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## ARKETING COMMUNICATIONS MODEL FOR INNOVATION NETWORKS

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### ABSTRACT

Innovation is an increasingly relevant concept for the success of any organization, but it also represents a set of internal and external considerations, barriers and challenges to overcome. Along the concept of innovation, new paradigms emerge such as open innovation and co-creation that are simultaneously innovation modifiers and intensifiers in organizations, promoting organizational openness and stakeholder integration within the value creation process. Innovation networks composed by a multiplicity of agents in co-creative work perform as innovation mechanisms to face the increasingly complexity of products, services and markets. Technology, especially the Internet, is an enabler of all process among organizations supported by co-creative platforms for innovation. The definition of marketing communication strategies that promote motivation and involvement of all stakeholders in synergic creation and external promotion is the central aspect of this research. The implementation of the projects is performed by participative workshops with stakeholders from Madan Parque through IDEAS(R)EVOLUTION methodology and the operational model LinkUp parameterized for the project. The project is divided into the first part, the theoretical framework, and the second part where a model is developed for the marketing communication strategies that appeal to the Madan Parque case study.

**Keywords:** Marketing Communication, Open Innovation, Technology, Innovation Networks, Incubator, Co-Creation.

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## INTRODUCTION

Networks, innovation, communication strategies and marketing are nowadays dominant concepts. These terms require a deeper understanding, holistic, empirical and integrative approach to generate and disseminate one of the most essential concepts in business world, innovation. Innovation defines the success, profit and global presence of a brand or organization.

Also, the increasing importance of incubators as promoters of innovation in local, regional and national developments in parallel with SMEs motivated the reflection about incubators as platforms that are more than just about incubation. The research is focused on communication strategies in innovation networks and it will be based on aspects of activation, motivation and involvement to foster working in network and synergy among Madan Parque's incubated companies. Thus three questions were developed in order to address the challenge:

**What are the key aspects that enable activation, motivation and involvement of incubated companies working in network? Which are the best ways to promote internal synergies among a network? How can communication strategies be defined to the external promotion of an innovation network?**

Aware of the challenge of such an up to date problematic, this project required a deep bibliographic review, namely for the understanding and possible interconnections between complex concepts such as networks, marketing and communication. The main objective was to build a conceptual model about the subject in a single exploratory case study based in three interaction moments between November 2013 and April 2014.

### Methodology

The exploratory case study approach derived from the need to understand the research problem in depth but also to achieve a broad perspective of the problem. This approach focused in understanding, describing and exploring the complexity of communication strategies to activate, motivate and maintain company involvement for the development of internal synergies and external communication.

A single case study was defined (Yin, 1984) that enabled us to obtain a set of insights and draw the conclusions. Also, the approach in the

workshops was based on analysis from the previous sessions in order to maintain the innovation flux. While being a complex problem, the strategic option was to understand the interconnections between factors rather than their representativeness (Gerring, 2004).

The qualitative strategy was to understand all the interdependencies, complexities, idiosyncrasies and contexts (Patton, 1990). The model building option was chosen to allow conclusions to be easily understandable, descriptive and holistic.

The model systematizes and describes the relations, events, activities, processes and behaviours between all the dimensions (Wilson, 1984) and this combination was already evinced by several authors (Eisenhardt, 1989; Patton, 1990; Gerring, 2004). A strong conceptual framework was needed to understand the most relevant insights and concepts. The documental research was particularly important (Merriam, 1988) and due to the need to understand and explain methodologies, techniques, tools and knowledge transfer, the utilization of participant observation was important (Guba e Lincon, 1984).

### Bibliographic Review

#### Innovation, an evolutionary perspective

The concept of innovation evolved over time and it is today the result of complementary visions. The most relevant one is mentioned by Schumpeter (1947) where innovation is defined as an irreversible change in the way the objects are made but also the creation of a new product/function that often destroys the old product by promoting the new one in order to generate profits - the destructive-creative innovation. This vision was shared in some way by Porter (1990) who considered innovation as a competitiveness element that exploits need and new ways of doing and commercialising things by design, processes and marketing.

