analysed, i.e. by the circumstance that effects it generates are stronger than those produced by other feedback loops embodied in the relevant system [11].

Another implication of the principle according to which mutual relationships between different strategic assets affect their accumulation processes is that lack of consistency in their current endowment is likely to generate *limits to growth*. In fact, if a firm would own a low or unbalanced system of strategic resources, it would experience difficulties in generating synergies to fuel the accumulation of new assets or the increase of those which are already available. For instance, increasing the customer base through a wider and reliable product system would result difficult if the firm would not be able to own an appropriate knowledge base and image on the market. If policy makers would not be capable to promptly detect such limits to growth, the firm could experience a waste of resources invested in improving its product system and customer base, and possibly also an inertial depletion of the current endowment of strategic assets, the weakness of which could not be recognised by decision makers. Such a phenomenon could generate more reinforcing loops, which would give rise however to negative effects on the growth potential of the firm. In other words, for example, a vicious loop *"less business knowledge ⇨ more obsolete product system ⇨ less customers ⇨ less business knowledge (from interactions with customers)"* could become dominant.

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[8] A balancing (or negative) loop may either show a limit to growth of a given resource or a policy aimed to fill a gap between an existing and desired level of a given resource.

[9] An example of strategic asset could be related to business knowledge. In order to improve or restore it, a company could act on different policy levers, e.g. recruiting or education.

[10] A reinforcing (or positive) loop represents a virtuous or vicious circle, related to a growth or decline process affecting a given resource in the relevant system.

[11] The relevant system comprises those variables in the light of whose cause-and-effect relationships one can explain the behaviour of the system itself (Forrester 1961, pp. 117–118; Richardson and Pugh 1981, pp. 42–43; Sterman 2000, pp. 222–225). This concept does not usually match with the internal boundaries of the firm, at it also embodies a wider range of variables belonging to other external sub-systems, e.g., related to the competitive, social and equity-owning family environment.

The concepts previously remarked show how it is crucial to foster decision makers' learning about strategic assets' accumulation and depletion processes. Such processes are often difficult to perceive, not only because they cannot be measured in monetary terms, but also because they gradually evolve over time and are subject to inertia. In fact, the current level of a given strategic asset is the result of implicit or explicit decisions that could have been made quite far in the past.

--- FIGURE 3 ABOUT HERE ---

Three basic assumptions underlying the concepts depicted in the above figures also emerge:

1) the *behaviour* of a given strategic assets endowment over time can be explained by the light of the *structure* of cause-and-effect relationships between different stocks of resources. Such structure portrays the relevant system on which to focus analysis and policy making (Davidsen P., 1996; Sterman, 2000, p. 107-133);
2) by detecting the hidden feedback structure underlying strategic assets' behaviour in the relevant system, policy makers are able to understand the causes of experienced dynamics. This helps them to detect weaknesses in their mental models [12], based on which they have formulated past policies. Different mental models can be so elicited, compared and related to real phenomena depicted by the system feedback structure. This helps decision makers to learn, i.e. to discuss different points of view and, possibly, achieve a common shared vision of the system, which often implies a change in their mental models;
3) as far as policy makers are enabled to share a common view of the relevant system underlying strategic assets' past dynamics, they can be supported to envisage how to affect the existing system structure in order to pursue a future desired key variables' behaviour . This means that they can be able to figure out how the system will be likely to change according to multiple scenarios, implying alternative strategies and a different set of relevant external variables.

Modelling [13] 'dwarf' business' strategic assets dynamics according to the above analysed principles can be very helpful to better understand the structure of the *relevant system*, to detect errors and inconsistencies in past policies. It also supports business actors to envisage what changes could be made in the system structure, through different policies aimed to affect strategic assets' future *behaviour*, to foster business growth.

3.2. Reframing business 'dwarfism' (*continued*): using influence diagrams to illustrate the relevant system's structure affecting strategic assets' behaviour

In order to move towards a proper understanding of strategic assets' dynamics in 'dwarf' businesses, influence diagrams can be used. If compared to stock-and-flow diagrams, they provide a simpler view of feedback loops, as they are only focused on cause-and-effect relationships between relevant variables impacting on strategic assets behaviour, regardless from the distinction between stocks and flows. Hence, if generally applied to the analysis of strategic assets accumulation and depletion processes, they are useful as a first step analysis to depict factors impacting on strategic resource inertial behaviour and key-actors' mental models, whose deliberate or emergent strategies will affect business growth.

The use of influence diagrams in our specific problem context will support us to discover similarities and differences between 'dwarf' firms, in a dynamic-resource-based and feedback perspective. Several 'dwarf' business profiles and alternative paths leading to crisis or success will be analysed according to two factors: 1) key-actors' inclination to change business *status quo*; 2) business strategic assets' consistency (in terms of both their absolute levels and mix).

[12] Mental models are a perspective, a mindset, an implicit picture of reality decision makers hold about phenomena. In other words, a mental model is an interconnected network made-up by *events* experienced by decision makers and *concepts* according to which experiences are consciously or (more often) unconsciously, incorporated in their minds and thought processes (Senge, 1990, p. 6; Morecroft, 1994, pp. 10-11).

[13] The concept of model is here adopted beyond the currently intended meaning of "simulation tool". We consider a model as a simplified picture of reality which allows policy makers to better understand cause-and-effect relationships underlying observed key-variables' behaviour, to support their learning and decision making.

Such an analysis will provide the basis for a first attempt taxonomy of 'dwarf firms' and for a closer study of three selected business cases (over eight investigated) according to a stock-and-flow perspective.

Modelling 'dwarf' business growth: hypothesis of stability in the relevant context

Figure 4 shows main feedback loops associated to 'dwarf' business strategic assets accumulation and depletion processes, in the hypothesis of stability in the relevant context [14].

If one observes a "dwarf" firm as an institution operating into a very bounded and stable environment, it is possible to map its strategy according to two basic loops.

--- FIGURE 4 ABOUT HERE ---

The balancing [15] loop A portrays a recurring strategic orientation of a "dwarf" business entrepreneur. In fact, given a pool of strategic assets which are currently used by the firm, the entrepreneur is inclined to restore the desired level of strategic assets (*implicit goal*), when its actual perceived level is below the desired one. Hence, a *quasi-mechanical* response is given in order to fill a gap in available resources and insure company stability.

Another balancing feedback is shown by the loop B. When it is dominant over the loop A, business strategic assets are gradually affected by an inertial depletion process, e.g. due to obsolescence. If loop B is weak or dominant for only a short time (which is the case of stable business environments), the frequent shifts in dominance between the two feedback loops commented above cause structural oscillations into the business strategic resource endowment. Quite often, such oscillations are not perceived by policy makers. Sometimes entrepreneurs might also be unable to promptly and effectively overcome them, because of perceived constraints.

The *Calzificio Vitrano* case-study provides an interesting example, on this concern.

The firm was established in the year 1906 to manufacture and sell on the regional market cotton socks. It has always been run by the equity-owning family and currently employs five people, all family members. It is mainly conceived by the owner-entrepreneur as a means to provide the family with a main source of income. In the last twenty years the firm has found rising difficulties to sell its product beyond the regional market. This has caused a gradual reduction in both activity volumes [16] and employees [17]. Among the characteristics of the business product system are a reasonable quality and a premium price (compared to similar products sold in supermarkets), as well as a retail-only sale policy. Such policy implies that – in order to keep the 'quality/price' ratio stable – the firm must rely on an effective machinery. This means that it must be able to periodically replace obsolete machines (or update them) and improve its maintenance policies, in order to keep a constant production capacity and reliability. However, the business suffers of chronic financial shortages, due to a lacking capability to generate cash flows large enough to both feed the current family needs and finance periodical machinery investments. Such problem is amplified by the entrepreneur's reluctance to recur to financial leverage as a policy to increase sales turnover, or reduce purchase costs, or even provide liquidity to finance the renewal of fixed assets. According to the entrepreneur, recurring to credit or granting it *is a policy contrasting with the honour of a person*. Such a belief is a major cause for not renewing machinery since a long time ago (about thirty years), which makes more difficult and less competitive the management of the company.

The case-study sketched above shows an example of a draining process affecting the strategic asset "Machinery Reliability". As far as loop B is dominant, the level of such stock gradually drops. This will be likely to determine – although after several decades (provided the high local customer loyalty on which the firm can rely) – a decay and possibly a crisis of the firm. A re-acquisition of the lost strategic assets, i.e. a

[14] This is, actually, the hypothesis according to which the phenomenon is often implicitly analysed in the socio-economic and political debate. It refers to a lack of significant or unexpected changes in different factors ('rules of the game') shaping the relevant context of a 'dwarf' firm. They refer to the local and bounded environment where the company operates. Some examples are related to: direct competitors' products, consumers' tastes and behaviour, technology, legislation.
[15] Loop polarity – i.e. positive or negative, implying a reinforcing or balancing feedback respectively – is detected by multiplying the algebraic signs of each arrow, symbolizing a direct or opposite relationship between variables. In the case of loop A it is possible to determine a negative polarity (i.e. one negative and two positive signs), which denotes a balancing feedback, implying a policy aimed to restore the actual level of strategic asset to the desired one.
[16] They have been reduced from 6000 to 3000 kg. of spun cotton.
[17] They have been dropping from 20 to 5 people.

policy aimed to foster loop A, would allow the firm to restore "Machinery Reliability" to the normal desired level (see figure 4 again).

Another example of misperceived inertial effects produced by loop B is provided by the *Terranova* case-study.

Terranova was founded in 1890. It has always been producing carob flavoured candies. The company has now reached the fourth generation. The owner-entrepreneur's great-grandfather started it in order to find a job. Since ever, it has been established in the basement of the Terranova family's flat. It consists of a single 120 square meters room, where all administrative, production, packaging and (the very rare) public relation activities are fulfilled. Mr. Terranova and his family (six people altogether) spend most of their time in fulfilling operating tasks, mainly related to candies production and packaging. Family members have been accumulating a large experience, which has been transmitted from a generation to another. This allows them to manufacture candies *as an handcraft, rather than an industrial product*. The product is sold in the local market through pharmacies and tobacconists. More recently, it has been sold also in supermarkets, although with some difficulties. In the last decades, the firm has been suffering a gradual loss of customers, due to: 1) lack of communication (e.g. advertising) with potential customers, and 2) product obsolescence, caused by the introduction on the market of similar candies by larger competitors. Such phenomenon has been till now underestimated by the business-owner, who believes that his *handcraft candies* will never be replaced by any industrial product. The firm has structural difficulties in overcoming such problems, due to lack of available entrepreneurial time to devote to external activities, and the unwillingness of the owner to delegate power to other people outside the family. The firm also lacks financial resources to sustain a commercial policy. However, the business owner-entrepreneur is quite satisfied about the company's performance, which has allowed the family to gain marginal improvements in its quality of life, although most of time is spent working in the firm. On the other hand, the oldest son is cherishing some ambitious programs in his mind: he wishes to get public funds to start a factory outside the city, to increase activity volumes through an enlargement of both the geographic market and product scope. However, his father warns that he will not be willing to change the seat of the firm from the district where he and his ancestors were born, where he feels so safe to "leave unlocked the entrance door of his house overnight".

