



Title:

Orchestrating innovation ecosystems: a case study of a telco wholesaler growing into a global hub for cross-innovation

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To my friends, who have made the journey so full of meaning,
And to my family, who have made it possible...

...Although in most settings of my life, I couldn't be sure there was a difference. Thank you. Mom, Nico, Dad, Eli; and my families in Colombia, Mexico, IMIM, Marina, PARA and TEC.

*"Your vision will become clear only when you look into your heart.
Who looks outside, dreams. Who looks inside, awakens". --Carl Jung.*

1. ABSTRACT

Current innovation literature stress the fact that companies seeking to boost their innovation capabilities should open their boundaries and collaborate with partners for bolder and faster value creation. While correct, and in fact frequently practice among several industries, many companies have failed in their attempt to innovate on ecosystem's settings due mainly to lack of the appropriate management methodologies. Although co-development alliances have become a common practice in the market place, tools and strategies to manage them are quite behind on real execution. Furthermore, companies currently involved in such scenarios have overlook the new conditions of co-creation, failing to yield return over the cost of capital, and losing credibility on their ecosystems. Therefore, the purpose of this study was to identify practical managerial strategies, process and tools for orchestrating innovation ecosystems in general, and tailored them into real company current practices, in particular.

In this thesis, a theoretical revision has been carried out in order to understand what innovation ecosystems are, why companies involved in innovation should care about them and what are the essential elements for orchestrating projects breed in that setting, being successful at it. Furthermore, a case study was developed with the purpose of connecting empirical findings to theoretical suggestions, and draw conclusions and recommendations. The company chosen for the analysis is one of the larger international players in their industry; having strong motivations to grow their innovation field, clear objectives to do it on partnership basis, and unquestionable position to claim the role of orchestrator. Moreover, management at this company believed that their innovation partnerships are not fulfilling expectations, and wanted to know how they can improve the way those projects are being managed, while keeping the center of the innovation ecosystem.

The results show the process to create an orchestration strategy model, and a final proposal for the company under analysis. The case was developed taking into consideration information provided by key processes stakeholders over a series of interviews, and critical observation of the system during a six-month period. Scientific implications contribute in providing a framework for orchestrating innovation ecosystems on a technology-driven industry, while managerial implications contribute in providing the company with a robust model on how to position as a global hub for cross-innovation.

Comment

A global company providing wholesale telecommunications services with base in Spain was used as a main case study, and a driving context for the study conducted. However, in order to preserve their anonymity (company internal requirements) their name has been replaced with TMarina International.

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5. BACKGROUND

5.1. Introduction

Now that the global telecommunication industry is undergoing an unprecedented transformation, innovation in both service and technology is vital for operators to stay competitive and grow market shares (Telecommunications International, 2007). However, the increased complexity of knowledge processes, which are the backbone of new technologies and innovation, leads firms to search beyond their own boundaries for valuable knowledge and skills, in order to complement their own capabilities (Becker and Dietz, 2004), extend the scope and speed of its innovation, keep pace with consumer expectations, and cope with and sustain a competitive advantage (Traitler, Watzke and Saguy, 2011).

In the past decades, telecommunications service providers had been focusing on delivering outcomes at the speed of their main customers, namely local carriers, who have slow innovation cycles of more than 5 years. Innovation in this industry has been mainly driven by hardware vendors, not Telco companies, thus driving the industry towards a commoditization path in which all service providers have exactly the same value proposition, and competition is completely based on price, scale becoming the main driver for cost reduction. Yet, in the new economy, over-the-top (OTT's) companies are the actual creator of value, and therefore, the ones sharing the biggest piece in the market cake. Primary Telco's customers, application developers and device providers, are supplying the global market with standard offerings and rapid developments, operating in innovation cycles of less than six months. Those businesses have an urgent need of a reliable infrastructure that gives them the flexibility to communicate in an effective way, at the pace their technologies support and with at least their same innovation speed.

Now that the new economy is evolving towards internet of things and machine-to-machine (M2M) communication, among other new developments and technologies, infrastructural needs had become critical factors for success in the vast economy of the Telco industry. Internet and mobility had triggered a major shift in consumer behavior, at the same time breaking the monolithic vertical markets traditionally served by Telco services. In fact, OTT's are major catalysts for these changes. And what's more, they have found a way to leverage the opportunities created by all those changes (technology and customer behavior), and create a benefit out of it. It is now evident that their flexibility and agility to innovate enable and lighten their path.

In that scenario, if companies such as TMarina, keep on delivering value the way they are used to, pretty soon their service will be totally commoditized and eventually, the company will be left out of the market (i.e. voice market, which has been their major milk cow for the past years, is shrinking globally, it has reach a point in which investment in wholesale voice services do not return a positive business case anymore). Business models have to be change in order to stay competitive. It is a must

in today's global arena. The company has an evident need of leveraging their core competences within an innovation ecosystem, using it as an effective method to meet current customer needs on the expected time frame, making the most out of other's know-how (which is not intended in-house), operating in a win-win environment and ultimately, creating industrial value.

However, as companies rely on network alliances for larger and more critical contributions to their final product offerings, execution presents a more complex problem, highlighting the need for developing network competencies in organizations (Corkill, 2007). One could say that partnerships are not a new practice in the telecommunications industry. Even open innovation has been a well-known practice since at least a decade and establishing contact with a broad array of external innovation sources has been a key requirement of technology based market strength for a long time now. Yet, many companies find that their efforts in partnering are failing to provide the desired competitive advantage (Corkill, 2007). Particularly for TMarina, innovation through partnerships has not work out the way it was expected, and what is worse, in some cases, the company has even lost control over the innovation to partners, failing to effectively capitalize on it.

Following that line of ideas, the research question driving this study is as follow. How can a company seeking to innovate through codevelopment alliances, not only participate in an innovation ecosystem, but become the actual center of it, keep control over the relationships and outcomes generated, leverage their offerings and eventually grow into a global hub for new service development? In other words, an international company with enough resources to innovate through networks, with the sufficient energy to orchestrate the network and generate the best outcome possible to all players involved, should be able to understand how to do it and effectively exercise it. It is not only a fact of contributing on an ecosystem, nor is it to merely understanding it. It is a matter of governing the ecosystem from an innovation enabler role, pursue a strategic position in all endeavors undertaken with partners, and ultimately, gain an orchestrator advantage over the ecosystem. Then again, what is required to accomplish this objective?

5.2. Objectives

The main objective of this project is to develop a robust business model proposal in how to manage an innovation ecosystem. In other words, the aim is to develop a complete framework for orchestration that takes into consideration theory guidance for best practices, telecommunication industry dynamics and company specific traits. Although the model needs to be suited for a specific company, the objective is to define a clear path for construction, in order to allow its application to another company on the same industry, or even in other industries. In other words, this main objective should be

achieved for a specific company while keeping an open lawyer for customization into others.

In order to achieve this, there are some other secondary goals that need to be accomplished first. Initially, get a clear understanding on what is an innovation ecosystem and how does it displays on the business arena. This objective includes the understanding of an innovation ecosystem characteristics, features and functions. This is a first step towards constructing a theoretical framework around the definition of an innovation ecosystem. Analyze some real cases of success to support the insight of the role an innovation ecosystem plays in today's globalized world.

Once that a clear picture about innovation ecosystems had been developed, next objective is to investigate what are the needed tools, skills and strategies a company needs to develop in order to orchestrate them. Therefore, another secondary goal is to find theoretical guidance explaining processes and best practices for managing co-development alliances. Effort should be directed on finding suited general models that can be fitted into the specific company case when understanding its specific needs.

A parallel objective is to get an immersion on the company in which findings are going to be tested. The goal is to get familiarized at different levels with the telecommunication industry, TMarina's business and the innovation and strategy department functions. Moreover, critical observation on innovation practices should be perform, passive and actively gathering information from key sources. The aim should be to construct a company profile towards innovation ecosystems and the traits that would define the specific strategy development for orchestrating their own.

Last step should aim to contrast theoretical findings with empirical ones, and develop a strategy for orchestrating innovation ecosystems. The objective is to suggest a business model and tools that allow TMarina grows into a global hub from cross-innovation, proving their current assets and considering their current practices. This model should be fitted for the company, but remain flexible enough to be extrapolated to other companies having a similar objectives.

From a company specific point of view, the general objective is that the research helps to define a win-win ecosystem, which will eventually be a core part of the company's innovation strategy and enhance innovation cycles, leveraging existing assets through partnerships. Furthermore the vision is to become a hub for innovation that can connect different stakeholders into collaborative arrangements, allowing the creation of a customer-centered service when bringing together individual offerings, efforts and core competences, while sharing risks and rewards. Ultimately, TMarina is planning to grow as the ecosystem orchestrator, enabling value creation and keeping control of the final outcomes created through it. Processes and tools driving this motivation are the missing links this research would aim to provide as a final result.

5.3. Methodology and scope

The research project was structured in three main phases. All of them have a specific methodology and a given scope in order to accomplish goals in time and requirements.

The first phase is a literature review on related topics. This literature review was performed using academic developments in innovation ecosystem and orchestration business models from different sources and publications. Main sources were academic journals, academic articles and research papers as well as books associated with the main area of research. In other words, the research method used during this phase was basically deductive. Deduction meaning the process of inference of hypothesis and conclusions draw upon existing theory. This deductive methodology was employed with logic of finding background and academic reference to the given problem. The scope in this phase was mainly to understand what an innovation ecosystem stands for, and how it can be managed. Some related topics were examined, but mainly keeping limitations to innovation topics and developments.

The second phase is the generation of a company profile in the innovation ecosystems practice. The methodology used to accomplish this goal was based on active and passive observation through collaboration in TMarina Innovation and Strategy department. Initial collaboration was performed in all department-related activities in order to gain knowledge on company culture and current practice. Once a basic knowledge on the company was attained, the aim was to gain insight on specific factors suggested by theoretical findings. Therefore, semi-structure interviews were performed to key information sources aiming to obtain specific information strictly related to this project research. The four participants on the interviews were selected based on their knowledge on the company current practice on innovation matters, vision and strategy to the future and closeness with developments within the ecosystems framework. They were the company CEO, the director of the Innovation and Strategy Department, the director of the Product and Service Development Department and a Project Leader dealing with co-development alliances. Consequently, the methodology used in this phase of research was mainly inductive, as it aims to collect empirical data and then analysis and conclusions are drawn upon it. This empirical data would at the end contribute to the body of knowledge generated on the next phase.

Last phase was the development of a strategy for orchestrating innovation ecosystems. In order to reach this objective the methodology was to company both theoretical and empirical data, into a robust model for management practices. In other words, abduction was used to merge previous inductive and deductive approaches into a coherent proposal for the given company. Abduction methodology was used, and the result was contributing to generation of new knowledge partially governed by already established directions, empirical data from a specific business and personal input.

In general terms, the research had an exploratory approach considering that no previous studies exist on this field in this particular company. Therefore the aim was to

look for patterns, hypothesis and ideas that could be tested in TMarina and could form the basis for further discussion. Moreover, the study was mainly performed from a qualitative perspective, making it fluid and flexible towards findings and results. Objectivity was reached through contrasting information from different sources while allow creating a perspective from reality from the researcher's interaction with the system.

Consequently, the scope of the project was to get to the initial lawyer in the construction of the ecosystem dynamics and recommend the needed methodologies to manage it from an orchestrator role. However, the framework design should be tested upon upcoming projects and updated accordingly. This last part would not be consider in this study and is suggested for future research within the innovation and strategy management department.