The turning point, when innovation has commercial application, is the difference between the concepts of invention and innovation (Freeman and Soete, 1997). In Acs and Audretsch's (1990) approach above mentioned concepts were merged stating that innovation is the result of a process that begins with an invention followed by its development, which results in the introduction of a new product,

process and service in the market – thus introducing the concept of ‘process’ in the theory of innovation. Moreover, Lundvall (1992) defined innovation in his work as a process, explaining that invention and the subsequent process until innovation is the result of observation, learning, exploration and exploitation leading to the definition of new products, techniques and organizational models that produce mirror changes in institutions and markets. Along this path, Drucker (1997) concludes that innovation is a tool for transforming an opportunity in business, which must be learned and practiced as a discipline.

There is no unanimous understanding as the concept unfolds into a variety of definitions. In order to create a common/standard concept, the OECD put forward the following definition: an innovation is the implementation of a new or significant improved product (good or service) or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations (OECD, 2005, p. 46). Kathryn (2010) focuses the definition in the market by stating that innovation is a source of revenue and adaptation of activities to the competitive environment.

However, adaptation involves demand, opportunities, and competitive advantages fostered by a growing competition between companies and constant changes in consumer habits (Karlsson, 2010). But changes are not completely focused on consumers. As Skarzynsky and Gibson (2010) define, innovation is the result of a set of activities and factors complemented by a systemic and deep challenge.

They highlight here the role of information technologies, systems and measurement indicators but also factors such as corporate values in an integrated and effective system. Innovation today is not just simply about identifying opportunities and external factors but also about the growing importance of the internal ones such as training and organizational culture.

Likewise, the way of exploring opportunities and competitive advantages is changing according to Dyer et al. (2011), where social platforms and consumer networks are having a distinctive role in the process of transforming an invention into innovation promoted from consumer needs. Consumers, according to Duarte & Sarkar (2011), play a key role in industries, technologies and trends development as well as in the knowledge dissemination, development and commercialization through

three major ways of thinking innovation: Open Innovation (Chesbrough, 2003a, 2003b; 2011); Co-Creation (Prahalad and Ramaswamy, 2000, 2002, 2004a, 2004b) and User-Centred Innovation (Hippel, 1986, 2001, 2005).

### **Innovation, in SMEs' context**

Until now, innovation is not solely defined by a single activity but instead by a set of activities with a common ground or objective. When we study the concept of innovation in SMEs we find curious affirmations like Catozzella and Vivarelli (2007) arguing that innovation in SMEs is not defined by a single activity but a set of factors, elements, activities and investments, that all together throughout their complementarities affect the success, the object and the result of innovation.

This concept of innovation is deeply exploited by Gorodnichenko et al. (2010) defining it as the development of new products or improve existing ones, the adoption of new technologies or obtaining quality accreditations. Skarzynsky and Gibson (2008) put the focus on the internal factors as key elements in today's innovation approach and Hagedoorn and Wang (2012) reinforced that the approach must have internal aspects but also important external interactions with other companies. These interactions should never overlap with existing company activities but instead be complementary and maximized to the innovation outcome because external knowledge integration is only possible if it is developed internally in some way (Cassiman and Veugelers, 2006).

As we deepen the study we are able to find that SMEs are more likely to collaborate with each other than large companies. However, the small dimensions that define SMEs' organizational flexibility are the same that challenge them the management of innovation processes. Specialization, according to Edwards et al. (2005), is the way to respond to increasing product complexity by using partnerships and cooperation to obtain knowledge, skills and capabilities that they do not possess.

According to Diehl et al. (2013) this strategy is a new way of dealing with complexity in innovation processes while working internal capabilities and developing competitive advantages. While the SMEs' specialization allows them to build individual competitive advantages, the lack of capacities promotes the integration in innovation networks taking advantage of complementarity and substitutability

of the relations (Catozzella and Vivarelli, 2007). Studied by Narula (2004), these factors demonstrate the importance of strategic alliances to achieve the complementarity but also Hagedoorn and Wang (2012) noted that partnerships are important ways to develop internal and exploit external knowledge. In another scope, Mustar et al. (2008) highlight the important role of the connection with university-research centres to test and apply their insights in a commercial way but also so that both parties have shared access to new information, technologies, knowledge, skills, issues and problems.