On the contrary, an example of a 'dwarf' business which seems to promptly and effectively counteract the effects generated by the loop B is provided by *Pustorino*.

The firm was started in the year 1895 by Mr. Pietro Pustorino who was a passionate traveller who liked the *Old England* fashion style. He felt the opportunity to start an entrepreneurial venture in Palermo, by buying cloths and related accessories from England and selling them in his home town, where also some British aristocrats were based. His shop soon became well famous among the European nobles. The company also became the official supplier of the Italian royal family. In the year 1925, the founder's son Mr. Natale Pustorino succeeded his father, after his death. After the Word War II, the progressive improvement of consumptions and the effects of industrialisation, gave rise to an increase in the business activity volumes. However, this phenomenon did not lead to a significant change in the dimension of the firm (which has always been employing 3-4 people) and its style. Conversely, some changes have been gradually made to the product system, according to the evolution of customer tastes and needs. For instance, since the '50s-'60s the demand of top-hats has been significantly dropping. This required a deep product portfolio refocusing. Other changes have been done, in the later decades, to the product portfolio of the firm, e.g. relating the sale of shirts and shoes. The style and location of the shop have been, however, always the same. In 1996, Mr. Natale Pustorino died. Since he did not have sons and there were not any other people from his family to whom to entrust the firm, he felt that selling it to his three employees would have been the best choice. The new owners-entrepreneurs feel that the success of *Pustorino* is, and will always be, related to its capability to provide customers with high quality *Old England* fashion style cloths. According to them, the well known name of the shop, the consolidated network of contacts that the founder and his son were able to create, together with the courtesy of people, will always sell the product, without any additional effort. Likewise when Mr. Natale Pustorino gradually decided to replace old articles with new ones, in order to counterbalance effects produced by product obsolescence, they also recognise the need to periodically verify the opportunity to review the product mix, according to the *Old England* fashion market evolution.

If we frame the phenomena illustrated in the above cases in the normal perspective of stability in the relevant context, we may expect that – although the effects produced by loop B may be significant – the absence of immediate threats to the company's stability may portray to the external observer an apparent condition of a "dynamic steady state". Such a condition shows smooth oscillations in the business endowment of strategic resources, which can be related to a short-term inclination of the firm to fill the gap between desired and actual levels. According to this view, all "dwarf" firms are likely to show a similar behaviour in their strategic assets' dynamic profile.

Figure 5 sketches a synthetic picture of this phenomenon. It shows four different typologies of "dwarf" firms, which are classified according to the entrepreneur's inclination to change the business *status quo*, and strategic assets' consistency. The above two factors according to which firms are categorised determine a different time for policy makers to respond to sudden changes in the "rules of the game" characterising the business relevant context, which could take place in the long term. The lower are the owner's inclination to change the *status quo* and consistency in strategic assets, the higher will be the time the company would be able to overcome sudden environmental shifts in the long run, and vice-versa.

--- FIGURE 5 ABOUT HERE ---

If we cross the above two factors, we can obtain four different categories of "dwarf" firms, i.e.: *bonsai*, *rickety*, *conservative*, and *marginal*.

We can define as *bonsai* those "dwarf" firms showing a harmonic profile, implying a balanced and homogeneous setting of different subsystems [18].

In *rickety* firms the entrepreneur's inclination to change the business *status quo* is not supported by a consistent set of strategic assets – both concerning their level and mix – to foster the undertaking of new growth paths.

While the first two kinds of "dwarf" firms are characterised by an entrepreneurial spirit that is opened to possible future changes in the business *status quo* – which could be kept silent even for a long time, because of a stable relevant context – the other two business categories indicate a lack of inclination to change, regardless opportunities or threats that might arise in the future.

In particular, *conservative* firms are likely to keep a relatively stable and consolidated equilibrium condition in their current strategic assets' profile.

Marginal firms are usually in the market because of their ability to exploit contingent favourable conditions, e.g. associated to public financial aids, lack of competition in very tight market niches, or loyal customers who well know them since a very long time. If one would expect a change in the "rules of the game" profiling the business relevant context in the long term, the structural weakness of such firms would appear much stronger than the one shown by *conservative* companies.

Modelling 'dwarf' business growth: hypothesis of discontinuity in the relevant context

If we remove the hypothesis of stability in the relevant context, we can appreciate the different aptitudes of the above four categories to deal with change and foster long term growth.

Figure 6 shows how the capability of the firm to build up an endowment of *basic* strategic assets, providing the foundations for its long-term survival and continuity, is a means to gradually build up a given set of other *collateral* strategic resources. Such a process is, usually, implicit as it spontaneously emerges from the quality of current business routines, which may allow the firm to accumulate experience, know how, image and reputation, financial resources, etc.. *Collateral resources* can be kept unexploited for a very long time; however they provide the company with an endowment of additional assets on which it can rely, if a discontinuity in the relevant context will challenge its own dynamic steady state. Both the level and mix of *basic* and *collateral* assets a firm is able to accumulate over time determine the consistency of its own strategic resource endowment. If, a firm is mainly focused on a given core of *basic* assets and its endowment of *collateral* resources is weak, it would be likely to find difficulties in responding to fundamental changes that might occur in the future.

--- FIGURE 6 ABOUT HERE ---

An example of low strategic assets consistency is provided by *Pensabene Conserve*.

[18] e.g., production, distribution, R&D, finance, human resources.

The company was founded in the year 1869 and since always has been making sauces, dressings and salads, based on old Sicilian recipes. The *basic* strategic assets on which the company has been established and surviving over centuries are a stable product portfolio and a knowledge base in cooking Sicilian recipes, which was transmitted from a generation of cooks to another. A very loyal (though not so large) customer base is another important *basic* strategic asset. Also *Pensabene Conserve* is a family-owned and managed business. It currently employs ten people who have been working in the firm for several generations. All administrative tasks are carried out by members of the business-owning family. The owner-entrepreneur has a very low propensity to delegate. Actually the company's sales turnover is about 2 millions Euros.

Emerging problems have been coming up in the last decades, and have been generating growing difficulties and dysfunctions in the management of the firm. Among the most important are the rising bargaining power of larger competitors producing sauces, who are able to offer a better product. Another significant problem has been generated by the purchase of raw materials, whose quality and price have becoming unpredictable for the firm. The above problems and the difficulties to enlarge sales on a geographical base have been reducing the capability to generate liquidity in the last years. In the future such conditions could even worsen, if the marginality of the business would become stronger, due to – for instance – a reduction in the local potential market, leading to a lower customer base.

If such scenario would take place, the company survival should be seriously threatened, as it could be significantly difficult to enter new markets, although related to the same industry. In fact, the firm lacks contacts with potential partners, know how that could be re-used in different market segments, human capital, and other *collateral assets*. In order to face such a 'locked' state of the company, the main worry of the entrepreneur is now to find public funds to improve business operations.

Figure 7 shows main factors impacting on the entrepreneur's inclination to change business *status quo*. Such inclination depends on the entrepreneur's perceptions on the structure and future behaviour of both competitive and social systems. These perceptions are, in turn, a result of the entrepreneur's mental models. Mental models are affected by the business owner's personal profile and, in turn, influence, the equity-owning family behaviour towards the firm. Furthermore, this behaviour is a factor influencing the entrepreneur's personal profile.

--- FIGURE 7 ABOUT HERE ---

The *Scatolificio Mineo* is a family-owned business that was started in 1918 to manufacture cardboard boxes for different products (e.g. shoes), which are sold in the regional area to other companies. Actually the firm employs 13 people and 4 members of the family, who are involved in both strategic and operating management. Lack of human resources and space available in the factory (which is located in the garage of a building in the centre of the city) are main problems for the company, and significantly provide a limit to its growth potential. Likewise the case of the *Calzificio Vitrano*, the firm is starting to face problems concerning machinery obsolescence. However, it has been able since always to keep a steady state in local market, where it holds a 25% market share. Nevertheless, like in the *Pensabene Conserve* case, the company shows structural difficulties in building a consistent set of strategic assets.

The business owner-entrepreneur is not inclined to change the *status quo*. He would be interested to change the location of the company plant; however, not in order to increase activity volumes, but instead to make the workflow easier. He is, however, satisfied about the general conditions of the firm and does not aim to build more strategic assets beyond those around which the company has been based since ever (i.e., customer base, personal contacts in the local area). He also perceives that the market is stable and will give his company possibilities to remain in the field for a long time in the future, although always on a local basis. He also feels that the currently used technology is less competitive than it could be, provided that business machinery is quite old. Concerning competition, Mr. Mineo has some difficulties to detect, at least direct, competitors as he is quite confident about the loyalty of his customers, even though one of the three main competitors is a large non-local company. The entrepreneur also believes that relationships with employees outside the business-owning family have always been based on mutual confidence. Other family members are involved in administrative and technical tasks: they are the only people to whom the entrepreneur is willing to delegate his power. Relationships with financial institutions are perceived by the entrepreneur as good, also because the firm has always been self-financing its own current needs. However, Mr. Mineo has not recurred to any financial institution to get funds to make long term investments (e.g. plants or machinery). Such a circumstance is a symptom of a low confidence and weak personal contacts with 'actors' in the financial system.

It will not be possible for the firm to undertake new fields in the future, provided that the owner has only a son and a daughter and only the former is recognised as the person who will succeed him. According to Mr. Mineo's values, the company could not be conceived as an institution to be managed by other people outside the business-owning family, as it is the major wealth for the family itself: at the same time it provides family members with the only source of income, self-esteem and personal education.

Another case-study is useful to understand how entrepreneurial mental models are likely to affect the inclination to change the business *status quo*.

The *Antica Focacceria San Francesco* is a family-owned company that was established in the year 1834 to produce Sicilian food, ranging from cakes to salted meals. The most representative meal offered by the firm since its foundation is a sandwich of boiled cow spleen with ricotta cheese and grated parmesan. Since the beginning, the site of the business has been based in the heart of Palermo's historical centre in an 18th century Palace, where there was the Princes' Chapel of Cattolica. There are many stories mingled with gossip of the people who see the *Focacceria* like a scene of meeting for important people in the field of the politics, art, culture over the last centuries [19].