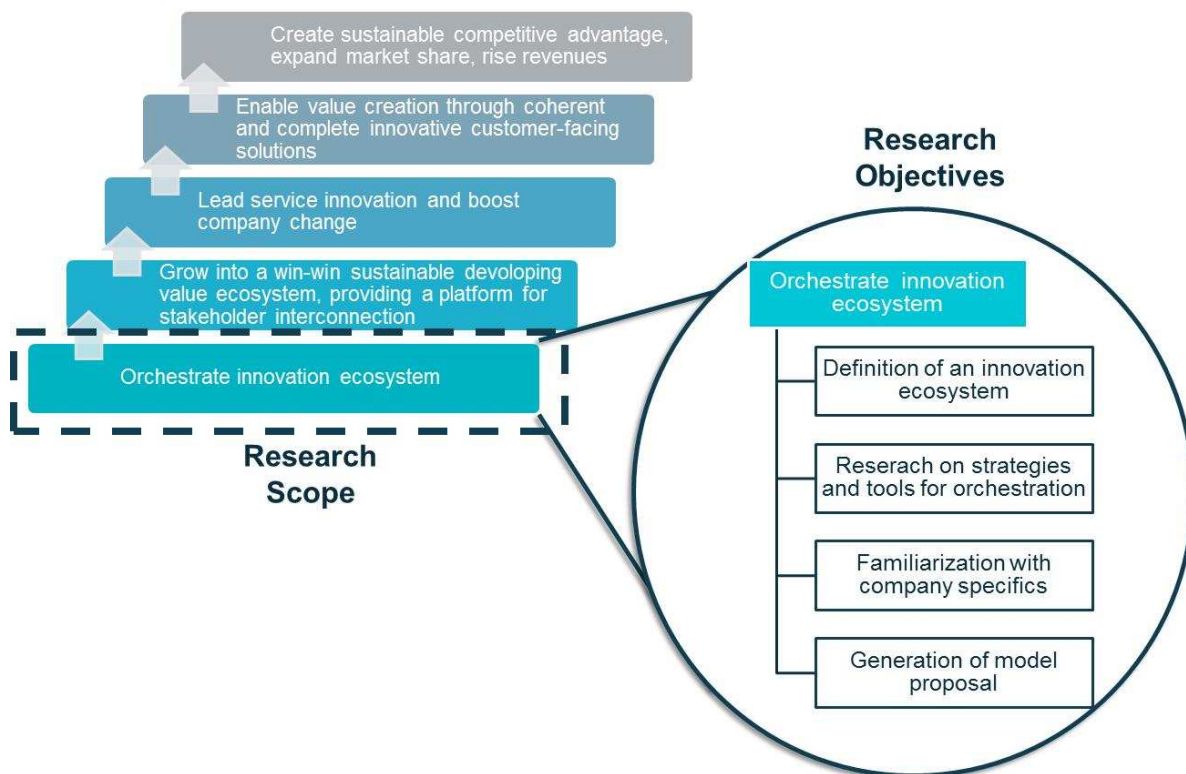


Figure 1 Research scope and objectives (by the author)

6. THEORETICAL FRAMEWORK

First step of this study aims to describe the characteristics of an innovation ecosystem and how to orchestrate it. These findings would give the needed information for a hub firm aiming to manage their network towards value creation. This part of the research concentrates the analysis in existing theories about related topics to innovation ecosystems and orchestration strategies in the new economy.

6.1. UNDERSTANDING THE ECOSYSTEM

6.1.1. What is an innovation ecosystem

Whenever referring to an innovation ecosystem, our brain automatically expect an analogy with a biological one. Indeed, there is a close relation between both concepts as they emerge from natural forces. A biological ecosystem is a complex set of relationships among the living resources, habitats, and residents of an area, whose functional goal is to maintain an equilibrium sustaining state (Jackson, 2011). One of the fundamental characteristics of biological ecosystems is their nutrient exchange equilibrium state, which models the energy dynamics for functioning and enable both biotic and abiotic (living organisms and environments) factors, to be benefit from the relation. In contrast, an innovation ecosystem models the economic rather than the energy dynamics of the complex relationships that are formed between actors or entities whose functional goal is to enable technology development and innovation (Jackson, 2011). In this sort of ecosystem, equilibrium is not reach through nutrient exchange but through fundamental knowledge, creative ideas, management savvy, human resources, infrastructure and financial resources exchange within the boundaries of a virtual cycle. Innovation ecosystems are growing platforms enabled by the open innovation among firms. Moreover, open innovation has been defined as “the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively” (Chesbrough, Vanhaverbeke and West, 2006).

Within the frame of open innovation, other authors defined innovation ecosystems using similar terminology. Moore (1993) stated that by working cooperatively and competitively with other companies in order to co-evolve capabilities, to support new products, satisfy customer needs and incorporate a new round of innovations, the company builds a business ecosystem. Tether (2002) on the other hand, proposed the term “innovation cooperation” as an active participation in joint R&D and other technological innovation projects with other organizations. Similarly, Emden, Calantone and Droge (2006) used the term “codevelopment alliances” to describe nonequity-based collaborative relationships enjoined by two or more firms to create value by integrating and transforming disparate pools of know-how related to new product or service development. These partnerships do not include relationships involving, for

example, a purchase of components requiring minor interorganizational interaction (Emden, Calantone and Droge, 2006). Lastly, Walters and Rainbird (2007) suggested the term “network model” (or virtual organization model), which comprises independently owned enterprises that work together towards a common goal with the incentive to facilitate access to new market value-creation opportunities. They also claimed that this kind of collaboration combines elements of process and product innovation management within this “network structure” to create product-service response that neither partner could create using its own resources.

As one can infer from the previous definitions, most of them share and highlight key components constituting the definition of innovation ecosystem for this research. An innovation ecosystem is then, the union of independent actors sharing a common goal, focused on fully satisfying customer needs, actively participating in a dynamic interaction, exchanging resources and capabilities, achieving complementarity and synergy of individual offerings, and ultimately, reaching new markets faster and creating value through innovation.

6.1.2. Why to innovate through ecosystems

One can infer that the major goal of an innovation is to create value. Indeed, creating value for stakeholders is a major driver, yet a utopian and idealistic one. Value creation and sustainable competitive advantage is then located on the highest level of priorities in any company vision statement. Conception of new products and development of new markets would be subsequent motivations deriving from the ultimate one. Innovation is believed to be the fundamental source of significant wealth generation within an economy (Jackson, 2011). However, it remains unmentioned why would a company try to innovate through a co-creation network and not using solely their resources. In order to understand those intrinsic motivations, one should refer to the most tangible facts affecting these decisions.

Within the telco industry, reasons to join, develop and create innovation ecosystems can be broadly divided into two main groups: external and internal forces. The external forces are those mainly modeled by the market place, going from as low as customers, suppliers and competitors, all the way to industry standards and world economics current situation. As mentioned before, the telco industry is undergoing an unprecedented transformation. This fast-changing way of doing things is reflected on the acceleration of new product development, the growing technological complexity of products and services, and the instability of business environment and with it, immediate future uncertainty. Therefore, companies may need an innovation ecosystem to cope with this transformation. Partnerships are created to solve problems, fill gaps, or find answers more effectively and rapid (Traittler, Watzke and Saguy, 2011).

That is not the only external force driving companies towards collaboration and co-development in an organized way. Let us analyze the fact of underperforming elements on the value chain of telco services. Whenever one of the elements in the chain fail to achieve the needed outcome at the expected time, a company innovation might get bounded and could even lost the path towards the final customer. It could be that you need someone else to succeed in their innovation for yours to succeed. Or maybe you need someone else to adopt your service in order to pass it on to the client. Rod Adner (2006) typify this external force saying that “underperforming elements can leave a company in the position of offering a Ferrari in a world without gasoline or highways, an admirable engineering feat, but not one that creates value for customers.” Therefore, a company may need to involve in innovation partnerships and co-development agreements in order to diminished de effects of underperforming elements in the supply chain. Take the example given by Adner (2006) of high-definition televisions. Philips, Sony and Thompson invested billions of dollars to develop TV sets with unbeatable high picture quality. Their breakthrough was successful from a technological perspective, and in fact, they were ready to mass market since early 1990s. However, the innovation was actually a failure, not because of technical deficiencies but because some other elements, tough laying outside manufacturers value proposition, were critical for reaching the final customer. For instance, production technology in studios, signal compression technology, and broadcasting parameters were not mature enough to support the upcoming TV sets. It took almost ten years for this entire surrounding infrastructure to be ready, and allow producers to market their innovation. But while technology pioneers waited for other players in the ecosystem to evolve, the business environment changed and new competitors emerged. Leaving a promising innovation, that was once characterized as a potential breakthrough, in the

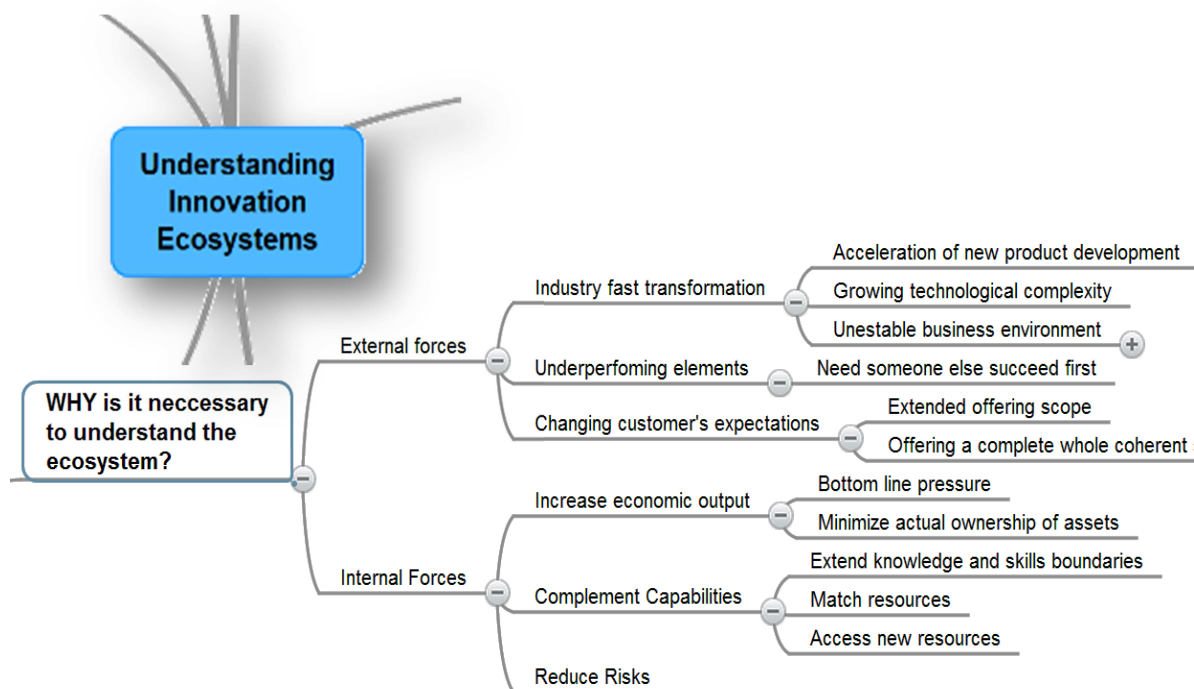


Figure 2 Why to innovate through ecosystems? (Compilation by the author)

position of a commodity product, competing for customers in a crowded market space (Adner, 2006). For the telco industry, a major wholesale provider, like the one included in this research, is in fact a major infrastructure needed by others to communicate and operate. It is imperative for companies to innovate at the same pace and would be a competitive advantage if TMarina drive that innovation

Moreover a critical external pressure is exerted by customers themselves. All over the tech-driven industry, customer expectations changes constantly and at a high pace. A reason to partner then, may reside in the fact that a firm needs to extend the scope of their offering with a complete coherent one. In effect, being able to supply part of the picture through a focused product capability and competency is useless, if there are no other partners willing and capable of filling in the other bits of the picture to offer a coherent whole to the end customer (Walters and Rainbird, 2007).

Coming back to internal forces, the intention is to understand the company's internal motivations towards innovation ecosystems. Someone could say that economic output would not be a motivation, rather an impediment to innovate through networks. And in fact it is the complete opposite. It is true that an innovation carried out in an ecosystem funnel would return a financial share of the output. However, in order to cope with the external factors previously mention, a company that is looking forward to gain the 100% of the revenue would have to invest over the 100% of the needed resources. Bottom-line pressures in today's difficult economy would not allow such an investment. Moreover, one of the key success factors for firms operating in the new economy context is to minimize actual ownership of assets and instead access resources by collaborating with others (Walters and Rainbird, 2007). Consequently another internal reason is to complement one's capabilities. In order to innovate with an integral approach firms may need to extend their knowledge and skills boundaries, matching resources with other firms and accessing their assets. Last but not least, companies also may need to engage with this kind of ecosystems in order to reduce risks when facing external forces.

Most of these forces are related to one another in a dynamic system of positive and negative feedback loops. A systems view over this issue would help in understanding interactions between causes and effects and should be kept in mind throughout this research.

6.1.3. Advantages of innovating through ecosystem

"If you and I swap a dollar, you and I still each have a dollar. If you and I swap an idea, you and I have two ideas" (Gloor, 2006). Sharing ideas in an open environment creates a common output that is greater than adding up individual collaborations of each discrete member. This definition is basically referring to the concept of synergy. When companies innovate through collaborative networks, they build value that no solo

enterprise would be able to achieve by itself. These advantages of innovating through collaborative networks should be extensive to all partners included within the ecosystem, where relationships should be always on a win-win basis.

One could see that all benefits gain through innovation ecosystems are directly related with the forces driving the decision to belong to one. In other words, if a company is able to cope with a specific internal or external force driving cooperative alliances, then it will reach a given advantage. In that order of ideas, advantages can be classified in external and internal. External meaning benefits that give the company new tools to face the new economy business arena, and internal meaning benefits reflected in the firm's well-being.

It has been found that belonging to an ecosystem is a way of accelerating the co-development of a sustainable innovation, and remove the burden of resources and time-pressure from the shoulders of a single partner (Traitler, Watzke and Saguy, 2011). Thus, this kind of alliances is a mean of sharing not only development and rewards, but also market uncertainty and risks. Likewise, it accrues new means of creating and exploiting new markets while accelerating innovation and increasing market speed. It is important to recognize that this kind of alliances have a great impact on sharing human resources which will ultimately lead to create a sense of cultural openness.