New forms of innovation have started to emerge. Since 2009, Hall et al. (2009) point out the collaborative logic as a way to create and manage information, forcing companies to question traditional innovation approaches. This turn in innovation from formal to informal, from completely new 'things' to the remix of known practices, added new steps to the innovation process such as development, testing, marketing, training and design.

However, Catozzella and Vivarelli (2007) report that increasing product complexity means that solely internal knowledge is not a necessary nor a sufficient condition to innovate and organizations should be encouraged to open their process and create synergies in order to integrate external knowledge from the market, facilitate the processes and amplify the innovation impact.

Cassiman and Veugelers (2006) and West (2006) state that the most successful companies are the ones that create the best internal and external communication networks and knowledge synergies. Particularly active, SMEs are the ones that are easily taking advantage of technology and learning networks as a way to open and leverage internal and external networks, both working in parallel for the improvement of their own skills and products (Hagedoorn & Wang, 2012).

However, the misunderstanding of the 'open' concept lead to its overuse and other concepts such as outsourcing and providing external services are being considered Open Innovation. Lee et al (2010) thus define that open innovation exists when both companies work together for the operation of a market, technology, test or specific analysis.

With this, SMEs clearly stand out with higher R&D levels due to its importance in processing and marketing innovations for products, services

or processes (Lee et al., 2010); but paradoxically, the number of innovation activities and the risk is inversely proportionate to the willingness to innovate, defining the SMEs more likely to have innovation activities (Artz et al., 2010; Hall, 2011). Today's innovation success lies in turning information – knowledge – into profit and companies must be able to reinvent themselves to adapt to their context of sharing of knowledge and open logic (Pfeffermann, 2011).

### **Innovation, in networks of organizations**

SMEs have seen an increase in their importance as a proactive, structuring, innovative and essential type of companies to the economic, social, national and local development in EU countries (European Commission, 2008; European Commission, 2011b). While Wymenga et al. (2012) state that their innovative capacity derives from organizational flexibility, Narula (2004) and Burrone & Jaiya (2005) say that it is related to the ability to rapidly adapt to the complemented environment and Edwards et al. (2005) relate it to the simple organizational structure, low risk and inherently receptive mind-set to innovation.

When we consider innovation in the SMEs' context, Wymenga et al. (2012) state there are internal factors such as human capital and external factors such as innovation and knowledge absorption capacity, opportunities exploration and the ability to create synergies which are the most essential factors. They also evince that their intrinsically innovative scope is derived from the involvement and interaction with customers and suppliers but also the close connection with start-ups or spin-offs. According to Shane (2004) spin-off is a company created in an academic institution in order to explore a creation of intellectual property.

However, to be able to create it Wymenga et al. (2012) clarify that institutions must support, with appropriate policies, business development and knowledge in areas such as entrepreneurship, management and experience through the several stages of development. Spin-offs are the result of the convergence between two main agents, research institutions and industry. While universities have an important role in the making of spin-offs, incubators in turn play a greater role in their growth.

Bergek & Norman (2008) state that incubators, in connection with universities, are two important agents for knowledge transfer to the market and the development of new

businesses. They strengthen new companies with entrepreneurial skills, market expertise and experience, intellectual property and privileged access to financing. O'Shea et al. (2007) report that universities are great partners because they have a creative culture that contributes with new approaches with the potential to be transferred to the market; while Mustar et al. (2008) complement this by stating that incubators are tools used by universities and research institutions to promote their spin-offs due to their links with financial resources, consulting, trading and selection partners. As universities differ from each other, incubators also do by the way they are managed and the services they provide.

Wymenga et al. (2012) evince three main models of incubators management: the low selective model, a management model based on a large rotation of businesses providing small amounts of financing and space; the incubator model that aims to generate spin-outs with a strong ability to obtain financing; and the supportive model which is defined by a model mixed between quality and quantity supported by business model services and access to funding mainly for the development of start-ups. Although there is no perfect model to enhance the growth of spin-offs (Tamasy, 2007), nor a perfect model of incubators (Aerts et al., 2007), there is complementarity and a match between the spin-off's actual and future needs and the incubator's services and networks.