In 1902 the heir of the founder, Mr. Salvatore Alaimo, did the first restoration work. Around the World War I, was managed by Mrs. Conticello, i.e. Mr. Alaimo's daughter-in-law [20]. Being the only person of the family who was involved in the management of the company, Mrs. Conticello was not able to continue business operations with the same intensity of past decades. This decreased the number of employees from 25 to 8 people. Also the product scope was reduced. The activity was later continued by her son Antonio, who started to lead the firm in the half of the '70s. However, he was not full time involved in the business, since he was employed in Public Administration. Although he was not committed to the business growth, from the half of the '70s to the beginning of this century the company has been gradually increasing its employees, product scope, and sales turnover. In fact, employees have been growing to 16 people, while sales revenues reached 450.000 Euros. This gradual – although not significant – increase in the business size was involved by the gradual improvement of local quality of life, leading to an increase in demand. The product scope of the business was well known and appreciated by local consumers. The customer base was also steady, also because older consumers were used to transmit to the younger generations the tradition of tasting traditional Sicilian recipes.

On December 8th 2000 a dramatic event threatened the survival of the firm: the business sharply reached a negative peak in its main product sales (i.e. boiled cow spleen sandwiches): only 112 pieces had been sold, against the normal 1,700. This unexpected phenomenon was due to the "mad cow" crisis. A few days after, boiled cow spleen sandwiches were banished by public authorities, and the company was forced to close. Mr. Antonio Conticello was not anymore willing to take care of the company. He offered his two sons to chose one of the following alternatives: to either sell the firm, or transfer to the older son the entrepreneurial role. They decided that continuing the family-owned venture could have been a rewarding activity, both on the financial and self-esteem points of view. Nevertheless, in order to reposition the firm into the business where it operates, it would have been necessary to envisage new business paths to undertake.

In January 2001, the main company store was re-opened and capital was invested to foster: 1) a proper communication to local customers, based on an explicit message intended to transmit of confidence towards the quality of the meat provided to the firm by its suppliers, and 2) an increase in product differentiation and geographical markets scope.

This last policy has been carried out through: a) the opening of a restaurant (based on a so called *fusion cuisine*), located in the former house of their own grand-mother, upstairs the main store, and b) an analysis of possible alternatives aimed to 'replicate' in other cities the product system offered into the main company store, implying the possibility to start a franchising chain.

The undertaking of such policies led the company to improve both its customer base and cash flows, leading to a 1.250.000 Euros sales turnover, and an increase in employees to 50 people. Such sharp changes in the business idea and performance could not have been occurred without a major change into the entrepreneur's mental models and inclination to modify the *status quo*. Concerning this point, the entrepreneur and his brother feel that the customer base loyal to the original store and the stock of recipes on which the service system has always been based are two *basic* strategic assets to keep and deploy, in order to develop a self-consistent system of *collateral* resources. Such strategic assets mix will allow the firm to undertake new businesses and to foster future growth. Among *collateral* assets, most important appear: 1) a targeted use of financial resources generated by the original store, towards the development of a know how to be used in different businesses; 2) the use of this know how to re-position the name of the *Focacceria San Francesco* as a brand that could be sold on a wider market as a synonym of the traditional Sicilian food, likewise McDonalds or Hard-rock Café are well known and positioned all over the world.

Pursuing this vision could not be possible if the entrepreneur would not be able to perceive how to create new strategic assets to foster new activities, and how to reframe the competitive system boundaries. At the same time, the role of the firm into its social system ought to be reconsidered. In particular, relationships between the company and the equity-owning family: as far as the future business is thought according to the franchising formula, it will be necessary to accept that more people from outside the family will run the business. This will imply a higher willingness of owners-managers to delegate. One of the main problems associated to the implementation of this new vision is linked to the lack of human resources and their training, to preserve the historical root of corporate values.

--- FIGURE 8 ABOUT HERE ---

Figure 8 illustrates how the higher are the inclination to change *status quo* and the perceived loss in strategic assets, the shorter will be the time the firm will take to respond to environmental changes claiming for deliberate or emergent (Mintzberg & Waters,1985) action. The shorter the time to

[19] During the period before the Unity of Italy, the Focacceria was one of the refreshment rooms of General Giuseppe Garibaldi and his thousand soldiers. In 1848 when the first Sicilian Parliament was proclaimed, Ruggiero VII just elected head of the Government, celebrated his success with *sfincioni* (i.e. another, pizza-like, typical Sicilian dish) and the marsala wine at the *Focacceria*. A lot of people linked to an old culture used to enjoy the food, meeting each other at the historical haunt. Pirandello, Crispi, Goethe, royals of Italy, Spain, Belgium, heads of State, actors of the cinema and theatre.

[20] She was forced to become the entrepreneur, provided that both her husband and the other male heirs of the family died during the war.

respond to environmental changes, the stronger will be action oriented towards the acquisition of new strategic assets that will enable the firm to enter new markets.

After the entrepreneur has decided to undertake a new project, the process fostering the accumulation of a first endowment of new strategic assets starts [21]. The higher is the flow of new strategic assets the firm will be able to build, the stronger the new strategic assets stock will be. This will empower the firm to well perform in the new business. A better performance will give rise to new management routines [22], which will further develop the process of accumulating new strategic assets, thereby giving rise to an exponential growth of them (reinforcing loop C).

The dominance of loop C is not endless, however. In fact, a number of limits to growth could emerge because of several reasons. Figure 9 gives two examples.

--- FIGURE 9 ABOUT HERE ---

A possible limit could be related to the attitude of business strategic assets' consistency to keep the same pace of business growth. In this case, the higher is the new strategic assets acquisition rate, the lower the change in this rate will be, which will increase less the rate itself (balancing loop D-1).

A similar behaviour is produced by the dominance of loop D-2. In this case, if the entrepreneur considers as satisfactory results achieved from the new business, he will be likely to limit his own action to a "quasi-mechanical" response aimed to restore the strategic resource to the desired level, in order to tackle its obsolescence. This will lead the firm to consolidate the position gained in the new field, and to disengage from growth, possibly for a very long time again [23].

The effects produced by the above balancing loops are depicted in the graph in figure 9.

The *Tutone* case-study will be useful to give a deeper look inside this issue.

Tutone was started in 1813. Since the beginning, its main product has been an anise liqueur, used to flavour fresh water to get a refreshing soft-drink. The legend says that the founder reinvented a simple popular drink that was widely consumed since many centuries before. The anise-flavoured soft-drink was initially produced and sold by Mr. Tutone in a stall that was adjacent to his tobacconist's shop, in the centre of the city, where not only common people where used to go: even noblewomen stopped their horse-driven coaches to have *Tutone's* refreshing rest. Also the army was used to buy the product, under medical advice, in order to cause a stimulating effect on soldiers' performances. Until the second world war, *Anise* was continued to be both produced and sold in the above said stall, by the grandfather and his son Francesco. During the war, the *Tutones* decided to interrupt production activities, due to the impossibility to import raw materials from China. The firm could have alternatively continued its activities using poor substitute raw materials, but it was decided not to do that in order to safeguard product quality and image. With the aim to take advantage of contingent market opportunities related to the company decision to stop its activities, a few producers started to offer a low quality product, which only apparently was similar to Tutone's *anise*. However, in the post-war years, the third generation (i.e. Alfredo and Franco Tutone) started again the liqueur production, which forced competitors to go out of the market. Likewise the past, the firm was managed only by the Tutone family.

In the year 1950, the firm was moved to the present factory, that was about 400 square meters large. Being aware that the company was based on a single product, that was well known only in the area of the province where it was located, in order to reduce the company risk and to increase the customer base, the entrepreneur decided to undertake new activities in related businesses. Consequently, it was launched a new product: an herb-flavoured liqueur (*amaro*). Six years later, one of the two brothers who took over the entrepreneurial role (Franco) went out of the business and Alfredo was supported until 1965 by his three sons Ugo, Guido and Mario. Some years later (1979) the firm has become a joint stock company that is, however, hold only by the *Tutone* family. The need to be a joint sock company for a family-owned firm was related to the wish to keep formally separated the business and the family so that, if necessary, the first one could be partially or totally sold to other people.

Now the firm has reached its fifth generation. The board of directors is made up by six people, all belonging to the equity-owning family. Nevertheless, only three of them participate to business management. All decisions are unanimously made in the firm, however Mr. Ugo Tutone (the managing director) is the real entrepreneur. He strongly believes that family members more than other people have a natural aptitude to manage the firm. However, employees who do not belong to the equity-owning family are very fond of the firm. There is almost an identity of concepts between the firm and the family for the *Tutones*. All decisions, also at the operating level, are taken by Mr.

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[21] This implies the undertaking of product tests, conventions with potential customers or distributors, trial sales on a very bounded scale, aimed to build knowledge, image, contacts, products and other relevant new strategic assets that will foster future growth.

[22] E.g. contacts with customers or suppliers, product development processes.

[23] In other words, the D-2 feedback has the same characteristics of the loop A, previously illustrated in figure 6. The meaning of this concept is that, once achieved a satisfactory level of "new" strategic assets, the company policy will be only aimed to restore their level, i.e. to consider them as *basic* resources.

Ugo Tutone, or however they are supervised by him. The high centralisation of power has probably been a primary cause of the low motivation and creativity of some employees. Mr. Tutone says: "we are trying to educate our personnel: but it takes time to increase motivation and feeling of belonging to the firm". He also believes in the opportunities related to product differentiation: for this reason, in the last two decades he has been promoting a policy aimed to enlarge the *product portfolio*. The idea was to exploit the fame of *Tutone* brand, and particularly of *anise*, around which the new products should have been launched: pure and methylated spirit, and other liqueurs (such as anisette, pastry flavourings, maraschino and *sambuca*, now out of production). Another small factory has been focused on the above products. The main goal of Mr. Tutone is to safeguard the lifelong existence of the firm, in compliance with its original cultural roots that are focused on the full involvement of the family and the production and sale of *anise*. The central role of this product for the firm is not only justified by historical reasons, but also for its originality in the market. In producing these efforts to enter new markets, the firm has found some difficulties, which have led both to abandon the sale of some new products, and not to further increase the endowment of new strategic assets developed for entering new markets. This phenomenon was not only caused by a lack of available strategic assets to support a reiterated growth policy, but also to the mental models of decision makers. In particular, the entrepreneur and the business-owning family have always been used to perceive as satisfactory results the firm has been able to develop and to have been resistant to major change. In fact, after a change originated by the new management routines has given rise to a new product base, the company seems to be prone to consider as satisfactory achieved results, and is reluctant to produce further efforts, to make investments aimed to develop new strategic assets (e.g. know-how, image from communication with consumers, contacts with distributors, intellectual capital), to foster growth again.