Similarly, the firm can internally benefit from this type of networks and leverage some of those benefits into their assets. As pointed by Traitler, Watzke and Saguy (2011), sharing resources and postponing out-of-pocket investment until the project is launched has a significant impact on reducing upfront costs. When getting involved in

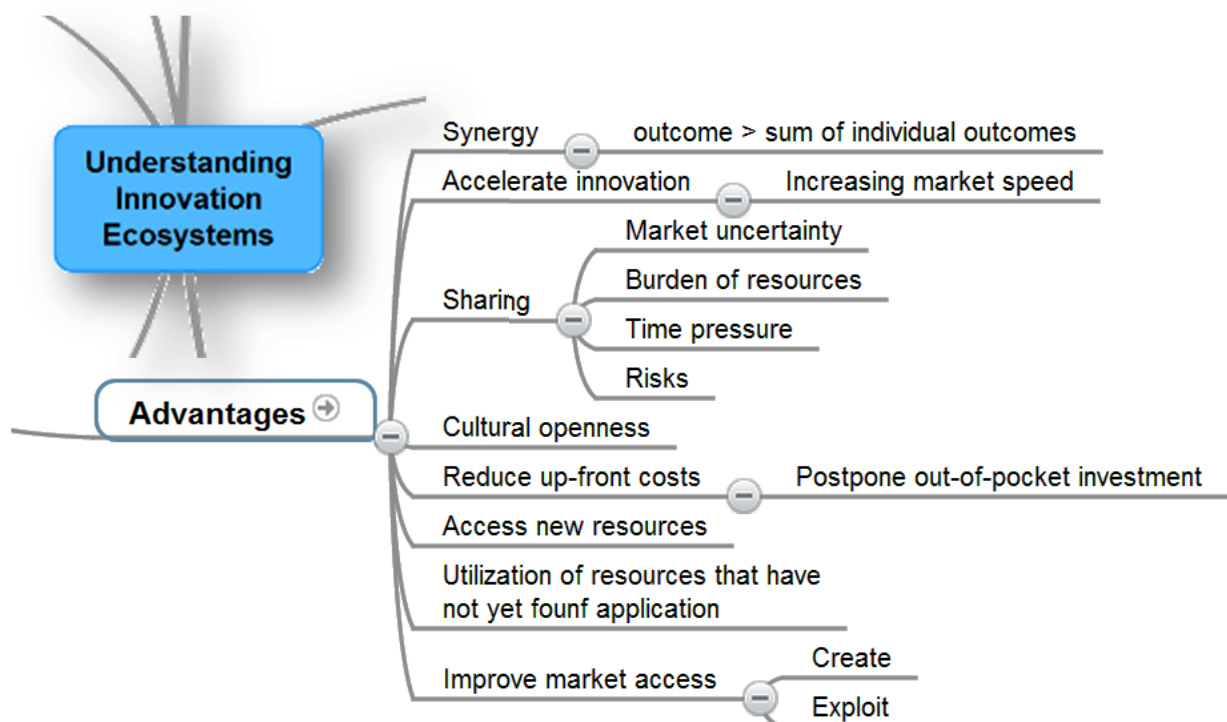


Figure 3 Advantages of innovating through ecosystems (Compilation by the author)

this business model, the risk of making financial commitments too early in the project is kept low for all parties, given that partnerships are made with upstream and downstream collaborators. In other words, all members would provide their resources as mean of collaboration for trial and early stages instead of a traditional sourcing transaction. Thus alliances evoke that the ownership of assets becomes less important than the ability to access them through virtual integration (Walters and Rainbird, 2007). Moreover, Adner (2006) suggested that cooperation activities with other firms or institutions are opportunities to access complementary technological resources (such as skill sharing). Firms can benefit from other firms' resources as well as from other firms' usage of their own resources. In this way, firms are able to utilize the brains of people from outside, people who will develop things that create demand for their own products (Deck and Storm, 2002). This access to new skills would ultimately contribute to faster development of innovation, improve market access, economies of scale and scope, cost sharing and risk spreading (Ahuja, 2000; Cassiman and Veugelers, 2002; Hagedoorn, 2002; López, 2008), which were mentioned before as other benefits from co-creation networks. In addition, it may create opportunities for utilization of technologies that have not yet found application (Chesbrough, 2003).

6.1.4. Obstacles to success

Companies looking forward to engage and innovate through partnerships, should also be aware of the obstacles they may encounter in their way to success. This sense of consciousness about possible problems is especially true for companies orchestrating the ecosystem. In fact, codevelopment alliance managers need to overcome obstacles and to operate through novel configurations in order to succeed.

Depending on others for your personal accomplishments implies having important changes on your strategy. Yet one of the main obstacles is overall confusion. Starting from the misunderstanding over what innovation actually is the one being launched: Who has control? Who and how can members profit from the initiative? What happens to intellectual property rights? (Corkill, 2007). Intellectual property is a tricky issue here: partners may be reluctant to share their insights and remain overprotective with IP sharing. Possible reasons for this are relational problems and lack of confidence between members, then again, another complication to networks. Besides this, there may be more confusion over the management methods needed to deliver continuous value. An uncoordinated partnership which is poorly aligned with peer functions (such as accounts, procurement, sales, etc) will create conflict messages to current and potential partners, presenting an obstacle to innovation (Corkill, 2007). Additionally, the absence of an innovation plan can hide where critical bottlenecks reside, consequently affecting timing of the overall project. As suggested by Adner (2006), getting ahead of your rivals is of value only if your partners are ready when you arrive. Moreover, defining the form of partnership is also crucial. A problem may arise if managers are

not clear about what is it that will be partnered (a product, a technology, a skill), and the time frame of a partnership (short-term vs. long-term).

Second, Fisher (1996) pointed out that although some failures may be attributed to changes in business conditions, a number of them are triggered by inappropriate partner selection. Differences in organizational cultures, mindsets, expectations, and behavior can make building relational capital and managing alliances extremely costly (Emden, Calantone and Droge, 2006). Likewise, having an undifferentiated value proposition for network partners, for instance, relying on money as the only deal driver leaves a company without advantage over competitors (Corkill, 2007).

As a third theme, some authors may also argue that one of the most important strategic factors affected is the risk assessment and management. For some companies the attempt at ecosystem innovation has been a costly failure because they overlooked that along with new opportunities, innovation ecosystems also presents a new set of risks (Adner, 2006). Initiative, interdependence and integration risks should be carefully treated upfront.

One final obstacle may reside on the costs associated with those network-types of practices. Specifically, upfront investment in human resources required for assessing, selecting and negotiating with external innovation contributors, or in some cases the paramount organizational changes required for implementation (Traitler and others, 2011).

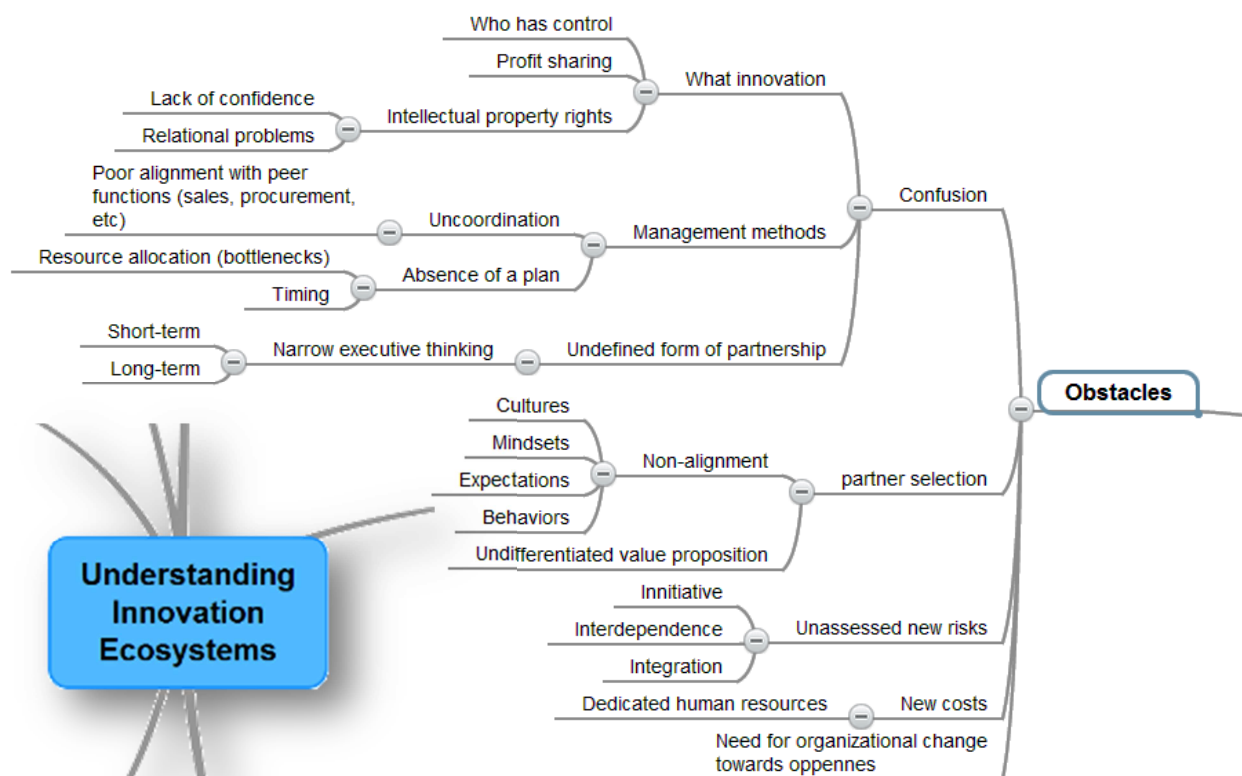


Figure 4 Obstacles to innovation ecosystems (Compilation by the author)

6.1.5. Key factors for success

In order to overcome obstacles, specific KFS have been recognized in business ecosystems. Since networks are completely based on relationships, it is not a surprise that most of this success factors are relationship-based. And in order to accomplish the desired relationships it is absolutely essential to have management commitment in nourishing and embracing those interactions. That kind of leadership is vital for integrating the whole innovation process towards a customer centric outcome. It is now becoming increasingly evident that sustainable competitive advantage require of a strategic orientation that is wholly focused on consumer value; and value chains that are co-ordinated and responsive to the dynamic needs and wants of final customer (Bonney, Clark, Collins and Fearne, 2007).

Moreover, Traitler and Sagury (2009) had established that in order to align the value chain towards customer centric innovations, partnerships should rely on what they've coined "Sharing is winning". This term is built on the fundamental principle that the solution seeker has to let the proposed solution provider know its precise needs and requirements, in the initial dialog steps (Traitler and Sagury, 2009). Therefore, achieving that stakeholders share needs and requirements, as well as offering, in an open way since the beginning is considered to be one key factor for success in ecosystem innovation.

Accordingly, a shift in a cultural mindset should occur among managers and people engaged with innovation projects. Company's culture should be open to change processes in which new partners may take a stake in development, risks and rewards. It is also important to rely in the expertise of knowledgeable employees at all levels, rather than just the traditional hierarchical thinking of relying only on experts (Traitler Watzke and Saguy, 2011).

After the process has started, project management tools and methodologies are paramount in giving continuity to all projects. It is vital for all actors involved to have clear goals, timelines and milestones, as well as official guidance of when, where, and how their participation is required. For this, the hub firm should have internal experts, people that

Customer centric innovation

Strategic orientation

- Focused on customer value
- Responsive to demand

Sharing is winning

Share up-front:

- Needs
- Gaps
- Requirements

Mindset Change

Cultural shift embracing:

- Change
- Risk taking
- Partnering

Project Management

Define up-front and update:

- Goals
- Resources
- Timelines, milestones

Risk assessment

Explicitly account for:

- Risks
- Delays
- Challenges

Metrics

Qualitative and quantitative:

- KP'I's
- Benchmarking

Figure 5 KFS (By the author)

are keen on managing the process and especially trained in driving it towards a successful market launch. Likewise, creating a strategy that explicitly accounts for the delays and challenges that are inherent in collaborative networks is key on succeeding (Adner, 2006). An upfront risk assessment that clearly defines expectations would save much trouble in further steps of the process. Although embracing risk-taking is needed, a rich understanding on how those risks can affect the outcome is as equally important.

Finally, appropriate metrics for quantifying innovativeness are top requirements. Metrics implemented should be considered during and after the innovation process has taken place. Both quantitative and qualitative metrics are advisable, which at the end should be linked to KPI's, reward mechanisms and benchmarking (Trautler Watzke and Saguy, 2011).