### Innovation, and marketing communications

To Lindon et al. (2004) communication is a set of volunteer signals broadcasted by the company to the target audience, whereas Kotler & Keller (2012) define it as the means for companies and organizations to inform and persuade consumers about products and brands.

Marketing communications act by generating stimulus to experimentation, enabling to link people, places, events, brands, experiences and feelings to memories and with this, to build a brand image in the consumer's mind.

Technology changed the traditional ways of communication but at the same time leveraged an infinite of possibilities. Kotler & Keller (2012) refer that communication goes further and deeper than traditional communication channels and involve price, shape, colour, packaging, the sellers' way of dress and shop decoration within an integrated communication strategy and coherent message.

However, in the SMEs and innovation's context, Pfeffermann (2011) states that innovation communication must be integrated in the organizational communication taking into account the organization's vision, mission, values, objectives and structure in a constant internal analysis and external communication. It must encompass all communication means and include innovation communication, value creation, positioning and management strategies and must be constantly analysed, internally and externally, for the definition of objectives, tools and tactic or strategic implementations.

The innovation communication must be cross-functional to all departments and functions with focus on the communication with consumers and networks. Kotler et al. (2010) evince a set of changes in the way that actual and future marketing is made of. These changes are focused on 'human spirit' communication, directly to consumer's heart and highlighting the organization's responsibility to the society. The Marketing 3.0's strong points are the values that are created through the seduction of the consumers' mind, spirit and heart and the company's alignment with the consumers' deepest wishes and emotions.

### Madan Parque Case Study

IDEAS(R)EVOLUTION methodology is an holistic innovation system composed by an integrated flux of working processes made of six stages (involvement, inspiration, ideation, integration, implementation and interaction); ten phases (diagnostic, preparation, observation, understand, define, experiment, validate, systematise, test and dialogue) and more than forty tools (Mateus et al. 2012a; 2012b). All phases obey to a simple flux where the retrieved information from a specific stage is the starting point of the next one.

Each working phase has ten applications selected according to the adequacy to the innovation problem. LinkUp is a network activation model based on human and digital interaction that leverages collaboration between three main agents - the academy, the incubator and the SMEs - with the participation of three main elements, the creative industries, the partners and the stakeholders. The model relies on collaborative logics, co-creation and open innovation to promote proximity between agents using activation, collaboration and co-creation dynamics.

The first phase of the model is the local

networking axis between the agents. The second is focused on regional networks composed by groups of local networks. The third phase relies on national networks composed by groups of regional networks and the last phase is international networks composed by groups of national networks.

What all these networks have in common is the ability to share knowledge and develop new projects, services and approaches from each company's specification and effort.

The **IDEAS(R)EVOLUTION** and the LinkUp application come into place for an identified set of needs, trends and objectives such as the development of relevant and differentiating projects in SMEs; internationalization; the creation of co-creative platforms that promote dialogue for innovation; multidisciplinary; a multi-sectoral participative network; business with local, national and international scalability; strategic orientation to innovation and the connection between academia reinforced by different knowledge areas in the same place. This project is a fusion between both models where **IDEAS(R)EVOLUTION** is in the Involvement phase and LinkUp in the first stage.

#### **WORKSHOP 1 – Participant activation**

Organized on 8<sup>th</sup> November 2013, the objective was to activate the participants, communicate the project and promote the debate about the approach. There were 30 participants involved from 18 companies. The session started with Professor Américo Mateus and Professor Susana Leonor explaining the project. The second part was composed by two creativity and team building exercises. In the third part it was promoted an open debate about the incubator's actual and future needs followed by addressing the Critical Success Factors tool to identify the main drivers for working in network.

The communication of the workshop was done by e-mail marketing by the research group and the incubator's administration. From the workshop we were able to conclude that the main success factor bundle for working in network is the process, the objectives and the project planning.

The second most important one is the communication channels, the motivation and trust feelings. The third success factor set was the results and the ability to solve problems. The fourth was the internalization, sales potential and the motivational aspects such as open spirit,

trust, creativity and innovation. The fifth was related to the ability to understand the consumer needs, leverage funding and opportunity identification.