If the firm undertakes new business routines before the appropriated time, this could trigger a vicious reinforcing loop, which would deplete the endowment of new strategic assets. In fact, if the *gap in time* increases, the quality of new business routines drops. A lower quality in business routines will, in turn, erode the new strategic assets acquisition rate, and will lead to a gradual depletion in the stock of accumulated new strategic assets. A lower new strategic assets stock will give rise – other conditions being equal – to an even worse quality of current management routines, thereby reinforcing the vicious loop E illustrated in figure 10. Usually, such a process is not easy to perceive, as it is inertial and related to intangible factors, which are difficult to measure at a given time.

--- FIGURE 10 ABOUT HERE ---

The *gap in time* to enter the new business is related to two main factors:

- the *minimum time* that is appropriated to undertake routines related to the new business, as a function of available strategic assets' consistency;
- the actual time the entrepreneur takes to enter the new business, depending on his inclination to change the *status quo*.

Both factors are a measure of the *new project gestation period*. If it is too short, the firm will not be able to rely on a consistent endowment of *basic* and *collateral* resources to undertake new business operations on a wider scale. This will deteriorate the quality of new routines. On the contrary, a proper perception of the suitable period of *gestation for the project* will enable the firm to reinforce growth effects produced by loop C, and to start on a larger scale the new activities [24].

For instance, if the *Antica Focacceria San Francesco* will start its own franchising chain without paying attention to both the quality of selected franchisees and the time available to the entrepreneur for education and coordination of the work done by the different franchisees, this will be likely to worsen the quality of provided service (loop E). Such effect will, in turn, deteriorate the business image, which will make more difficult to find motivated franchisees (reinforcing loop). Consequently, in order to define the proper time to start the franchising venture, the firm ought firstly to perceive the strategic assets to strengthen or build up, that will later allow it to smoothly start the new venture (loop C). In this case, such strategic assets will, probably, refer to selected contacts with potential franchisees, a consolidated image in the wider geographical market, the availability of a proper level of capital, etc.

The analysis conducted so far suggests two important issues for tailoring "dwarf" business entrepreneurs education, i.e.:

1. a prompt and proper perception of an emerging loss in *basic* and *collateral* strategic assets could not be easy to happen, as "dwarf" entrepreneurs are fully involved in current activities and do not have enough time to spend in strategic thinking (Bianchi C., 2002). This could make too

[24] This would not necessarily mean that the firm would quit its "dwarfism" state. In fact, if the entrepreneur is not inclined to change business *status quo*, loops D-1 and D-2 would limit further growth, thereby disengaging from growth again.

long the time to respond to environmental changes, leading to lost business opportunities or a too late action aimed to counterbalance the loss of *basic* strategic assets. Such behaviour would be likely to generate a business crisis;

2. also the perception of the proper time to start new activities to foster the loop C can be difficult to perceive for a "dwarf" business entrepreneur. In fact, beyond the problems mentioned above, he or she may be emotionally tempted to anticipate the period for starting new activities, or might overestimate the consistency of available strategic assets. This behaviour would generate a short *gestation of the new project*, which is likely to give rise to a waste of new strategic resources.

Critical paths in quitting the 'dwarfism' state

A high entrepreneur's inclination to quit "dwarfism" would foster new reinforcing growth-oriented loops, focused around other new strategic assets (loop F in figure 11).

--- FIGURE 11 ABOUT HERE ---

Salerno Packaging provides an example of 'dwarf' firm which is successfully undertaking a strategy oriented to quit the 'dwarfism' state.

Salerno Packaging was started by Mr. Antonino Salerno in the year 1903 as a tin plate printing factory. The founder had been previously a worker in a similar factory located in Genoa. In the '40s he started, together with his four sons, the production of metal cans for canned food and other kinds of products; this activity is still today the company's core business. Initially activities where mainly run on a local (regional) base, and the firm was well known and appreciated on the market for its reliability and good quality positioning. This has allowed it to build up a loyal customer base, which has also supported the development of new contacts in the regional area. During the decades ranging from the post-World War II to today, the firm has been gradually changing its own relational system, though keeping relatively stable the product portfolio and business organization.

Now the firm has reached its third generation. In the '80s, under the direction of Mr. Antonino Salerno (the founder's grand-son), the business has started major technological changes, which have allowed it to enter into wider markets, mainly through contacts in the South Mediterranean African area. Fostering innovation has allowed the firm to reduce its workforce from 225 to 78 people, and to increase sales revenues up to 17 millions Euro, through an annual 10% increase from 1980 to today.

Salerno Packaging is now one of the leading companies in its market segment, with a production that is traded in the national area and abroad. Its success is also related to its higher flexibility compared to other larger competitors in responding specific customer requests.

In spite of its actual form of joint stock company, it is still a family-owned and managed business. The third generation family members hold the most important managerial roles today, while the fourth generation has recently started to be introduced into the firm. The growth of the company and of the family has been a primary cause of some rising conflicts between the cousins owning the company.

Today, the owners are aware today that, in order to be able to sustain growth in the different geographical areas and business units where the firm is trying to expand its influence, the recruiting of managers from outside the equity-owning family will be a necessary choice. In fact, although the four branches of the family have provided a significant number of people who wish to work into the firm, Mr. Antonino Salerno and his brothers believe that further growth will imply a significant effort justifying the gradual introduction of managers. This will be likely to better focus responsibility areas on the development of the customer base in different countries.

From the above analysis, it is possible to argue that a strategy aiming to consolidate the position gained in new business fields, to disengage from growth for a long time, and hold the firm in a "dwarfism" state, cannot not be *a priori* considered as a pathology. In fact, business success, long term growth and continuity are a function of the attitude of the owner-entrepreneur to:

- foster a continuous accumulation of *basic* and *collateral* strategic resources which would make the firm flexible, if major shifts in the relevant context will take place;
- timely perceive the need to restore the inertial depletion process of *basic* strategic assets;
- timely perceive the need to undertake activities in new business fields in order to respond to environmental changes originating major shifts in the relevant context;
- properly perceive the time to start on a larger scale activities in a new business to respond to environmental changes;
- outline a self-consistent system producing satisfactory results for the different (though bounded) scope of "actors" pertaining to the competitive and social system shaping the business relevant context.

Strategic assets dynamics in different 'dwarfism' stages: crisis and success patterns

Based on the above considerations, we are now able to sketch a synthesis of effects produced on survival and growth by the behaviour of different "dwarf" business categories, in the hypothesis of discontinuity in the relevant context.

As figures 12-a and 13-a show, discontinuity implies that the four "dwarf" business categories show different patterns of behaviour, both in case of crisis and success.

If we refer to figure 12-a, both *marginal* and *conservative* firms are likely to undertake crisis patterns of behaviour, at least in the long term, if the entrepreneur does not timely perceive the need to restore the inertial depletion process of *basic* strategic assets. This policy gives rise to a strategic resource dissipation, leading to the final collapse of the firm [25].

Concerning *bonsai* and *rickety* firms, their strategies are also likely to generate a crisis, at least in the long run, if the entrepreneur does not perceive in due time the need to undertake activities in new business fields, in order to respond to environmental changes originating major shifts in the relevant context. A crisis could also be an outcome if the entrepreneur starts too early in undertaking new activities on a larger scale.

Figure 12-b summarises a number of alternative paths characterising the above regression process of a "dwarf" firm.

Conversely, figure 13-a shows different success patterns. If the relevant context of a "dwarf" firm starts to show major shifts, a company can be considered as successful if the owner-entrepreneur is able to foster a continuous learning process implying an accumulation of *basic* and *collateral* strategic resources aimed to foster loop A and to counteract effects produced by loop B. Such resources will provide the firm with flexibility, that will be later useful to undertake new fields of activity, in order to face major shifts in the relevant context. To this end, the entrepreneur will have to gradually shift his inclination to change the *status quo*, thereby moving the company stage from the one of *marginal* to those of *conservative* (or *rickety*) to *bonsai* (see figure 13-b).

--- FIGURE 12-a; 12-b;13-a;13-b ABOUT HERE ---

4. Main 'dwarf' business life-cycle stages: some peculiarities of growth disengagement in our problem context in respect to other views of the phenomenon adopted by the literature

The analysis conducted so far helps us to outline a life-cycle profiling main stages according to which a 'dwarf' business can proceed towards success or crisis. Such a view of the phenomenon has been synthesised in figure 14.

--- FIGURE 14 ABOUT HERE ---

We do not pretend to propose an evolutionary model of 'dwarf' business growth, implying that each stage must necessarily follow another one, in the life-cycle of a company. In fact, we believe that – also according to the case-study analysis we have been conducting so far – a 'dwarf' marginal firm might remain in such condition for a century or more. Our approach tries to suggest a dynamic view of different possible growth paths of a 'dwarf' business, according to what has been described in figure 13. As figure 14 shows, if we cross

[25] It is work remarking that the dominance of loops C, D, E and F is not taken into account by the graphs related to *conservative* and *marginal* "dwarf" firms as such businesses are characterized by a low inclination of the entrepreneur to change the *status quo*, i.e. to undertake new fields of activity.

the two factors according to which the first attempt taxonomy has been done, we can sequentially outline the above four business categories over a *continuum*, encompassing *marginal* through *bonsai* firms. The two arrows depicted in fig. 14 show how, if we observe the 'dwarf' business phenomenon in the perspective of strategic assets dynamics, and in the hypothesis of discontinuity in the relevant business context, we may find two main paths, leading to success and crisis respectively [26].

Several models have been proposed in the literature to describe similar problem contexts. In order to show main differences between our problem context and similar ones analysed in the relevant literature, we believe it is useful to compare our approach to two others, i.e. Churchill and Lewis's (1983) five stages model and Hanks *et al* (1993) life-cycle model.

There are a number of reasons why our problem context differs from the one focused by Churchill and Lewis. Although it might seem that 'dwarf' businesses could be assimilated to the *survival* or to the *success* stages analysed by the two authors, some structural differences can be found on this regard. In fact, even if the *survival* stage may show a few similarities with 'dwarfism', according to different factors – e.g. an "autocratic" management style, a limited number of employees and a simple organisation – it sharply differs on other points of view. For instance, according to Churchill and Lewis, such firms are those that have been started in a quite recent time, and have finally demonstrated to be a workable entity. Such business owners are claimed to be more concerned on the equilibrium between revenues and expenses, and the need to understand whether, when and how it will be possible to foster further growth. However, such factors that cannot be envisaged in the 'dwarf' business problem context.