6.1.6. Successful ecosystem cases

In today's highly interconnected world, there are some companies that had embraced open innovation within their boundaries. Some of them went further in innovation ecosystems, and dominant players who had been able to understand their networks, are nowadays keen on maintaining a central role on it. The prime example of a product design within such a framework is Apple's iPod. At a time when the company was developing their next blockbuster product, an independent product design consultant approach the company to propose an innovation consisting of an easy-to-use MP3 player and music-management and purchase software (Kahney, 2004). This idea was followed up by Apple, a 35-member team hired from Philips, Ideo, Connectix and WebTV developed the design and user interface and a partner, PortalPlayer, develop the technical design. The final product was then put together with Wolfson, Toshiba and Texas Instruments (Kahney, 2004). Nowadays, that first generation iPod is a perfect example of cross-innovation.

Consumer goods industry is another example of what can be accomplish from open innovation. Nestlé for instance, got involve into the open innovation paradigm through the establishment of INP (Innovation Partnership) program. INP allowed turning the outside world for bigger, better, bolder, and faster innovation, and its execution and implementation were prompted by the recognition that universities, academia, small startups, biotech companies and large industrial suppliers are important sources of co-development and partnerships (Trautler, Watzke and Saguy, 2011). What makes them unique is the way in which they have achieved to align their whole value chain (from suppliers, to distributors) to a common frame sharing the same focus: the final customer. By adapting the INP and SiW (Sharing is Winning) models, Nestlé was able to extend the speed and scope of their innovations. They have been collaborating with key partners such as BASF, DuPont, Firmenich, and Tetrapack, among others. In less than 3 years, this strategy has already contributed to numerous new projects and more than \$200 million in new business (Trautler and Sagua, 2009).

The previous two were examples of different products and industries than the one TMarina belongs to. However, on an industry specific basis, it can observe the case of Huawei inTouch, which partnership's plan has become a business model for innovation in a hub setting. Today, more than 50 operators and 84 service providers have set up and run tests on new services and applications in the lab, while more than 300 partners have joined the inTouch Lab Partnership Plan to work with the operators and create these new services (Telecommunications International, 2007). They define themselves as a program design to set up close partnerships with content and application providers and handset providers, construct a win-win and sustainable developing value chain ecosystem, and support end-to-end value added service (Huawei Web, 2012). The main activities develop in the Lab are marketing investigation with partners, business innovation together with partners, co-research and development, and exploitation of new markets; while offering the supply of open interface, technological support, development tools, and end-to-end test environment.

6.2. ORCHESTRATING THE ECOSYSTEM

It has been known for a while that innovation through networks is a promising way for leveraging resources and achieving new competitive advantages. However, some firms had failed to attain the desired outcomes from ecosystems, due in part to the poor knowledge acquired on how to manage them. While ecosystems had become an established way of doing business, the strategies, processes, and tools to manage them lag behind the implementation curve (Iansiti, 2005). Therefore, next research step aimed at gathering knowledge on how a firm participating in an innovation ecosystem can actively shift from being just an actor to be the actual hub for cross-innovation. The general idea is that a hub firm generally defines the basic architecture for the core innovation, and then invites network members to design and develop the different components to complete the development. The hub firm integrates these different components and the markets it (Nambisan and Sawhney, 2011).

6.2.1. The hub firm role

Hub firms are defined as the one that possesses prominence and power gained through individual attributes and a central position in the network structure and that uses its prominence and power to perform a leadership role in pulling together the dispersed resources and capabilities of network members (Dhanaraj and Parkhe, 2006). In other words, these firms are triggering entities, central decision makers, which are strategically located at the center of the network to perform a leadership role in leveraging both innovation design and network design. They are also responsible for performing the orchestration tasks (deliberately and purposefully) that will create value

(enlarge their industry) and extract value (share a greater portion of it), in their market place.

Although each partner keeps a considerable amount of autonomy regarding their individual contributions, the hub firm remains as the central decision maker in the network. Moreover, two important assumptions are made. The first one is that all network players will actively pursue their own self-interest (Dhanaraj and Parkhe, 2006), as this context set the basis for making orchestration an essential activity. Second assumption is that hub firms may influence the network through their recruitment activities (Dhanaraj and Parkhe, 2006). This strategic choice of partner should gave them the power to change the network membership (meaning size and diversity of partners), and similarly, change the network structure (meaning density and autonomy of partners). Assuming a hub form hold this power, they should be able to control their network position and maintain centrality and status.

Furthermore, a hub firm may play two main different roles in different projects. It may act as an innovation integrator that primarily focuses on envisioning the core innovation and integrating partners' contributions to create the final product or offering (Nambisan and Sawhney, 2011). Within this role, their main objective would rely on integrating technological assets of partners involve in the development of the new service. On the other hand, it may take the role of a platform leader, who focuses on defining and developing the core innovation (platform) and facilitating partners' complementary innovations that expand its reach and range (Nambisan and Sawhney, 2011). Their main objective as platform leaders would be to support partners in the creation of the complementary services that enhance the scope of the main innovation.

6.2.2. Designing the business model for partnering

As stated before, within the innovation ecosystem framework it exist an urgent need for a robust business model design and implementation in how to manage the network. Chesbrough and Schwartz (2007), define four main steps a hub firm should carry out when defining the business model for leveraging co-development partnerships: define business objectives, assess capabilities, determine the degree of alignment, and manage the partnership thinking of the future.

Define business objectives

First step is then to define the business objectives for partnering. It is important to perform this exercise since, depending upon those objectives some dimensions of the business model design may vary. The objective is to determine the appropriate relationship that matches with the requirements to achieve a certain business objective. Table 1 shows an adaptation of how different business objectives impact differently on co-development design.

Objective	Business Requirement	Implication for BM design
Increase profitability	Lower cost	Increase volume to spread fixed-costs; partner for less critical components
Shorten time to market	Incorporate already-developed components or subsystems	Seek partners with proven capabilities
Enhance innovation capability	Increase the number and variety of front-end technologies	Create strategic research partnerships with universities, research labs
Create greater flexibility in R&D	Share risks with partners	Develop research partnerships in bottleneck areas
Expand market access	Broaden the pathways to market for products and services	Leverage partners' complementary R&D to tailor offerings for new markets

Table 1 Different Business Objectives of Co-development (adapted from Chesbrough and Schwartz, 2007)

Partnership Attributes	Type of R&D Capability		
	Core	Critical	Contextual
Partner role	Vital; utilize in-house R&D or very selected strategic partners	Important, but not core to overall business	Necessary but not value adding; develop multiple sources of capability
Number of partners	None or very few	Small number	Safety in numbers
Depth of relationship	Deep	Medium	Low
Contingency plan	Best to develop yourself, recruit strategic R&D suppliers if needed	Partner on a win-win basis; align business models; go in-house only as last resort	Switch to another partner if one partner is not performing

Table 2 Co-development partnerships in relation to required capabilities (adapted from Chesbrough and Schwartz, 2007)

Assess the required capabilities

Second step is to assess the capabilities you required. Within this stage, a hub firm should classify what are the capabilities it is looking for when partnering: core, critical or contextual. Core capabilities are key sources of a company's distinctive advantage and value added. They compromise the key assets to be leveraged in any co-development deal (Chesbrough and Schwartz, 2007). These ways of doing business are somehow risky ventures and generally are not undertaken unless is strategically necessary. Critical capabilities are those that are vital to the success of the complete

product or service offering in the marketplace, but are not core capabilities of the firm (Chesbrough and Schwartz, 2007). These kinds of agreement are usually held in order to expand the value proposition of a certain offering without the need for investment in R&D internal solutions. Finally, contextual capabilities are capabilities needed to complete the offering, but provide little of the differentiation or value added for the business (Chesbrough and Schwartz, 2007). It should be taken into account that what for a hub firm maybe contextual, for its partner may be core. Therefore a clear understanding between parties and a great deal of management tools are required to leverage both situations. Table 2 illustrates how the different type of capabilities influences the business model for an orchestrator firm.

Determine the degree of business model alignment

Third phase is to align the business model and proceed to select partners. As mentioned before, one issue factor causing potential issues is the misalignment of business objectives in partnerships. Aligned business models are complementary; if you execute your model well, your partner will benefit, and vice versa (Chesbrough and Schwartz, 2007). Based on a selection criterion, the hub firm should follow to show the desire partner how mutually essential the collaboration is. Some general criteria for selecting the co-development partner are: an ongoing, well-established relationship; competence to fulfill respective needs; unique technologies and solutions; cultural fit and similar values, and proven capabilities and track record (Traitler, Watzke and Saguy, 2011). However, Emden, Calantone and Droge (2006) suggested an emergent partner selection model in three phases: technological alignment, strategic alignment, and relational alignment.

Technological alignment is probably the first factors a hub firm manager would consider before partnering. Three different levels of technological alignment may coexist with different partners. Technical capability, which refers basically to a resource based view, which claims that firms search for partners who have unique technological resources they can leverage into new product development activities (Emden, Calantone and Droge, 2006). However, it doesn't necessarily needs to be a completely new technology. They may develop a resource complementarity between partners. Partners may possess complementary skills or complementary market knowledge. Through this collaboration, firms are either able to create new market segments for their mutual product (mutual market expansion), or as one partner gains access to a new market, the other has the opportunity to become a value-added supplier (Emden, Calantone and Droge, 2006). Moreover, capabilities may not be neither completely different, nor complementary, but offering an overlapping knowledge base. In their studies, Emden, Calantone and Droge (2006) were able to conclude that having similar knowledge bases, allowed firms to see the value in the potential partner competencies, discover complementarities, and understand the intricacies of the new knowledge and its applicability.

Moving onwards to phase two, orchestrator should take care of a strategic alignment which has two dimensions. First is the need of existence for a motivation

correspondence. The analysis should be direct towards partners having correspondent motivations, actively looking for signals that assure this. Hub firms should search for correspondence of motivations signals whether partners have mutually beneficial intentions and determine the likelihood that the partners will engage in opportunistic behaviors (Emden, Calantone and Droge, 2006). Second dimension is goal correspondence. It should be crystal clear that the prospective partners have noncompeting goals. It doesn't mean all of them should have the same goal but those must not be contradictory one another, and should be achievable through a common strategy.

Last proposed phase refers to a relational alignment. This stage includes three subcategories. First is identifying partners with compatible cultures in order to overcome conflicts more easily. This compatibility should be reflected in the way they do things (norms and procedures), synchronization of expectations, openness and consistency. These among other factors may create the necessary ground for collaboration, effective communication and exchange of knowledge. Second is propensity to adapt, which reflects the willingness of partners to adapt as the requirements of collaboration change (Emden, Calantone and Droge, 2006). Partnerships in innovation are highly tied with uncertainty and in some way, hard way to predict how the value creation will eventually develop. Therefore partners should have some degree of flexibility and adaptability. The third one refers to partner's vision: having a long-term orientation. It refers to the willingness to make short-term sacrifices for long-term results (Emden, Calantone and Droge, 2006). If a potential partner demonstrates long-term orientation, it shows their ability to overcome obstacles and keep on going, still under uncertainty.

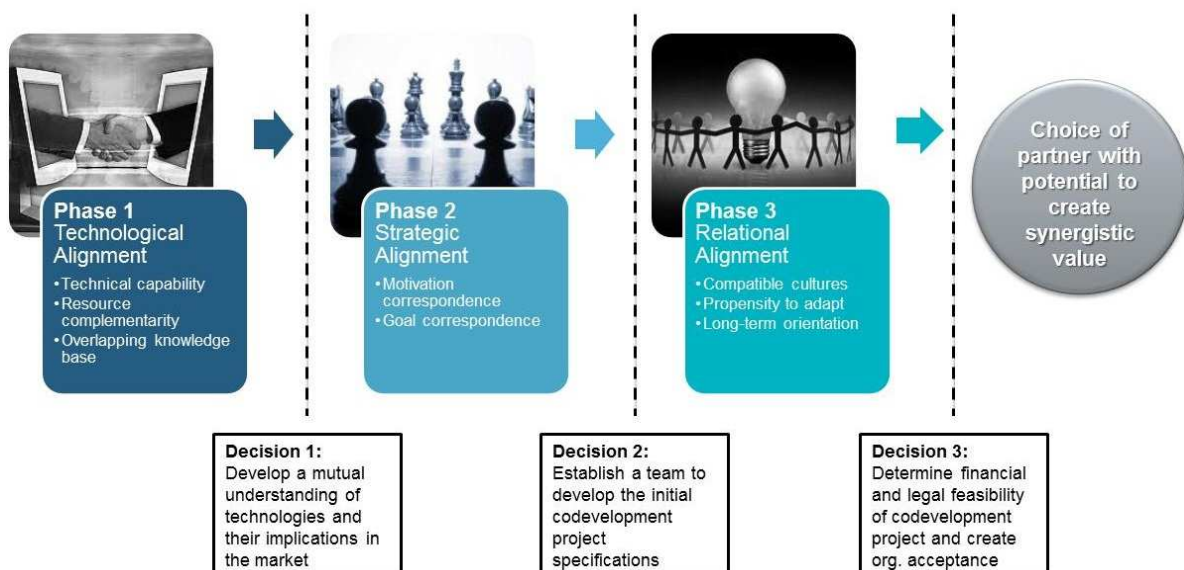


Figure 6 Emergent theory of partner selection (Adapted from Emden, Calantone and Droge, 2006)

Think about the future

Fourth and last step makes reference to management of the partnership, thinking about future collaborations and not just taking care of current needs. It has been discussed earlier in this study that long-term thinking is a must in business' partnerships. The aimed should be towards sustained collaborations and new value creation through strong networks and not merely outsourcing transactions. A firm that is targeting to be spotted as a hub for cross-innovation need to have a clear view towards their vision to collaborate with third parties. Chesbrough and Schwartz (2007) argued that, "by assessing others' business models, understanding one's own business needs, and the degree of their alignment with one's own business model, one can turn these relationships into more valuable codevelopment partnerships".