#### **WORKSHOP 2 – Participative diagnostic**

Organized on 14<sup>th</sup> January 2014 the objective was to continue the collaborative work. It involved 6 participants from 5 incubated companies to diagnose and collect information about internal capabilities and competences - core, technical and market - and the exploration of incubator lacking competences. The objective was to systemize internal and external competences and project planning for Europe 2020 calls. The session started with a debate about previous results followed by two creativity unlocking exercises. In these workshops we used the Skill Sharing tool to obtain the internal and already existent competences but also the external competences that were lacking and needed for the incubator.

The communication of this workshop was through e-mail marketing solely from the project team. From this workshop we were able to make conclusions regarding a necessary involvement of the incubator in promoting the incubated companies and a new incubation service that required hiring a salesperson to prospect and sale the incubator among future clients.

#### **WORKSHOP 3 - Participative diagnostic**

Organized on 8<sup>th</sup> April 2014 in order to continue previous work due to the lack of assistance in the last workshop, this session was similar to workshop 2. It involved 15 participants from 11 companies and the main objective was to present the results and carry on with the collaborative process.

This workshop aimed to diagnose the internal capacities and explore the lacking competences. In the end, the main goal was to plan and share projects for Europe 2020 and the definition of working groups. All of these workshops also had a second objective that was to work on the motivation aspects of the first workshop.

Motivational aspects such as trust, open mindedness and open spirit to leverage a shared mind-set in relation to the projects; as well as networking aspects such as fostering the search for solutions and knowledge balance; and planning and organizing factors such as objectives definition, funding, internationalization

and opportunities. In this workshop the Skill Sharing tool was used to retrieve the existing and lacking competences but also as a tool to prospect future skills to integrate within the groups.

A systematization tool was also used to go deep into the competences and understand which type of competences the companies had, cluster them and build a competences matrix in order to identify the most prominent ones. The third tool used was an external exploration to identify lacking competences and to foster prospective thinking about the possible partners, places or entities to be integrated in the network to complement the lacking ones. This tool also aimed to identify possible clusters in order to explore and prepare the commercial approach.

The last tool was the LinkUp Planning Matrix and it was used to leverage the existing 2020 project, to create new groups according to the European Flagships and finally to leverage working groups around specific themes. The workshop was communicated by e-mail marketing, three in total, and there was also an actual visit from the project team and the incubator administrator to the several companies in order to foster participation.

From this workshop we are able to conclude that the most relevant competences are focused on informatics, information systems, marketing, communication, management, research and sciences.

Further to these, competences such as informatics and information, software development, competences in CRM and CMS, IT design and development, informatics consulting and technical competences are also relevant; while cloud computing, virtualization and platform creation have a smaller relevance. In marketing areas, the incubator had expressive competences in design, creativity and innovation and also relevant competences in communication, institutional and commercial, as well as in product development, marketing, branding and brand strategy, advertising and web design. In the area of management we identified general management competences such as informatics project management, territorial management and process management.

In the research field the competences that stood out were in technological research and R&D in energy and environment. Some other competences arose but in small representation such as mobile, app and business development.

The relevant technical competences were related to consulting and auditing in technology, technological processes, informatics and energy efficiency. In the science field the competences identified were bioengineering, genomics, laboratorial, biology and healthcare.

The competences related to the environment that were identified were ambient and economical studies, energetic certification and sustainability. There was also presence of technical competences such as juridical support, networking and formation and a strong presence of licencing, intellectual property and funding capacities. Another important aspect was the existing companies which already have European projects.

The lacking competences were clustered into five groups: Partnerships, i.e. the prospection of new partners; funding, i.e. a funding mechanism to help companies access funding; opportunities, in other words, the access to new markets and internationalization projects; planning, R&D mapping, collaborative R&D logics and networking between companies; services, in relation to marketing, communication and sales force; and finally, marketing and communication, in relation to the productization and strategic approach.

### **Model Framework & Observations**

SMEs are key instruments for business innovation, competitiveness and social and economic development. Their versatility, adaptability and ability to work with information, while producing knowledge and developing products, is being strongly noticed and becoming a key path in the European Union.

Incubators serve as platforms for new business development, promoting the connection between academia and the market through services and acceleration. The study of how SMEs operate in networks is highly relevant to take advantage of their innovative capacity in parallel with the development and the support that incubators provide.

Thanks to our study we can conclude that internal communications require a defined set of channels and well prepared activation actions.