Likewise, one cannot compare our problem context to the subsequent life-cycle (III-D) stage explored by Churchill and Lewis, i.e. *Success-Disengagement*. Although the name given by the two authors to this stage might significantly remind business 'dwarfism', a number of dissimilarities can be found. In fact, though such firms are indicated to pursue a *status quo keeping* strategy, the authors do not mention the period of time over which such firms are likely to adopt this strategy. *What if such stage is so long to encompass the life-cycle of different generations? What are main implications for business and entrepreneur's culture? How will such a long period of disengagement from dimensional growth influence the likelihood that further change will be fostered in the future by the firm? What are main difficulties and pitfalls on this concern?* Such and other issues that we have tried to analyse in our paper cannot be directly explored through the analysis of the above mentioned two stages of the Churchill and Lewis' model. Furthermore, the *Success-Disengagement* stage implies that the firm is run by functional managers and has a more sophisticated organisational structure, which is very uncommon in our problem context. Another structural difference is also that the firms in the III-D stage are willing to open up strategic management decisions to the support of staff members, such as controllers, which is possible to find only in *bonsai* 'dwarf' firms.

Similar differences can be found if we analyse our problem context into the perspective of Hanks *et al* model, as in the analysis of McMahon (1998).

Also concerning this model, two life-cycle stages (i.e.: *life-style* and *capped growth*) could be considered as similar to the state of business 'dwarfism'. Concerning the first stage, they differ from 'dwarf' businesses as the organisation of the firms profiling our problem context cannot be compared to that of a start-up firm (as the authors suggest for *life-style* companies), except from the fact that they are family-owned businesses. If we consider the other organisational characteristics, on the contrary, one could maintain that 'dwarf' firms have a completely different profile from *life-style firms*, provided that they have highly stable structures, processes and relational systems, which instead change quite frequently in recently established firms. On the other hand, it is possible to recognise that a common factor between the two categories is related to the issue that not only 'dwarf', but also *life-style* companies are generally much older than start-up firms, that both have no growth in employment and moderated growth in sales revenues. However, there is a major factor which does not allow one to reconcile the two kinds of businesses. In fact, according to the authors, *life-style firms* tend to remain in such stage for about 20 years, which is a very short period to qualify a firm as 'dwarf'. We believe that this

[26] The arrow going from left to right indicates a success path; the other one refers to a crisis pattern.

last difference is due to the statistical approach used by the Hanks *et al*, who have been more interested in the general behaviour (mean age) of the analysed firms universe, rather than to the behaviour of the “cues” in the normal distribution curve describing the phenomenon.

For the same reasons it is possible to sustain that also *capped growth* firms cannot be assimilated to our problem context. On the one hand there are some significant similarities between the two kinds of firms. In fact, Hanks *et al* state that such businesses are slightly larger than those in the expansion stage, but are generally much older. They are less complex than typical businesses in the expansion stage and show a slow sales revenues growth as well as a very stable number of employees. The authors also observe that such businesses appear to have disengaged from the growth process after successfully expanding to modest size following start-up. However, the authors also state that the average number of employees working in such firms is about 25: this is a quite a high number for ‘dwarf’ firms. Finally, there is another reason for not assimilating our investigated phenomenon in the *capped growth* stage. In fact, Hanks *et al* state that the mean age of such firms is about 13 years. Such a period of time is obviously too short to define a business as ‘dwarf’.

5. A dynamic resource-based-view of ‘dwarf’ business growth in a stock-and-flow perspective: main results from an initial case-study analysis

Empirical evidence from the eight case-studies analysed in this paper reinforces our initial hypotheses concerning the evolutionary paths affecting ‘dwarf’ business growth, analysed according to the dynamic-resource-based view.

Figure 15-a plots the interviewed firms into the matrix according to which we have outlined our first attempt taxonomy of the phenomenon. Figures 15-b, 15-c and 15-d also try to outline some evolutionary paths concerning past and possible future dynamics characterising two of the eight analysed firms, i.e.: *Tutone*, and *Salerno Packaging*.

The continuous arrows refer to paths undertaken in the past by the firms; the dotted lines are, instead, referred to possible outcomes we expect to observe in the future, according to alternative scenarios.

--- FIGURE 15-a, 15-b, 15-c, 15-e ABOUT HERE ---

The case-studies related to the above two mentioned companies have been analysed with more detail in a stock-and-flow dynamic resource based view.

In the remaining section of this paper we will give some hints on this analysis, in order to show how to combine a feedback view based on influence diagrams and focused on a generic company (as it has been done in par. 3) with a case-study feedback view, based on stock-and-flow diagrams.

Tutone case-study

The *Tutone* case-study shows a structural ability of the firm to foster a dynamic exchange between its *basic* and *collateral* resources (figure 16). Such a higher consistency into the business strategic assets endowment allows the firm to restore its own desired set of *basic* assets (*anise positioning* stock) through a proper image positioning, which is in turn fostered by investments in advertising (loop A). Such investments are increased if a gap between desired and actual *anise* product positioning is perceived by the entrepreneur. It follows that a high and timely perception of the quality of product positioning depletion processes has been the factor explaining the success of the company in the last century. Such a success can also be explained by the light of the capability of decision makers to build up other *basic* strategic assets. In fact, a proper positioning of the business main product, has been allowing the firm to keep its own customer base stable. This has, in turn, supported the acquisition of new contacts with different ‘actors’ in the competitive system. In fact, the capability of the firm to carry on same managerial routines, e.g. implying the raw materials supply and product distribution, has led to a stable network of contacts with other firms located in the same area of *Tutone*, most of which can also be considered as ‘dwarf’.

--- FIGURE 16 ABOUT HERE ---

A higher level of personal contacts has been, in turn, able to reduce the loss of customers, i.e. it has provided the firm with a lever to increase customer loyalty.

In the last decades the firm has started some initiatives oriented to broaden its product portfolio, in order to avoid the risk of rigidity, that has been commented in the previous case-study.

However, for a 'dwarf' business like *Tutone*, whose entrepreneur is not prone to accept external shareholders or managers from outside the business-owning family, this not an easy task. In fact, although the perception of a rising outflow from the traditional customer base is a phenomenon which has been characterising business policies in the last few decades, actual results in terms of accumulation of new strategic assets (e.g. new products positioned in the market and related new customers) have been relatively poor till now. A major cause of this phenomenon can be referred to the difficulties of the firm in building a strong and assorted *basic* and *collateral* strategic assets mix that could properly support it to foster growth in other fields of activity, without incurring in crises, that are described through the feedback loop E.

Salerno Packaging case-study

An higher level of consistency in the business *basic* and *collateral* strategic assets can be found in the *Salerno Packaging* case-study (figure 17).

Likewise *Tutone*, the firm is able to foster a balancing loop A aimed to restore the desired level of *basic* strategic assets, through a proper interaction between the above mentioned two sets of assets. In this case, innovation is – at the same time – a means to foster reliability and quality positioning (*basic* asset) and a result of an investment policy originated by decision makers' decisions aimed to foster loop A. Other major *basic* strategic assets around which the firm has been remaining stable in the past are: a regional customer base and personal regional contacts, in relation to which it is possible to make the same remarks that have been done in the *Tutone* case.

--- FIGURE 17 ABOUT HERE ---

If we consider the lower section of figure 17, we can appreciate the growth-oriented effects produced by a synergic policy aimed to combine different strategic assets. In particular a high inclination to change the business *status quo*, a proper perception of the time to enter new businesses and of the strategic assets on which to focus, has led the firm to gradually expand its own management routines, thereby undertaking a process aiming to quit 'dwarfism'. The capability of the firm to exploit its innovativeness and flexibility as strategic assets through which it was possible to gain new customers in other regions (particularly in the South Mediterranean area), has enlarged the business market scope, which has gradually led to new contacts and to increase the customer base (loop C). However, in order to manage wider relations in a larger market, the progressive introduction of managers from outside the business-owning family has been necessary. This has been another driving force for further growth, in served markets (loop F), and customers.

6. Some common features concerning analysed 'dwarf' businesses

At the end of the above discussion we can summarise some common features profiling "dwarf" firms, as follows:

- an old age since business foundation (at least three generations);
- a growth disengagement strategy, based on an autocratic and short-term oriented entrepreneurial style;
- an unchanging set of structures, processes and relational system;
- a bounded and local market and limited network of contacts.

Our problem context refers to *family-owned* firms. The firm is usually seen as a part of the family, and the owner-entrepreneur is not prone to accept managers from outside. When the family remains small or there is a rule according to which a small number of its people can be involved into the company, then the business can remain "dwarf" for a long time. This implies that "dwarf" businesses are usually *micro-family businesses*.

In such contexts, the absence of conflicts among main "actors" is a predominant factor. However, growth in the number of family members involved into the company and the progressive introduction of managers from outside the family may generate rising conflicts, if this process is not properly managed. In particular, a too small firm could be at the same time a limit to the growth and consensus of the family and a factor of crisis, due to an inclination to split the firm into several *fiefs*, aimed to satisfy the leadership expectations of different family branches.

Being a family-owned firm, that is usually run by a very bounded number of people belonging to the same equity-owning family, an *autocratic entrepreneurial style* is very common in such context. In particular, the owner-entrepreneur is usually unwilling to develop stable relations with external stakeholders, except from those with whom the firm and family have been successfully cooperating since several decades before in the past. Such a behaviour is often due to a lack of confidence, which may be, in turn, related to an entrepreneur's worry to protect the firm from possible takeovers from outside. An explanation of such an emotional behaviour is due to two main factors: 1) the fact that the company is, usually, the major (or only) source of income, personal development, and tradition for family members; 2) a low management education of the entrepreneur, who can either be a *gut-feeling* or technocrat decision maker.

Another outcome of such an approach is a bounded resort to communication policies.

The entrepreneurial style in such firms is also characterised by a short-term orientation, leading to a major strategy aimed to restore those *basic* strategic assets around which the long-term survival of the firm has been based. However, those "dwarf" firms who are more inclined to pursue their own life-long existence, have been demonstrating to be able to combine such an orientation with a longer view. This is possible when the entrepreneur is – either intentionally or not – also inclined to accumulate *collateral* strategic assets. Such a behaviour is, often, combined with an inclination to change the business *status quo*, in the case that relevant changes in the business context might occur.

Other implications of such short-term orientation are related to: *a)* a lacking R&D investment policy; *b)* an inclination to operate into traditional and very stable industries (although within very small market niches), implying very simple products and processes; *c)* a direct involvement in the fulfilment of tasks related to main operating areas which the entrepreneur is not prone to delegate, leading to a lack of time for strategic thinking; *d)* a lack of planning and control tools to support decision making.