"Weedman's Corollary" to Moore's Law (Chesbrough, Vanhaverbeke and West, 2006)

You may have heard of Moore's law (regarding computer chips): speed doubles; costs halve every 18 months. Well, the second partnership deal with a company takes ½ of the time of the first deal. The third deal takes 1/3 of the time, and so on. And the subsequent deals are not only faster, they tend to be more profitable.

Jeff Weedman. P&G VP. External Business Development

6.2.3. Innovation and Network design

In order to be able to manage orchestration processes successfully, the hub firm should pay attention to two key elements of the network that affect directly on those processes. Consequently, a focus on both innovation and network design is needed. Innovation design meaning the structure of the assets that can be leveraged, innovation goals and architecture, and the nature and packaging of the contributions. Network design meaning the relationship among the members involved, their role and interactions, and their relationships and transactions.

Studies in the area of product development present several important elements of innovation design, including modularity, choice of technology standards, development process frameworks, technological novelty and risk, and product complexity. Similarly, for network design elements, including embeddedness, openness, cohesion, density, centralization autonomy, density and size (Nambisan and Sawhney, 2011).

At the end, the connection between these two sets of design elements would describe the nature of the orchestration processes. Therefore, some understanding of the concepts may be needed in more depth.

Modularity is used to imply the degree to which the network's innovation architecture has been decomposed into independent or loosely coupled modules (Baldwin & Clark, 2000). That modularity can be seen from both, a physical perspective (in terms of the arrangement of the physical components) and the information level (in terms of the arrangements of the knowledge the system comprises) (Richard & Devinney, 2005).

The term structure implies that by its strategic choice of partners, a hub firm can significantly change network membership (size and diversity) and arrangement (density and autonomy). Though such recruitment and brokering activities, the hub firm can control its network position, maintaining its centrality and status (Dhanaraj and Parkhe, 2006).

Openness implies how open or close the network is in terms of the ease with which firms can enter or exit the network, and the extent to which decision rights are distributed among the network members or concentrated on the core entity (Nambisan and Sawhney, 2011).

Network embeddedness relates to the contextualization of member activities and interactions in the social structures of the innovation network. It considers how well the members are linked to one another, capturing the overall connectedness of the network structure, as well as the degree of shared cognition among network entities (shared vocabulary, common representation and interpretation schemes, and overlapping domains of knowledge) (Nambisan and Sawhney, 2011).

6.2.4. The orchestration processes

Orchestration capability is specially required in future-oriented value creation, in search for both incremental and radical innovation and new business opportunities (Ritala, Armila and Blomqvist, 2009). It is then important for a hub firm to acknowledge that orchestration is fundamentally dynamic and uncertain activity, where participation is voluntary and coordination resembles enabling leadership rather than strict management (Miles, 2000). Therefore, in order for a hub firm to manage the orchestration process, and with it, influence the whole business network, it needs to gain the necessary knowledge of management in the specific processes. Hub firms perform several orchestration processes, including managing innovation leverage, managing innovation coherence, managing knowledge flows, managing network stability, managing innovation appropriability, and managing innovation risks.

Within innovation ecosystems, knowledge flow is chief currency. Therefore a first task for hub firms when orchestrating requires managing knowledge mobility. Knowledge mobility is defined as the ease with which knowledge is shared, acquired, and deployed within the network (Dhanaraj and Parkhe, 2006). As orchestrator, the hub firm has the responsibility to concentrate knowledge generated by different ecosystem actors, assess its value, and make sure it is transferred where needed.



Figure 7 Framework for Orchestration (Compilation from Dhanaraj and Parkhe, 2006, and Nambisan and Sawhney, 2011)

Combining relevant technologies in novel ways requires the “ability to identify, assimilate, and exploit knowledge from the environment” or absorptive capacity at the network level (Dhanaraj and Parkhe, 2006). Similarly, knowledge mobility can be enhanced by providing socialization linkages among firms (formal and informal), enhancing with it the easiness to openly share valuable knowledge among ecosystem participants.

Appropriability is an environmental property that “governs an innovator’s ability to capture the profits generated by an innovation” (Dhanaraj and Parkhe, 2006). Appropriability is then, the second process an orchestrator firm needs to manage. Using processes based on mutual trust and consistent ownership division, a hub firm can enhance innovation appropriability and mitigate concerns among network members. Evidence has repeatedly shown that the strength of an appropriability regime rests not so much on writing lengthy contracts and exercising litigation options as on relying on social interactions with partner firms and using trust and reciprocity, rich information sharing, and joint problem solving (Dhanaraj and Parkhe, 2006).

A third process includes all tasks related to manage network stability. Dhanaraj and Parkhe (2006), clarified that the network stability term refers to a dynamic (not static) stability, which aims for a nonnegative growth rate while allowing for entry and exit of network members. As orchestrator, a firm can increase this aspect of the ecosystem by enhancing the network reputation, expanding the footprint of the network in the future, and building multiplexity. Creating a well perceived network reputation discourages

actors to disconnect ties with the hub firm, while encouraging others to join or create new ties with it. Similarly, network stability increase as the bond between future benefits and present actions gets thicker (footprint of the future). Finally, network multiplexity refers to more than one connection occurring at the same time, expanding the scope of the network and making interaction more deep and close. That would tend to create an environment of understanding of each other's capabilities and idiosyncrasies, leading to heightened network stability (Dhanaraj and Parkhe, 2006).

Innovation coherence relates to the internal and external coherence of the innovative activities and outputs of the network. Therefore, fostering innovation coherence is the fourth task of the orchestration process. Internal innovation coherence relates to the coordination and alignment of processes and outputs of the members within the network, while external innovation coherence relates to the alignment of the goals and outputs of the network vis-a'-vis the external technological and market environment (Nambisan and Sawhney, 2011).

Fifth task of the orchestrator process is to manage innovation leverage. It relates to the sharing or reuse of technologies, processes, intellectual property and other innovation assets by members of the network (Nambisan and Sawhney, 2011). The term "leverage" applies if the value generated by the assets divided by the cost of creating, maintaining, and facilitating their sharing (or reuse) increase rapidly with the number of network members that use or deploy them. In other words, the hub firm is in charge of assuring that when the number of network members increase, the value generated out of the assets input increase as well, while the cost of creating, maintaining and facilitating the sharing of those assets decrease. Therefore, the value of assets would be equal to the number of network members with an exponent that should be larger than one.

Last suggested process in the orchestration framework is risk management. Ron Adner (2006) suggested the consideration of three main risk categories: initiative risks, interdependence risks, and integration risks. Initiative risks refer to the project itself. It aims to evaluate how the project measures up in terms of feasibility, benefits, competition, appropriateness and quality of the project team. Interdependence risks relate to expanding the angle of focus and analyze whose project must succeed before the one that is being launched. Since innovation through ecosystems is by definition involving different actors, interdependence risks reflect the joint probability that different ecosystem actors will comply with their commitments in time and specifications. Following statistical theory, that probability is found when multiplying the independent probability of success. It means that if the innovation is composed by three partners, and each of them forecast a 90% probability to comply with time and requirements, then the probability that the whole project is launched on time and within requirements is $0.9 \times 0.9 \times 0.9 = 73\%$. That number is not good or bad on an absolute scale. It is good or bad given the expected outcomes each partner is creating upfront. Therefore, it is important to have the correct expectance and act accordingly. Causes for delays in partners are varied and may be due to internal development challenges, regulatory

delays, incentive problems among team members, financial difficulties, leadership crises and their own interdependence risks with third parties (Adner, 2006). Finally, integration risks make reference to the whole supply chain involve all the way from creation to final customer. It aims to identify who, between innovator and customer, has to adopt the new service in order to make it reach the final user. The way to do it is to find out the number of intermediaries between the producer outcome and the final customer, and add up their adoption cycles in order to calculate the total amount of delays. Within this process, the innovation strategy and expectation should be constantly reevaluated and informed to all members, in order to realign goals and keep the whole business model within an evolving, feedback cycle.

“As customers get bored and competitors catch up, firms are trying to break out of the commodity trap by finding ways to leverage products and services provided by other partners to drive their own success”.

Ron Adner (2012)

In his book, Adner (2012) reflects about what makes the difference between an innovation success and failure. He argues that the innovation blind spot is the problem to all of it. His thesis define that good companies had always been keen on understanding that their success is completely dependent upon meeting customer needs, delivering great products (innovation) and beating competition. However, that kind of mindset alone always fall victim of what he describes as the innovation blind spot: failing to see that their success also depends on partners who themselves would need to innovate and agree to adapt in order for their efforts to succeed (Adner, 2012). He has coined his model as “the wide-lens perspective on innovation strategy”, and proposes a series of methodologies and tools for companies seeking to collaborate on an ecosystem perspective, master the ecosystem itself, and orchestrate the activities taken inside it.

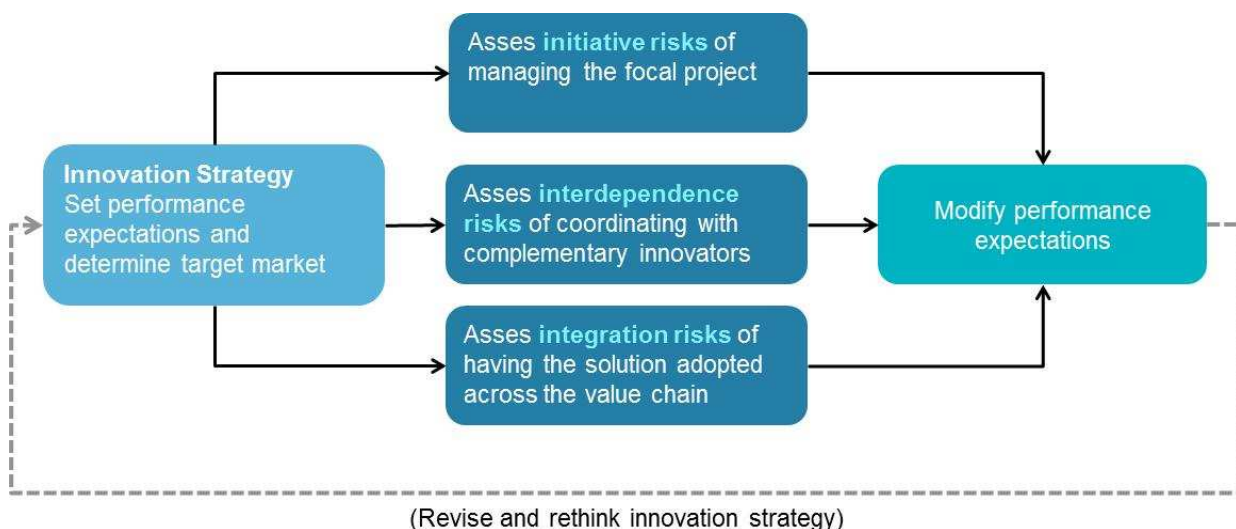


Figure 8 Managing innovation risks (Adapted from Adner, 2006)

Adner (2012) argues that more and more managers have been pushed into a world of greater collaboration. And although this shift is imminent for many companies operating in the new economy, it has both, up and down side. The upside is that whenever companies work together within a system of collaboration, they can achieve greater things than the discrete elements would have achieved for themselves. However, the downside is that at that point, the single company success is not depending anymore on its own efforts but on their partners' effort as well. Success in a connected world requires that you manage your dependence, but before you need to see and understand it (Adner, 2012).

The recommendation is then to adopt a structure approach to innovation in ecosystems. In that way, the company seeking to orchestrate the ecosystem, can follow a methodology and use tools tailored for each project in which partners are key elements. Those tools should resemble the fact that collaboration is equal to dependence and therefore, close project management is needed in order to orchestrate the innovation ecosystem and keep the center position within it, and do it with success. Moreover, the tools should help coordination of the project and follow up of upgrades and process, while being completely transparent to players in the ecosystem, partners and collaborators.