Also, it is required the existence of an internal element within the network with strong leadership skills that assists, monitors and enhances communications. The frequency of interactions is a determinant factor to the activation and the communications must be clearly defined and

spread among network members.

Each innovation network must be analysed and the most efficient marketing communication strategy must be defined to suit motivations, needs and capacities, and to promote the involvement of businesses in order to develop internal synergies and joint projects.

External marketing strategies should be centralized and involve the incubator in a more active role in the management of network marketing communications. Networks and questions related to communication strategies are widely studied and their importance in the actual economic context is unquestionable. By exploring and understanding the dynamics we were able to achieve a set of useful results and to answer the initial questions.

Due to the lack of participants and taking into consideration the communication channels used, we can conclude that internal activation must have an internal element with strong leadership skills; that the several actions must be communicated using a mix of face-to-face and virtual channels; and that there must be strict planning and communication.

The approach must be structured around network dynamics because motivation and involvement depend on the network's capacities, what the network promotes in the companies and the network's needs in relation to what the network should have and its motivations, which are leading factors in the companies' integration.

Only by knowing the capacities, needs and motivations can we go deeper in the second question about the synergies between companies. In this aspect we can conclude that the best ways to leverage internal synergies is through joint projects involving several companies around a motivation, objective and project.

We can conclude that the best way to leverage integrated projects is to balance the knowledge about existing capacities between companies. The third question can be answered by knowing the actual need in the network and the target-groups. With this we were able to identify five axes: partnerships, funding, opportunities, planning and services.

We can conclude that the incubator, due to the small dimension of its members, must enable and manage the promotion of their companies' networks, make funding and access to new markets easy and promote the creation of new partnerships. The communication strategy must

be managed by the incubator for the incubated companies.

### **Conclusions and conceptual MODEL**

The model summarizes and retains internal and external components in order to develop internal synergies and external communications.

The overall internal marketing communication strategies' message should be about promoting new projects between companies, focused on the most relevant capabilities held by the incubator.

The Madan Parque model is focused on information technology, product, communication and programming; and there must be five types of services to support the development of integrated projects: networking and partnership, internationalization services, management and productization services and network and service management.

All these services are promoting a two-way relationship creating two types of operations, the development of services that came from the development of new operations or the creation of new operations that can come from new services.

These operations are managed by the incubator in two main axes which are related to communication and marketing strategies. The first one is about promoting academia, companies, incubators and other networks to come together; and the second one is about creating synergies through contact making and network promotion to other incubators, businesses and territories in order to communicate their products and to promote interest. This is the internal part of the model.

The external part is about oriented strategic planning and the development of internal services that support the external marketing communications.

It was identified by the participants that the external communication process must be managed by Madan Parque's management and that all the services to be developed in the internal model are enhanced by the incubation's networking capabilities and through the creation of specific protocols with external entities.

The external services provided by Madan Parque have their focus on the creation and development of new opportunities, influenced by internal operations and by the networks created by the incubator.



These services include penetration of new marketing and communications, new business markets, sales force, new strategies for and project development and financing.