7. Conclusions and implications for further research

The analysis conducted in this paper has tried to demonstrate how "dwarf" businesses cannot be studied as a *monolithic* subject. From our initial fieldwork and further conceptualisation of main findings, it has been possible to outline pathological and physiological profiles associated to the "dwarfism" phenomenon.

Although there are a number of features which are common to the vast majority of such businesses, we have identified four categories of "dwarf" firms, according to two factors, i.e.: the level of entrepreneur's inclination to change business *status quo*, and business strategic assets' consistency level. In relation to such factors, and through a feedback analysis of business strategic assets dynamics, in the hypothesis of change in the relevant context, we have distinguished: *marginal*, *conservative*, *rickety*, and *bonsai* firms.

Although these categories can be considered as sequential stages into an ideal "dwarf" business life-cycle, both crisis and success patterns can be envisaged in all of them. In order to assess "dwarf" business physiology (i.e. its attitude to pursue a life-long existence and success), it is necessary to understand to what extent the entrepreneur is able to build a consistent endowment of *basic* and *collateral* strategic assets and timely perceive their own accumulation and depletion processes. Another factor according to which it is possible to assess such a physiological profile is related to the entrepreneur' aptitude to timely perceive new business ideas and to evaluate the proper *gestation time* of new entrepreneurial projects, in the hypothesis of discontinuity in the business relevant context.

Based on our initial field analysis and conceptualisation of related findings in the perspective of the above framework, the thesis proposed in this paper has been that the implicit assumption according to which "dwarf" businesses are affected by a pathological state, i.e. structural disease, and hence are destined to marginality or failure, is false, at least if seen as an *a priori* statement. On the contrary, success is related to the business owner-entrepreneur's aptitudes to define a self-consistent business system that is able to respond to the expectations of – an although bounded – range of "actors". "Dwarf" business success also depends on the entrepreneur's capability to timely and properly perceive the structure and behaviour of the relevant business system, i.e. to act or react when fundamental change might threaten future business survival.

If seen in this perspective, "dwarf" business success or crisis can be studied as two sides of a same coin, i.e. business growth. If one considers growth, not only on the dimensional point of view, but also on a qualitative perspective, development patterns can be envisaged in those "dwarf" businesses who are able to effectively manage the accumulation and depletion processes of their own strategic assets.

From the above analysis, it also emerges that – in order to help "dwarf" business entrepreneurs to properly manage their companies – a tailored approach is necessary. Quite often, particularly governmental aids to SMEs are focused on the provision of low cost capital, tax reductions, or management education. These measures are potentially useful ways to promote the evolution of SMEs and *micro firms*. However, particularly, in the case of "dwarf" businesses, they may be unfocused, at least if considered as an initial tool to promote change. In order to better focus public aids to "dwarf" business owner-entrepreneurs, other issues seem to be even more crucial, particularly concerning entrepreneurial education. They refer to a proper perception of:

- the relevant business system, its strategic assets and boundaries;
- relationships between the business system's structure and behaviour;
- counterintuitive effects that either intentional or emerging strategies are likely to produce in the short and long run on business strategic assets and performance;
- new business ideas aimed to respond to rising threats or opportunities in the relevant business context;
- the proper time to undertake new fields of activity, according to the endowment of available strategic assets;
- opportunities and pitfalls related to the hypothesis to gradually quit "dwarfism" or intentionally remain into such condition.

In this respect, various external "actors", such as Universities and other research institutions, consultants, banks, Science Parks and other entities supporting entrepreneurship (Bianchi C., 2002), are likely to play a crucial role.

Further research, aimed to better understand how to support "dwarf" businesses, and to learn more about their behaviour, problems, weaknesses or strengths will be necessary. In particular, case-study analysis will help us to better evaluate the consistency of our first attempt taxonomy, and related patterns of behaviour referred to "dwarf" business crisis and success.

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FIGURES

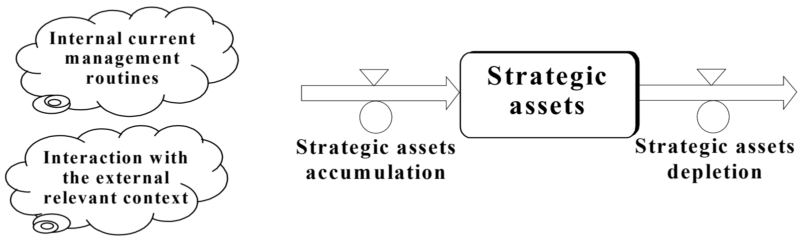

Figure 1 – Strategic assets accumulation and depletion processes.

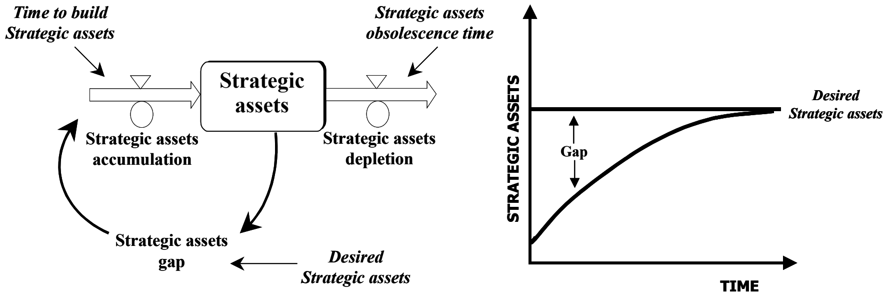

Figure 2 – Balancing feedback loop underlying strategic assets acquisition.

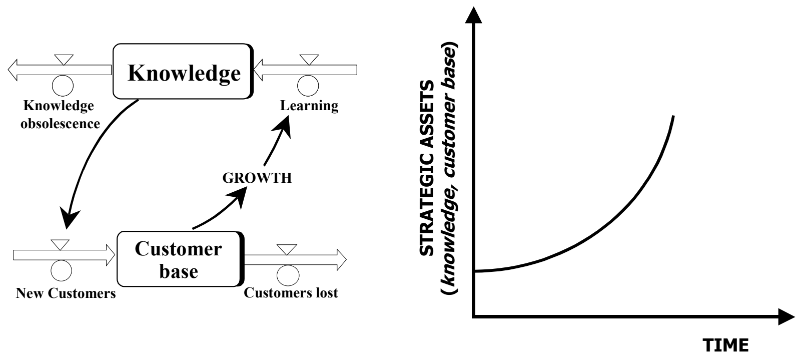

Figure 3 – Reinforcing feedback relationships underlying strategic assets acquisition

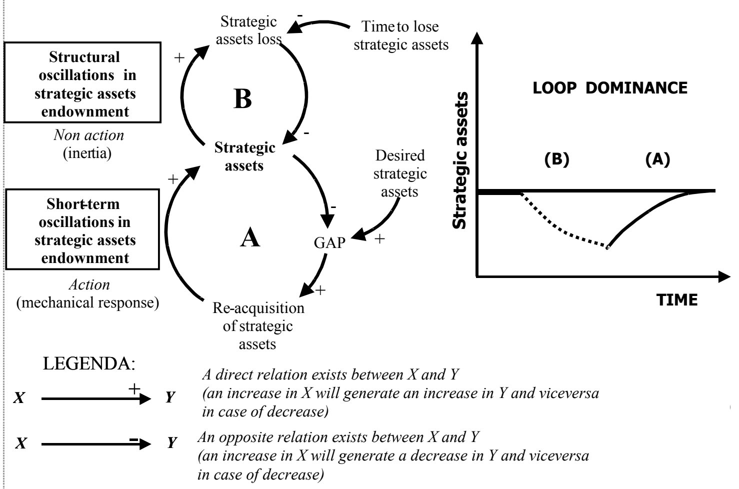

Figure 4 - Strategic assets' accumulation and depletion feedback loops in "dwarf" businesses
(*hypothesis of stability in the relevant context*)

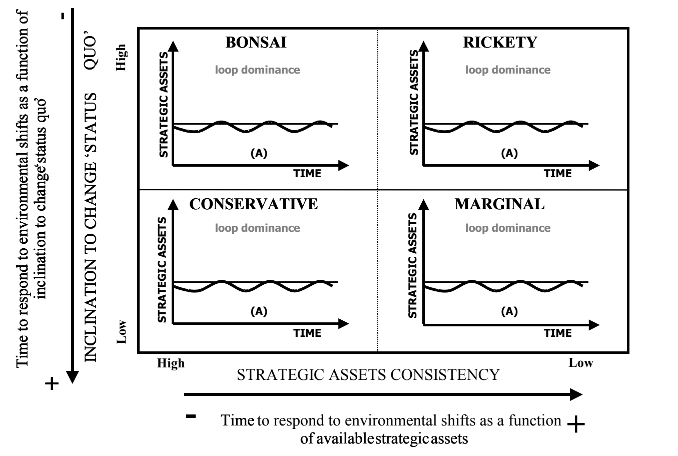

Figure 5 – Strategic assets' dynamics in different "dwarfism" stages
(*hypothesis of stability in the relevant context*)

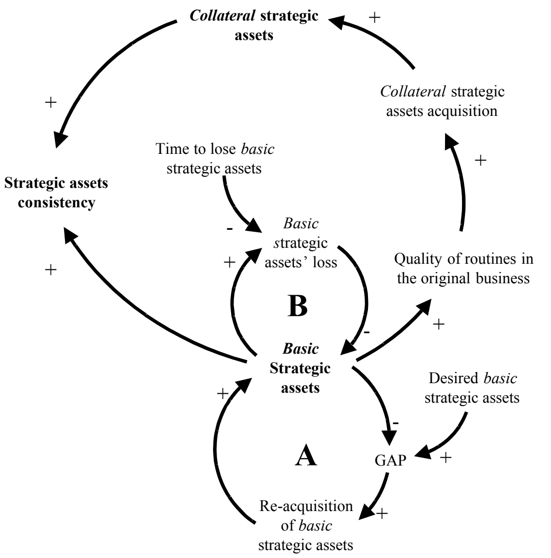

Figure 6 – Factors influencing strategic assets' consistency as a pre-requisite for "dwarf" business growth