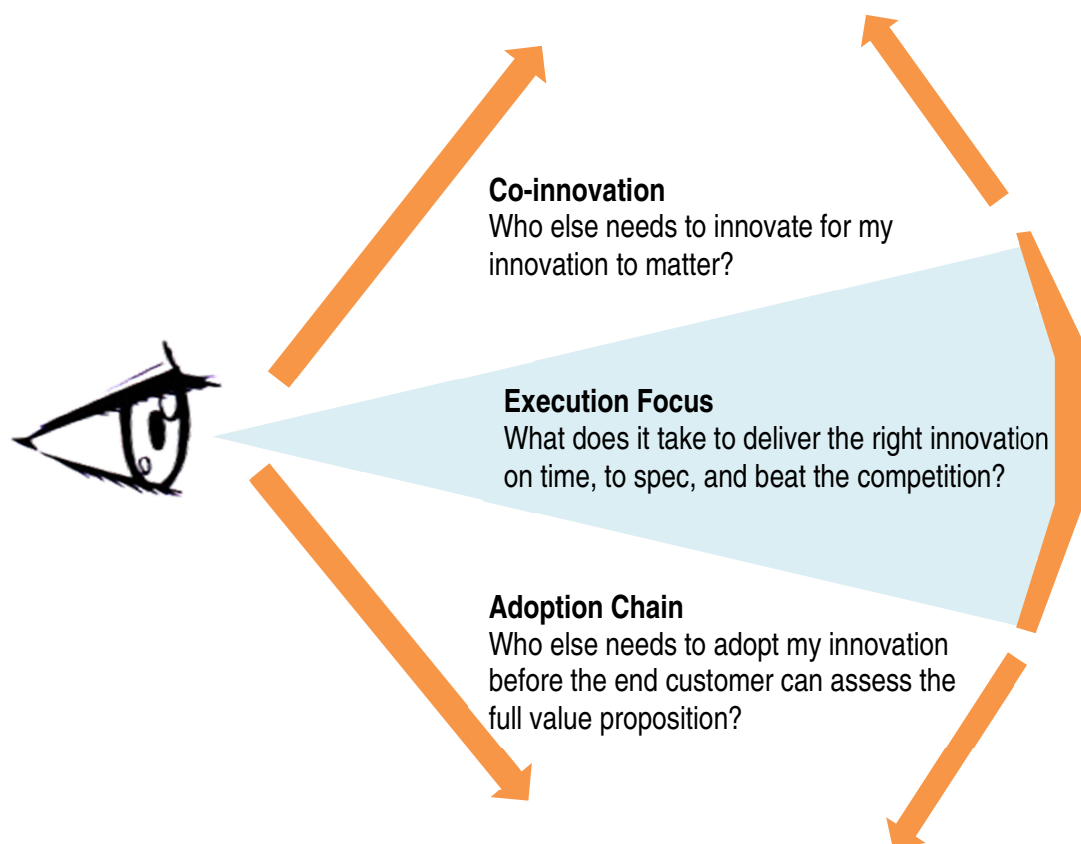


Figure 9 The wide-lens perspective on innovation strategy (Adapted from Adner, 2012)

Last important highlight for the orchestration is the acknowledgement that success of any project should always be assessed relative to expectations. For instance, when assessing the probability of success for a project there are no bad numbers, only bad expectations. There is no problem with making a 12 percent bet, as long as you know it's a 12 percent bet. The trouble begins when we make a 12 percent bet but thinking that the odds are 85 percent (Adner, 2012). The orchestrator must be able to understand the odds, structure process and assure every player has a winning portion of the innovation. At the end, each partner should be treated as a customer, who needs to understand the benefit they can attain for such collaboration and at the end, behave as followers. Otherwise there is no such thing as a leader. The leading company needs followers for their ecosystem to exist and for their orchestration to happen.

6.2.5. Management tools

6.2.5.1. Balanced Scorecard

Within an organization, success is usually reflected upon performance over a period of time. That overall performance is always dependent on the strategy the company has agreed to pursue. However, it is not sufficient with having the right but deploying the right actions to implement it and manage it. Within this path, effective leaders know that measurement tools are critical in order to control communication and establish alignment between different business units. And it is the same among different organizations participating in an innovation ecosystem. According to a recent study by McKinsey&Company, only half of all joint ventures yields returns to each partner above cost of capital. Corporate alliances are then a 50/50 bet (Kaplan, Norton and Rugelsjoen, 2009). This is a worrying fact since many companies in today's economy rely on partnerships and alliances for completing their business objectives.

Focusing on service level agreements and contracts to manage partnerships is not good enough. These are just controlling operational requirements while overlooking strategic ones. Moreover, for many organizations, the current environment compels the use of collaborative alliances as an important component of strategy (Cravens, Piercy, and Cravens 2000). As a consequence, the need to measure the performance between those alliances has become a priority among managers of the related firms. A good method to deal with the switch of focus is by means of a balance scorecard. Financial measurements have become insufficient to deal with partnerships relations occurring in the new economy. Strategies for creating value had shifted from managing tangible assets to knowledge-based strategies that created and deployed intangible assets in an organization (Kaplan and Norton, 2002). There is a need for including assessments over customer relationships, processes, skills, knowledge and analyze links occurring

between them. That's the need covered by a balance scorecard. Furthermore, measurement always motivates. It has been shown over the years, across industries and practices, that apart from giving information for improving, a measurement system motivates participants to do their best.

The balance scorecard was developed by Robert Kaplan (Harvard Business School) and David Norton as a performance measurement framework that added strategic nonfinancial performance measures to traditional financial metrics to give managers and executives a more "balanced" view of organizational performance (Sharma, 2009). It helps in combining financial and non-financial measurements and gives information to act accordingly. In other words, it is a way to measure the past according to future expectations. Therefore, it is a top down driven process, driven by mission and strategy of the entire organization (Chavan 2007). Therefore, it is a great tool that helps aligning an organization with their strategy, and in this case, a whole innovation ecosystem. Its purpose is to guide, control and challenge an entire organization towards realizing a shared conception of the future (Chavan 2007). It offers a visual aid to translate vision perspectives into more specific and attainable objectives, measurements, targets and action plans. Consequently, it should be considered as a tool to support long-term strategy within organizations, composed of a solely firm or of a group of them.

Given the information presented, the balance scorecard has been chosen as a measurement performance tool to be considered when orchestrating innovation ecosystems. These tools have two important benefits in this kind of alliances that makes it fit to be used in an innovation ecosystem. First, it provides a mechanism by which managers can communicate in order to work towards a common objective. Second, it determines a common language that executives can use in order to capture all the synergies from the co-development alliance. It is important to acknowledge that a key part of the balance scorecard approach is the feedback and learning step, where an organization is able to quantify where it is on its strategic capability building journey, in the context of its current performance, and possible changing business environment (Chavan, 2007). The information obtained through this process is an enabler for managers to diagnose whether the organization is on the right path and the actions needed accordingly.

In order to start the development of a balance scorecard there are some general guidelines that need to be followed. First, the team developing must set major objectives for each perspective that is going to be evaluated. Afterwards, measures per objective should be defined, in a way of parameters. Bringing it closer to an operational level, each measure should have a target or benchmark upon which it will be contrasted. Afterwards, strategies on how to achieve each objective will be developed. In general terms, balance scorecards are constructed around four general perspectives. The first one is a financial perspective. Even though a balance scorecard is not based completely on financial data, it is not disregarded. Investment would always be a priority that managers need to assess in every new and ongoing venture. The second one is the

customer perspective. Customer satisfaction is understood by all managers as a leading indicator of success. If a customer is not satisfied, they would ultimately change supplier. The third one is an internal business process perspective. Metrics in this perspective refer to the most unique process supporting the strategy. Last perspective is the learning and growth one. It includes all attitudes and capabilities required to evolve and upgrade actions.

6.2.5.2. Multiplying risks

Another tool useful when managing innovation ecosystems is based on the risk assessment factor for success. Previously in this work, it has been mentioned that one of the key factors for success is the risk management of a project. Moreover, it is included in one of the six processes of the suggested methodology for orchestrating innovation ecosystems. The issue to have in mind is that when innovation in an ecosystem scenario, your ability to succeed, depends upon your partners' ability to successfully comply with their responsibilities, in time and shape. Therefore, there must be a change of mind towards risk assessment. It is no longer only your risks but the combination of the risks brought in by every partner involved. The extent of the co-innovation risk depends on the joint probability that each of the partners will be able to satisfy their innovation commitments within a specific time frame (Adner, 2012).

In most organizations, whenever partnering, a due diligence process is conducted to analyze partners' historical precedents and develop a profile from the company. In ecosystems setting, this kind of assessment is needed, but also an analysis of the interaction between companies is key. An average of probabilities will never give a real assessment of the risk undertaken in an upcoming project.

The logic of a multiplying risks tool is constructed on the theory of joint probabilities. A joint probability is the probability that two events occur simultaneously. The probability of two independent events occurring at the same time, is the product of the independent probability that each of them occur. The logic of co-innovation is a logic of multiplication, not averages (Adner, 2012). In other words, the nature of this alliances points that the likelihood of an event equals the product of the likelihood of the joint events that make it happen. Therefore, in co-innovation developments, the probability of completing a project in time and shape is not the average probability of all the players involved finishing according to specs, but a multiplication of them.

The tool is therefore just a simplification of reality when assessing risks and probabilities in new projects developed through innovation ecosystems. It is useful considering it forces managers and team members to assess a rough probability of succeeding according to specs and within the ideal time frame. Having that number in mind, project leaders can decide which bets to pursue and which actions are required to mitigate the risk of such an investment.

6.2.5.3. Value Blueprint

Whenever a new product or service is going to be launch, the company generates a value proposition out of it. That value proposition reflects the promise of the future value the innovation will create and who will be the recipient of it. One way or another, this potential value needs to be translated to action and lead innovation to a successful result in the market place. When the value proposition requires multiple elements to converge, for instance, when innovating through ecosystems, the needed alternative is one that generates share understanding and agreement among the partners as to how these elements should come together (Adner, 2012). In order to accomplish this task, Adner (2012) coined the value blueprint tool. It is a tool that shows explicitly location and links of complementors for the innovation project. It is basically a map that makes ecosystem and dependencies of the project explicit to all players involved. It shows how elements are arrange and linked, and which actors are responsible for each element. The process to construct a value blueprint follows eight steps proposed by Adner (2012).

1. Identify end customer
2. Identify the project
3. Identify suppliers/partners
4. Identify intermediaries
5. Identify complementors
6. Identify the level of risk for each element along a green-yellow-red traffic light continuum
7. For every partner whose status is not green, analyze the cause of the problem and a viable solution
8. Update the blueprint on regular basis.

Making this exercise would force stakeholders of the innovation project to think about challenges of partnering for a specific project purpose. At last, it would provide a visual aid to understand risks and necessary activities to overcome those. In order for it to work properly, it is necessary to include all elements required by the innovation. Therefore, it needs to be constructed by the team of people involve in the project and all partners should actively participate in the construction of the tool. Moreover, upgrading should be perform every time an aspect changes and when it does, all changes should be communicated to stakeholder of the innovation project.

7. CASE STUDY

7.1. Description

Innovation ecosystems exist in different settings and with different objectives. Small and big corporations around the globe participate in more than one ecosystem, sometimes without even noticing the magnitude of the network they belong to. This occurs when the company has no real interest on the network creation and features, and their pure motivation is to get their part of the work done. And it is completely fine as long as innovation through partnerships is not part of their core strategy. Some other companies however, rely on value creation through partnership agreements to survive, grow and change along with market dynamics. This last group is the one that shows a natural interest on their ecosystem of co-creation, as outcomes developed within it would ultimately be reflected on their operations. Nevertheless, not all firms interested in the dynamics of their ecosystem have the power to actively shift features, push ideas, demand contributions and enhance global relation. The ones that do have this position, magnitude and power, are perfect targets to become a global hub for cross-innovation.

Naturally, the company selected for a case study in this research project has all these characteristics for becoming an ecosystem orchestrator. They not only have a vast international footprint and a strong industry trademark. They also belong to a fast-changing industry, which relies on the ability to innovate. They own an important global asset that needs to be levered adding new elements to create new services. And more importantly, they have identified a need to change and a clear motivation to become a hub for innovation on a global basis.

Their aim is to transform the company while reaching a sustainable competitive advantage through innovation. However, they are not interested in doing it alone. In this process, they need partners who are willing to share risks and returns, as they provide management know-how to encompass all elements for creation, exploit the potential of the creation and ultimately reach value for all participants involved. This case study is then focused on giving direction on how to achieve that central position through management tools and frameworks that help practitioners to take advantage of the ecosystem and follow up results gained through it. For many companies the problem is not making the alliances, but capitalizing on them. The desired results are not reached the vast majority of times, due to lack of management methodologies and comprehension of the features beneath relationships for co-creation. Therefore, the case study would be constructed bearing that vision in mind.

7.2. Methodology

Initially a company overview would be presented as to understand who TMarina is, what their business is, and what is their current position in the industry. This insight

was gained through a deep collaboration with their Innovation and Strategy Management Department office located in Barcelona, Spain. Getting to know their processes and current status would situate the analysis on a company-wide perspective. This company overview is followed by an industry one. Having a general comprehension of the industry in which TMarina operates would situate the analysis on a market-wide perspective, allowing to recognize current dynamics and external forces driving some company decisions. Merging both analysis, and adding the insight gained with an interview performed to the company CEO, helped in defining the opportunity gap for TMarina as an ecosystem orchestrator worldwide. Once the opportunity was identified, the current innovation process was studied to locate the parts of the process in which conclusions drawn on this project are relevant.