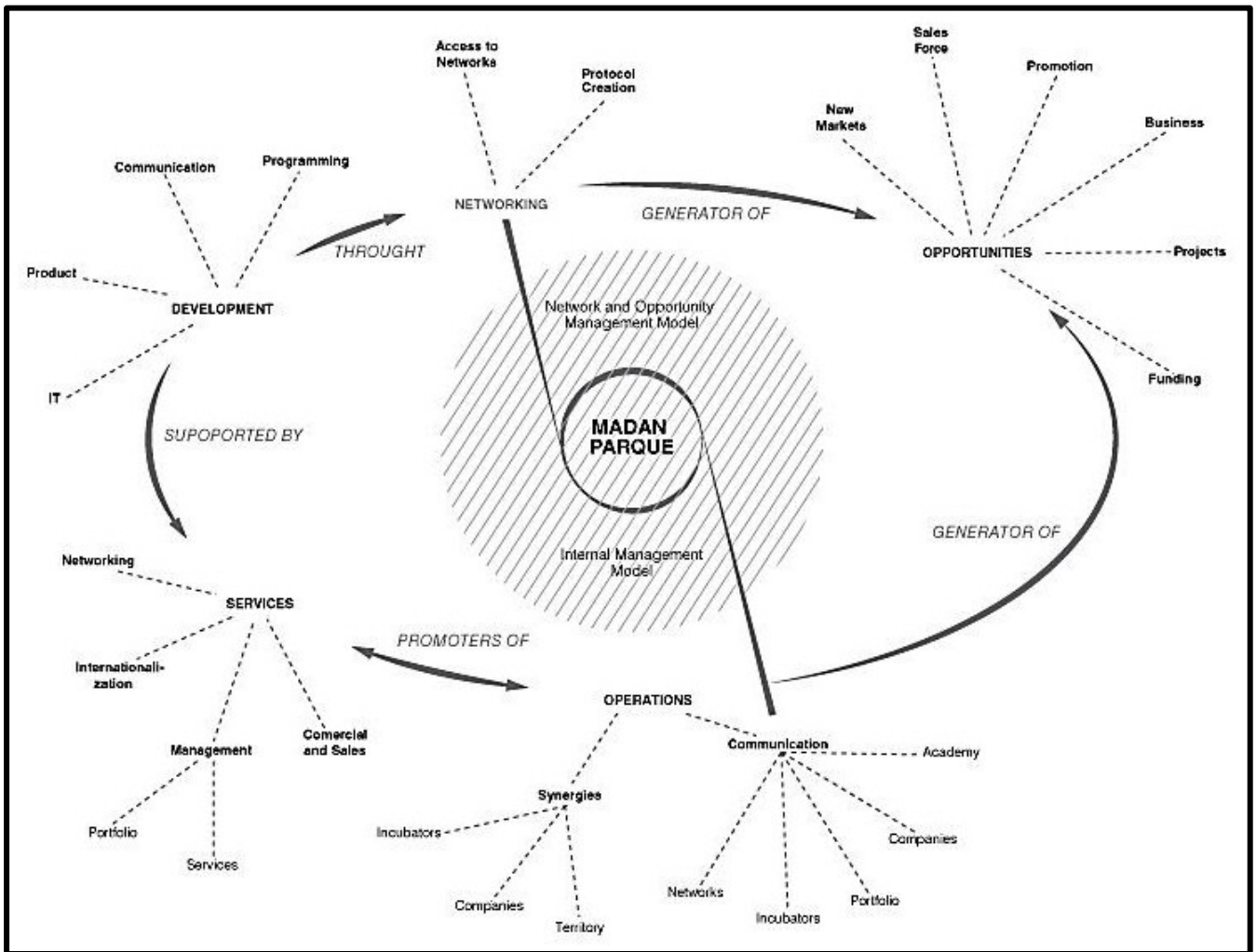


Figure 1 - Madan Parque final model

In the final model we found that traditional B2C communication strategies are defined by long distribution chains, which does not happen in this case and therefore B2C strategies cannot be directly applied. The existence of a few large buyers also means that the traditional B2C definition does not apply but on the other hand, the environment is in fact defined by a large number of small buyers where the communication strategies are focused on network relationships, which in turn resembles more B2C.

The little or no relationship between supplier and consumer also does not apply as it would in B2B strategies and in fact it also resembles more B2C strategies, where a strong relationship of

trust between all network elements is required. There is a professional network with technical purchasers and influencers, which on its own would resemble B2B strategies; however the demand is floating and not elastic and it depends on the final consumer and the consumption. Buyers are centralized and they purchase directly from manufacturers which would resemble B2C strategies.

Thus communication strategies need to consider more than just the B2B and B2C focus. The growing importance of innovation networks, communication tools and marketing communication strategies suits this new paradigm but it is not part of the strategy. In this case we cannot speak about B2B communication

since the network is considered as a whole or as B2C because the consumer is specific, individual and perfectly defined.

This model contributes to a first approach of future communication strategies with three new concepts: B2N Communication (Business to Network) which drives activation, motivation and involvement aspects in the communication of a business or project to a network; N2N Communication (Network to Network) which understands the factors that promote the creation of synergies between companies; and N2C Communication (Network to Consumer), done by exploring the marketing communication strategies for the external promotion of the network.

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