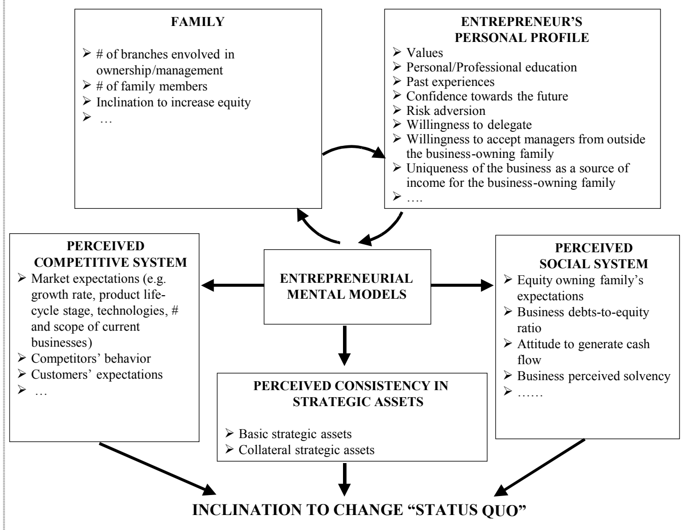

Figure 7 – Main factors impacting on inclination to change *status quo*

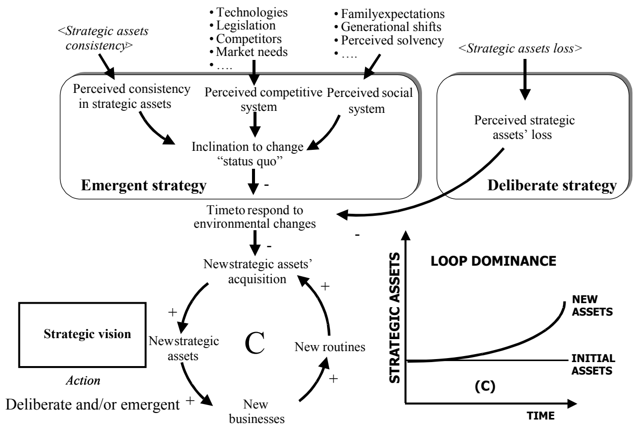

Figure 8 – Feedback loops underlying the accumulation of new strategic assets in "dwarf" business growth
(*hypothesis of discontinuity in the relevant context*)

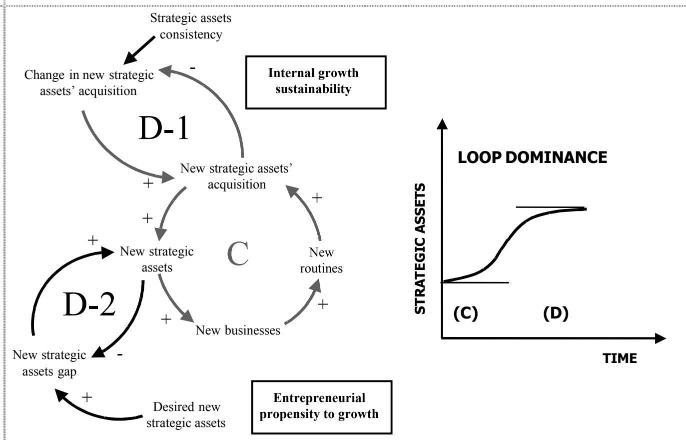

Figure 9 – Limits to "dwarf" business growth underlying new strategic assets' acquisition

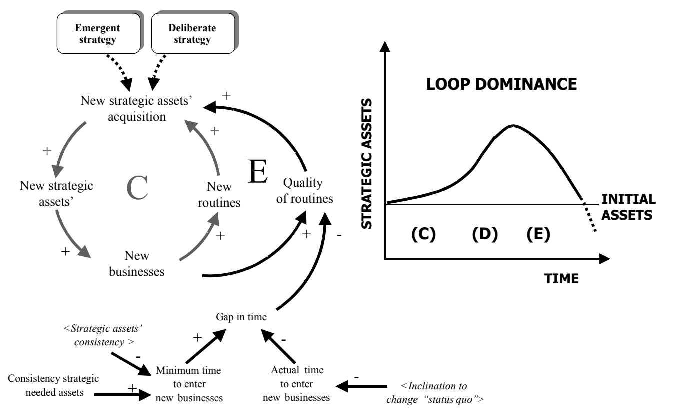

Figure 10 – Feedback loops underlying new strategic assets' depletion in "dwarf" business growth
(*hypothesis of discontinuity in the relevant context*)

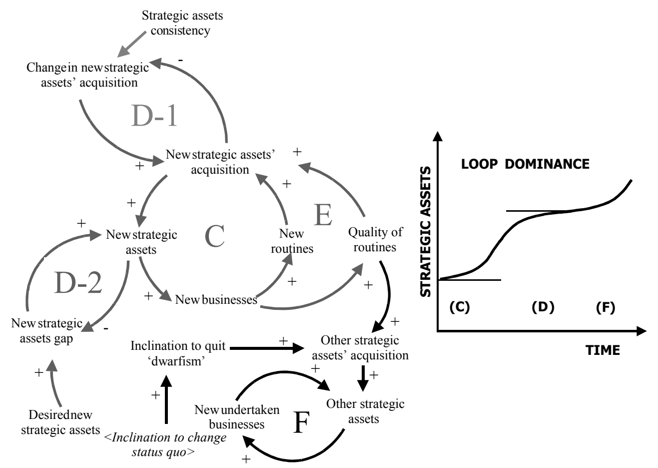

Figure 11 – Critical paths in quitting the "dwarfism" state

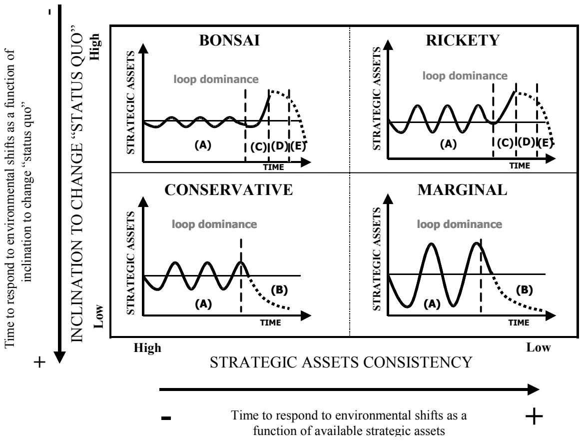

Figure 12-a – Strategic assets' dynamics in different "dwarfism" stages
(*hypothesis of discontinuity in the relevant context: crisis patterns*)

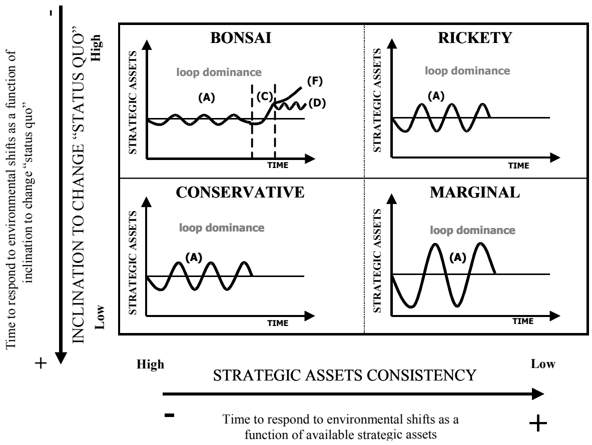

Figure 13-a – Strategic assets' dynamics in different "dwarfism" stages
(*hypothesis of discontinuity in the relevant context: success patterns*)

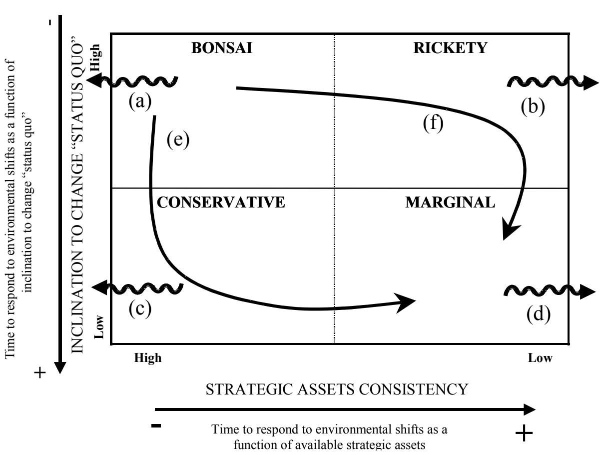

Figure 12-b – Different patterns leading to "dwarf" business crisis
(*hypothesis of discontinuity in the relevant context*)

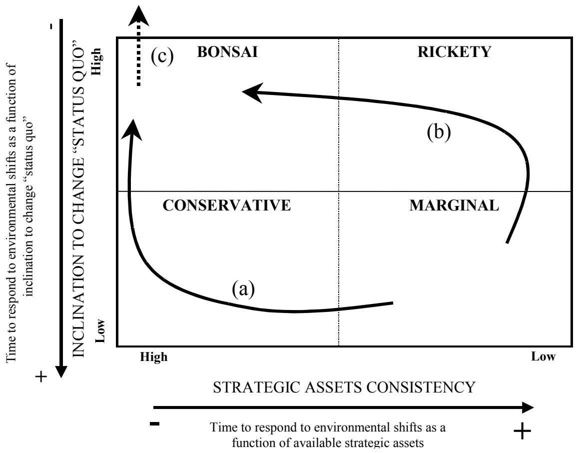

Figure 13-b – Different patterns leading to "dwarf" business success
(*hypothesis of discontinuity in the relevant context*)

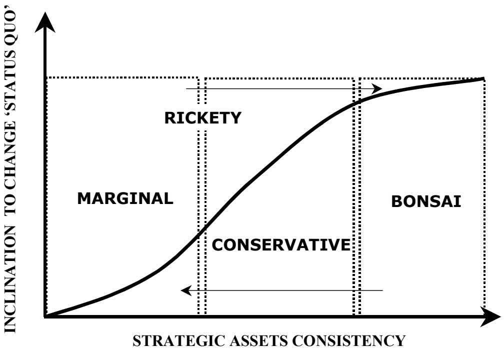

Figure 14 – Main 'dwarf' business life-cycle stages

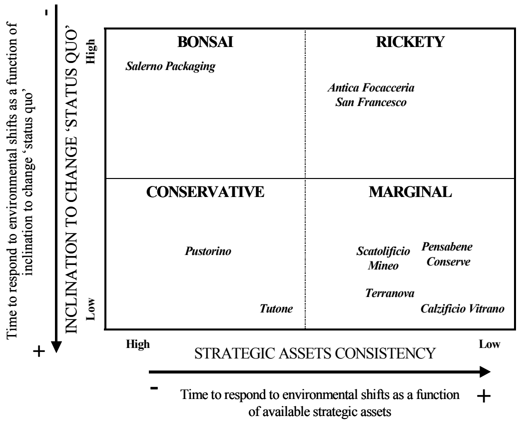

Figure 15-a – Interviewed 'dwarf' firms plotted as a function of their present life-cycle stages