After a current status of the company was reached, proposals for improvement on their activities as innovation hub were developed. These proposals merged theoretical contributions, empirical information from the company, and personal insights from the researcher. An ecosystem basic architecture was drawn, followed by a proposed strategy for orchestration and management tools expected to aid in the orchestration process. Finally, some key factors for success were identified considering company specifics.

Interviews were performed on a semi-structured format to four main information providers. Company CEO, Manager of the Innovation and Strategy Management Department, Manager of the New Product and Service Development Department and Project Leader from the Network Security Department, who is currently involved in an innovation project through ecosystem setting.

This research would contribute to provide TMarina with a clear insight of how to construct and manage that hub for cross-innovation and do so as the leading firms do today: orchestrate the activities within the network of partners in such a way that their joint capabilities rise the value created over the time, for them, their customers, and the industry in general.

7.3. TMARINA CURRENT STATE

7.3.1. Company overview

TMarina International is one of the major telecommunication wholesaler multinational players, based in Spain, and with operations worldwide. Up to 2011, the company had presence in more than 30 countries, and its professional network included 700 employees. They currently provide global telecommunication services for fixed and

mobile carriers, internet service providers (ISPs) and content providers, with an international portfolio including voice, IP, capacity, satellite, mobility and international service for corporations. In Europe, they operate in the wholesale market which is valued in 11b EUR, from which TMarina accounts for the 8% (Ovum report, 2011). The company is ranked to be the 5th service provider in EU, a mature market, while exceling a leadership position in Latin America, a growing one.

TMarina's core business has been mainly focused on voice and IP services. Voice service is based on international termination to and from Spain, Latin America, and Europe. They interconnect transit from more than 200 international carriers and offer other services, namely, integrated services digital network (ISDN), signaling and international assistance. Their IP/Capacity service is considered to be among the top 10 within international operators worldwide. It is constructed over broadband communication through fiber optic submarine and land cable, providing highly reliable connectivity for users. However, in the past years those two businesses have been drastically declining across the whole industry, and it's not expected to grow again in the future. Voice managed business has been decreasing at a 9% rate on an annual basis, while IP traffic growth has significantly slowdown, attaining a 42% reported over an 85% projected. What is more, total network capacity (principal asset) is forecasted to be filled by 2016, which would lead no chance for growing on it whatsoever.

In order to overcome those difficulties, the company had recognized a need for changing direction, re-engineering their strategy. First solution that comes to mind would be to duplicate the installed capacity and keep on serving the same portfolio to the same customers. However, this upgrade of network capacity would represent a huge capital investment for the company, which cannot be shared with customers, as they are not willing to pay more for the same service they are having now. Prices on technology are always expected to go down, never up. Therefore, this solution doesn't show a profitable business case, and is not a feasible one by itself. Capital expenditure alone won't make any difference, in fact, it could led the company to red numbers in no time. The solution needed to be integral proving the company with a strong strategy to face the future. Moreover, external forces worsen the scenario, namely, aggressive competition and easily bored customers. Therefore, TMarina looked forward to grow in a new profitable business model, moving out of the traditional one. And the best way to achieve this outcome was through innovation. The company had recognized they needed to offer new services, leveraging their current assets through partnerships that allow sharing upfront risks and future returns. For a big corporation to achieve such a discontinuous change, the most important issue is to convert strategy, structure, competences and processes at the same time (Kodama, 2011). In order to accomplish this, there's a requirement to oversee a thorough transformation of the traditional way of doing things.

"We didn't have an innovative environment in our company. We were just going with the flow but not really generating it. In our company we took as an objective to change this. Not only change it for our external

strategic positioning, but live it as a concept within the company. Then our first purpose was to change it from the core reality of our employees. We start with different activities coming specifically from human resource department, and without being really rigorous; we have been achieving this change in the feeling of our employees” (TMarina’s CEO).

Consequently, it is not surprising that the company has devoted some of their resources to innovation. Innovation not only towards the outside market, but also in their internal environment and organizational culture. Over the past year, different initiatives had taken place in order to motivate employees from all over the company to suggest innovation projects. Project distribution has been mainly focused on areas such as better place to work, customer satisfaction, processes efficiency, profitability and revenues. Taking a close look in projects where new services are going to be offered, mastery of an ecosystem strategy is a must to keep on competing, as many of those projects required partners participation. Many, if not all of the revenue-related projects have a clear need for partnerships with customers, suppliers, distributors, among others, in order to collaborate in the whole process for delivering new services: from conception to launch.

In fact, this is not at all a new feeling for the telecommunication industry, or any other industry embedded in a fast changing globalized market place. The new economy has brought in a growing trend not to be alone. In a 2011 survey of senior executives by the Corporate Executive Board, 67% of the interviewed expected new partnerships, and 49% expected new business models to be critical drivers of their growth in the upcoming five to ten years (Adner, 2012).

Following this trend, TMarina has started to innovate through collaborative arrangements one or two years ago. In other words, involving partners and customers in the development of new services to be include in their portfolio. Special relationships have been established with key partners and some of the initiatives have been conducted across the innovation funnel, achieve the trial face and finally marketed. However it has not been an easy task. Considering it to be a new process inside the company, some important factors for success had been forgotten along the way, and TMarina has not obtained the desired outcomes from their networked-innovations. Failure was mostly due to lack of appropriate management to control other’s assets towards a common goal. They were lacking methodologies and tools that allow constructing a clear path for new developments inside ecosystem settings.

Today, the company has realized that the most effective way to drive their developments through partnerships is to provide a hub for innovation. Construct a platform in which stakeholders can connect their efforts towards sustainable developing new services. Their objective is to create a win-win ecosystem to lead innovation, unify and combine assets across actors, bust industrial prosperity and promote project incubation by joint experimentation with key customers.

7.3.2. Market overview

In order to design a business for innovation within an ecosystem setting, it is imperative that TMarina have a clear view of the external environment surrounding company's developments. This knowledge should include the market, its current behaviors and forecast for the upcoming future, their customers, and the possible innovation partners.

History proves that massive technology changes typically shift dynamics between incumbents and attackers creating winners and losers (Morgan Stanley, 2009). In the 60's, industry winners were unquestionably mainframe computers; in the 70's, mini computing; in the 80's personal computing; in the 90's desktop internet and in 2000's mobile internet computing. However, impact has not been achieved in the same magnitude, as winners of each new cycle often create more market capitalization than winners of prior cycles (Morgan Stanley, 2009). In each case, few players adapt, but most of former winners failed to make the lip from cycle to cycle, due to lack of innovation skills and speed. For this decade, is evident that we have entered in the mobile internet cycle. And if the past prologue, that change pace suggest that more users will likely connect to the internet via mobile devices than desktop PCs within 5 years (Morgan Stanley, 2009).

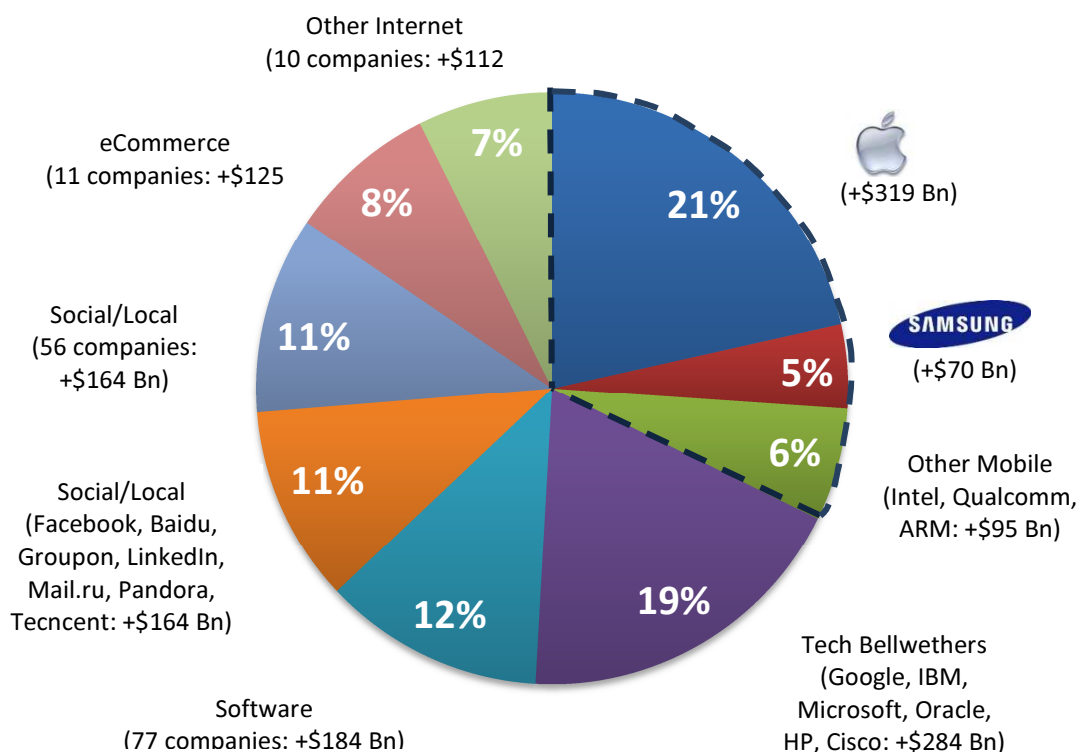


Figure 10 2009-2012: Value creation by sector (Capital IQ, Morgan Stanley, 2012)

In this scenario it can be observed that while telcos performed quite well over the past fifteen years, tech-companies are the ones taking the big size of the pie nowadays. According to Morgan Stanley (2012) reports, 32% of the consolidated value creation in the internet market from 2009 to 2012 was accomplished by mobile companies, such as Apple, Samsung and Intel; 18% came from Tech bellwethers such as Google, IBM and Microsoft; 12% from software companies, 11% from social and local endeavors; 11% from semiconductors; 8% from ecommerce, and the reminding from other internet businesses. From these data, two main facts are crucial for understanding TMarina's market environment.

- 1) Value creation lies in the hands of few dominant players. Large proportion of wealth in the industry is being distributed among large, and few players.
- 2) Equipment and device manufacturers (Nokia, Juniper, ZTE) are not consider in the distribution because they are not creating value, in fact, they have destroy wealth (+43 Bn = 2.9%).

Implication for telcos is huge as the ecosystem is more and more defined. As mobile internet continues to rise, telcos are more concern on the way they can get make the lip between cycles and turn into market winners. Looking at the big picture, telcos are in the middle way of the path, connecting handsets (Apple, Samsung, etc) to application developers and OTTs (Facebook, Twitter, Skype, etc). Considering the specific TMarina's case, innovation over the past years has been driven by equipment manufacturers. Every time TMarina improve and expand service offerings was mainly due to the fact that their selected equipment manufacturer develop new hardware. That hardware was then acquired by the company, and new services were offered to customers. Up to that part of the story, the value chain was just fine. However, soon after buying, competitors would also buy the same hardware, which will in turn allow them to provide that new innovative service to the final customers. Moreover, innovation cycles from these companies take years, while for mobile players are no more than six months. That "virtual" innovation left TMarina in a position where the company was clearly divided in local silos, and completely tied to infrastructure. Meanwhile, customers at both sides of the chain (apps and handsets), are functioning on global basis, and have no ties to infrastructure whatsoever.

Additionally, it can also be observed that customer behavior has shift from voice needs to data ones. It is true that big players are accelerating those changes, nevertheless revenues grow in all directions and it's only a matter of speed to understand who can capture the bigger portion of it. In other words, faster and visionary companies are the ones gaining the value created, and the rest of them will keep on following the path others create.

7.3.3. Opportunity gap

In this industry, it can be perceived that in the past, companies within this industry were narrowly focused in specific markets: commerce (ebay, amazon, apple, etc), media/content (Disney, CBS, Aol, etc), advertising services (Google, Yahoo, Microsoft) and infrastructure & Tools (Adobe, Microsoft, VeriSign). However those leaders are crossing today traditional boundaries, as competition is more and more based on controlling customer experience and driving scale up. This had generated a new phenomenon in which companies are collaborating on vertically integrated ecosystems formed by developer tools, content providers, monetization and hardware producers (Qatalyst, 2012).

Therefore, the opportunity for TMarina as a telco wholesaler player clearly lay on leveraging their assets, and taking advantage of their position as an infrastructure platform in order to get inside new business models. In other words, evolve from industry middleman to enabler, and reach control and visibility over the whole networked industry. The company has recognized that their traditional business in voice service is the past and no longer the future, and their efforts on innovation should be directed towards the needs the market had proclaimed (evidence in previous data presented). Moreover, the company cannot rely anymore on being pulled to innovate. The process should go the other way around: TMarina playing a role of innovation generator, rather than merely a follower.