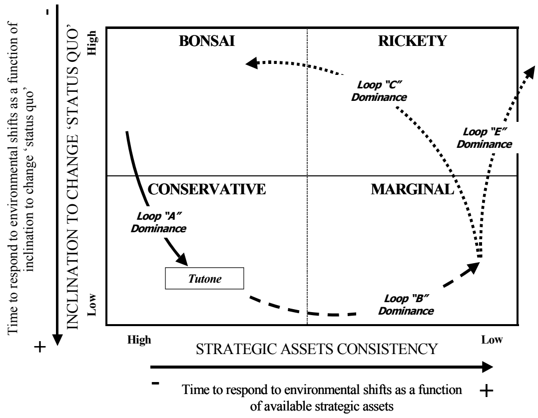

Figure 15-b – Evolutionary paths undertaken by *Tutone* and possible future shifts towards different life-cycle stages

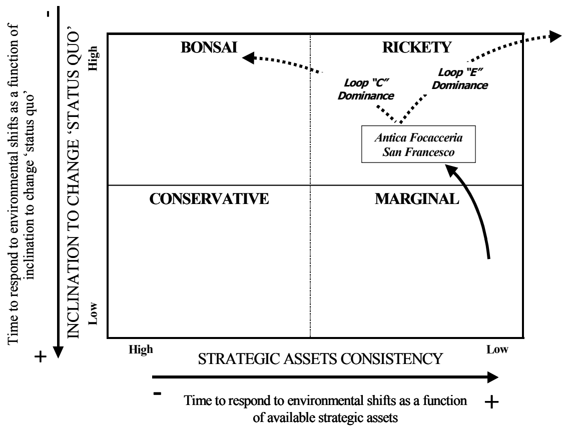

Figure 15-c – Evolutionary paths undertaken by *Antica Focacceria San Francesco* and possible future shifts towards different life-cycle stages

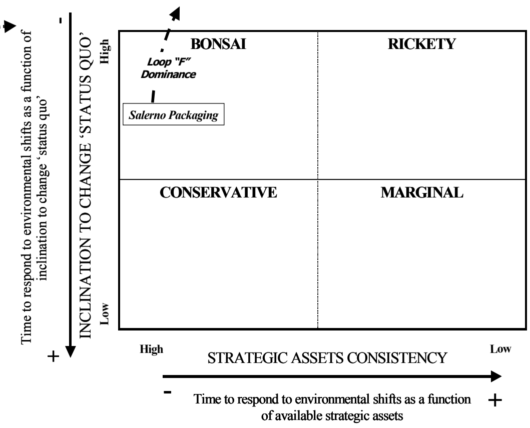

Figure 15-d – Evolutionary paths undertaken by *Salerno Packaging* towards different life-cycle stages

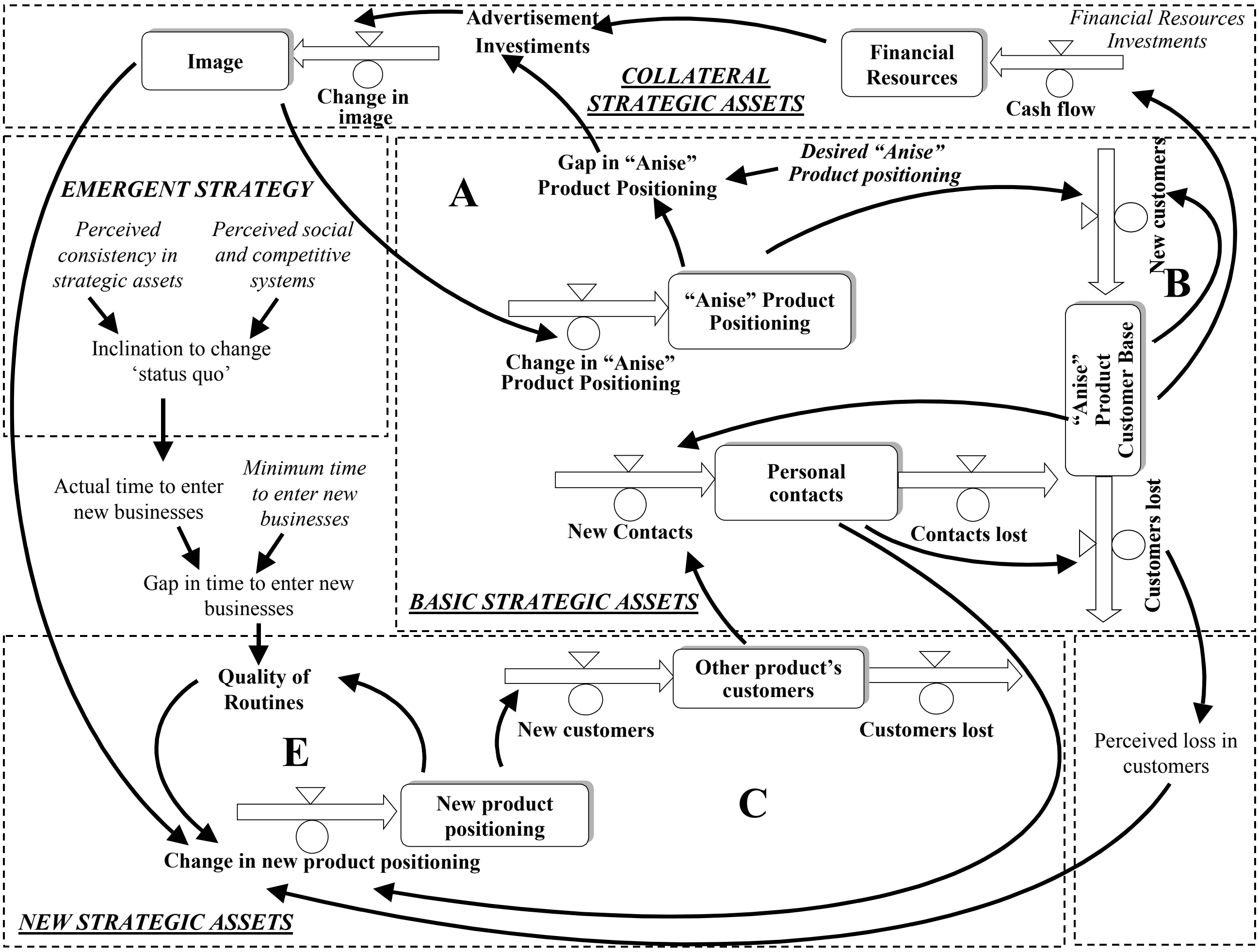

Figure 16 – A dynamic resource-based-view of 'dwarf' business growth:
Tutone case-study

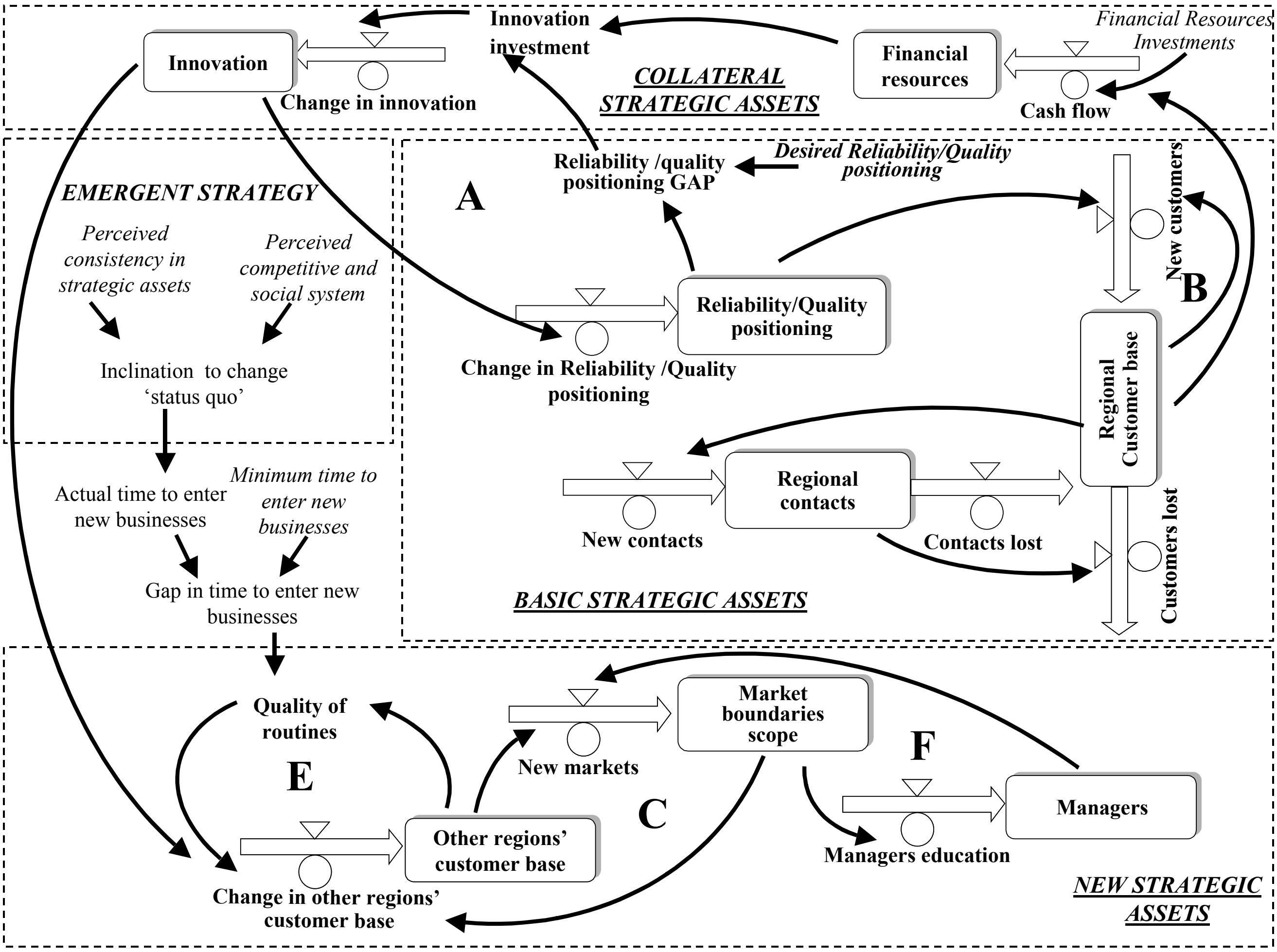

Figure 17 – A dynamic resource-based-view of 'dwarf' business growth:
Salerno Packaging case-study