“The wholesaler business has a traditional tendency to get obsolete. We are always waiting. Waiting for products to be well accepted by the residential market, which is the final customer of the supply chain in which we participate, and is in fact the one who generates the real profit for our activities. Waiting for innovation in the retail sector to stick, and impact our business. Therefore, we have been sitting in a kind of comfort zone where innovation is apparently not that important. Innovation in this industry, especially in wholesale, was taken from the outside, and never coming from the actual core of our business. However, this view is completely mistaken in real business arena. This can be appreciated in international forums, where wholesale carriers (traditional ones), are really center in the traditional business (voice, IP, roaming), and are not trying to go further. The result is that we have been generating huge holes in the market, where more agile companies enter and take advantage of our lack of ambition and vision, lack of speed and agility. They are the ones filling the gaps we create. We are generating the business but not taking advantage out of it, while limiting an adequate strategic position for the company” (TMarina’s CEO).

Bearing TMarina’s core assets in mind is the first step on the track to generate ideas on how to leverage them. Being a multinational company, there is a lot of value this company can add as a wholesaler player.

1. Closeness to the customer. TMarina owns the network; therefore, none of the other ecosystem players can be positioned closer to the customer than what TMarina can accomplish. This is mainly shown on customer experience and quality and speed of service.
2. Security. Owning the network gives TMarina the possibility to control most of the content that flows through it. Any company interested in controlling security from the very root, should be concerned in collaborating with TMarina.
3. No incremental cost for better value. The company can offer better value as a result of increment in customer adoption and value co-creation, and not as the pure result from cost incremental.

Considering also that TMarina is a global wholesaler service provider, the company is in the position to claim a central role on the ecosystem. It has the necessary size and power to exercise the role of a leader in co-innovation developments. In fact, innovation generated by TMarina should be attractive enough to make competitors, small and large enterprises, suppliers and customers, want to participate and collaborate in their ecosystem.

In order to clarify what is the feeling inside the company towards the opportunity gap for the upcoming years, there was an interview conducted with TMarina CEO. During the interview, he pointed out a number of strategic choices the company had made over the past years, and what he thinks is the opportunity gap for the upcoming ones. The following are some extracts from that interview.

“Afterwards we came to a point in which we realized that we had the best attitude towards supporting all innovation ideas coming from our employees, but we were not doing it on an organized way. It was the point when we decided to create a specific department for managing innovation, dedicating resources to control all the initiatives that were rising informally along the company. The aim was clear: put order and process behind innovation” (TMarina’s CEO).

“Nowadays, we aim to be ahead of the market. We are hoping that in 3 years, at least 15% of our revenue will come from the innovation projects we are fostering today. Innovation is difficult to accomplish in the wholesale area, but we are working on it right now. However, we are tied to the local groups of the companies. And we have to think also about them when innovating. In fact we are in an industry that is by nature innovative and dynamic. Is not easy, because is not a pull process, we

need to push it. We need to originate the ideas. In general, the aim is to match different companies in a common objective” (TMarina’s CEO).

The insight provide by the CEO clearly expresses the line of ideas behind the motivation for a project such as this one. There was a change in the market place. The company, as big as it is, had had problems adapting to that change. However, they have attempted to change through innovation using their assets, and leveraging them by creating new services along with other companies. Now that ideas are in place, they realized they need a process behind this phenomenon, in order to drive it to right direction. Always bearing in mind the vision of a promising future were ideas from today will become businesses of tomorrow. They want to lead, not to follow. And they need the appropriate methodologies to achieve it.

Moreover, all this opinions confirm the previous assessment made. And ultimately drive the initiative to develop the lacking process behind innovation ecosystems for TMarina. The following sections will present the suggested approach on how the company can create the methodology to assess partnerships relationships on an innovation ecosystem setting. In order to complete this methodology, other people inside the company were interviewed, gaining different perspective on this topic and attaining important suggestions.

7.3.4. Innovation process

In order to analyze the orchestration methodology that will suit TMarina it is important to understand what is their innovation process and where do partners fit within it. The methodology used to obtain this information was mainly through informal discussions with people form the innovation management department, and the head of New Service and Product Development department in the company.

The innovation process starts in the ideation phase. Different initiatives had taken place along the company to ensure that ideas are attain from everywhere “in-house”. In fact, during the past year the company fostered events, where employees across countries and functional areas suggested new developments for innovation process. Ideas are not limited, in scope or area of improvement. As long as the proposal includes leveraging one of TMarina’s assets they were welcome and well received by the innovation management department. However, as in every funnel process, not all the ideas go to the second phase. Initially, people work with idea management and the ideas that make it through this phase, are carried on to opportunity management.

Second phase starts with an initial feasibility analysis. In here strategic questions are address. Who is the market? How the new product/service will be commoditized? What is the actual innovation? And how is it going to be developed? In this phase it comes out the first point in the process where partners are recall. It happens when the project

leader in accordance with the innovation management department ask themselves what does the company own, what can be develop and what should be outsourced. Since it is an innovation project, outsourcing parts of the project are more successful when working together with the partnership starting in the development phase. Once possible partners are identified, there is an initial business plan assessment to evaluate the economic viability of the project.

Projects that overcome the feasibility analysis successfully are selected for a pilot test. According to the head of the new service development department, although this stage does exist in the theoretical process, it is not always performed. The issue preventing it from happening is mainly budgeting. This is a phase when each partner needs to commit their own resources into a small scale project to see if it works. Ideally, investment should be kept low, seizing existing platforms, and limiting investment to just development costs. The expected results from these tests helps to analyze whether or not the new development is performing as anticipated, and collect data in order to improve the proposal.

With or without pilot test, projects that move forward, enter to the phase of product and service development. This stage is executed more in depth as is the point when the project changes hands from the innovation and strategy management department, to the actual organization that is going to develop and operate it. Therefore the process more or less starts over, but looking at it from a closer perspective, much more in detail. People in charge of product and service development start by analyzing what is the service that is proposed and what are the requirements to operate it. Next stage includes a definition of the concrete technical requirements. In here, partners are again

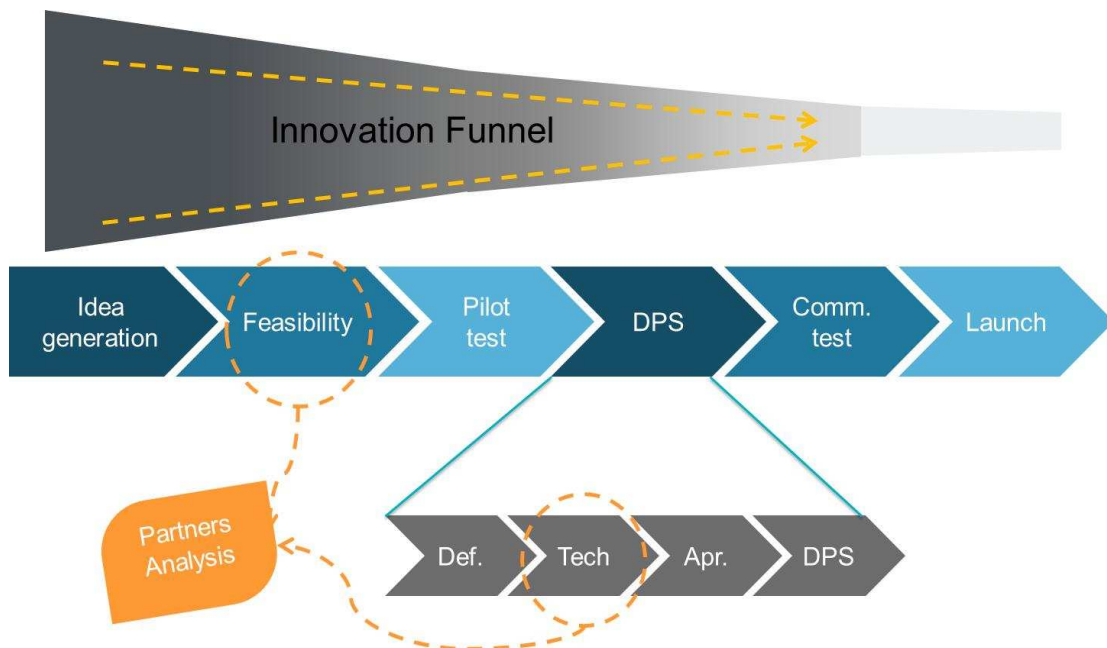


Figure 11 Innovation process at TMarina (By the author)

recall. They carry out an analysis to evaluate which type of relationship is more convenient for the specific project: strategic alliances, partnerships or suppliers. Finally, a business case is developed to understand all economic factors affecting the new launching and aiming to understand the risks undertaken.

Projects that go through all the previous processes and get approved evolved to a commercial test. This is another phase that depending on the pilot test (whether it was run or not), is performed. This kind of test is conducted in a bigger scale, but with the same aim of collecting valuable information about the service that is being launch. By this time, customers are already in place and some of them should act as partners in trial scenarios.

Last step for all projects that make it to this stage is launch. When launching a new service, it has already made it through the complete infrastructure of the company and therefore, it is commercialized on industrial and global basis.

7.4. ECOSYSTEM ARCHITECTURE

Defining architecture for TMarina's innovation ecosystem is a difficult task considering that each project has different partners involve. Moreover, an ecosystem is by nature a variable organization in which elements re-arrangement is embrace in order to evolve. In fact, when the company CEO at TMarina was asked if the innovation ecosystem for the company was clearly defined, he answered the following:

"I think those things are better not to be completely known. We are clear in our mission, strategy through innovation. Which in fact suggest volatility and flexibility. Embrace innovation spirit without fear to participate. We know some of the initiatives will fail, which is in fact a way to move forward, and some others will be sky rockets. What we do need is to defined mechanisms to know the way I need to follow when I want to innovate with partners (TMarina's CEO).

Therefore, it is suggested that the company build the architecture for each project considering the main aspects of innovation and network design presented in this research. For innovation design, a key aspect is modularity. In one hand, it is clear that the hub firm needs to provide confidence to partners willing to develop with them. However, a degree of freedom should be considered in case a partner is not able to satisfy their responsibilities. In order to achieve this, design of the innovation should be somehow modular to allow interchangeable elements when needed. These modular arrangements will also allow TMarina to be able to change network membership (size and diversity) and maintain their status as center of the ecosystem.

For ecosystem design, and in order to understand the idea in deep, this study presents a sketch of what can be a basic ecosystem for TMarina innovation projects. That sketch is based on current practices and involves the needs of some of the players. Moreover, it considers some important strategic factors that a company needs to understand about ecosystem architecture before thinking about specific orchestration processes.

The initial issue to consider is the expectance TMarina has when partnering, in other words, what are the elements that make it different from another kind of relationship that can rise from two companies, and ultimately change completely the structure of it. The fact is that this expectancy depends on the type of partner. They can be located upstream or downstream in the supply chain, or even outside of it. Each of them should be treated differently, and expectance and offerings to all should be evaluated according to the type of relationship that is being developed.

Looking at the upstream of the supply chain, there's suppliers. A supplier can be turn into a partner for innovation when they are willing to get involved in projects as if they were their own, crossing the boundary of a traditional supplier-customer relationship. In order to establish what TMarina expect from a supplier-partner and what they think the counterpart expects from them, the research appealed to interview findings. Summarizing, TMarina expects from supplier-partner to get involved in the project. Share risks and benefits. While the supplier-partner expects that TMarina upgrade their reputation and give them the chance to develop new businesses

"Mainly, we expect that partners get involved in the project as if it was their own" (TMarina's Project Leader).

"They definitely expect that we upgrade their reputation and service offerings. They are not just looking for revenue (because in fact most of the identified ones have a good business), they are aiming for reputation. They know that if they gain a global client as TMarina, afterwards when they present themselves to new clients, TMarina is a key aspect of their background" (TMarina's Project Leader).

"Develop things together. We open for them the opportunity to incorporate new services to their portfolio, which will most probably translate in new businesses in their future" (TMarina's CEO).

Looking at the downstream of the supply chain, there's customers. A customer can also turn into a partner for new service developments when they are willing to participate in the project from phase one, giving insight and feedback on results. From research findings, it is clear that a customer-partner expect to get a tailored made product from them when participating in the development of it, while offering their feedback, insight and content in trial and testing phases.

“We want from them their vision of a demanding customer, one who has the need I want to cover with my new development. Is like going a step further in a relationship client-supplier. Innovate together. It is not only good to try new products and reach new markets; you are also gaining loyalty out of that partner, from the very beginning. When thinking about changing supplier, they will already be renouncing to that additional advantage you gave them, building the system tailored made for them” (TMarina’s CEO).

“They essentially expect the opportunity to perform in a pilot trial, excitement of participating in a project offering a new, innovative, technological service. Cover their want to try a product that will improve the service they are currently delivering to their customers” (TMarina’s CEO).

There are some other partners lying outside the strict supply chain of TMarina’s businesses. These are mainly consultants, new venture, academia (universities and research experts). TMarina mainly expect from them their contribution and insight to development of new services while offering the opportunity to participate in a new service development of a telecommunications international company. However, since current projects are not dealing with this kind of partnerships, there is no relevant insight from this matter at this research. It is suggested to be looked upon further studies.

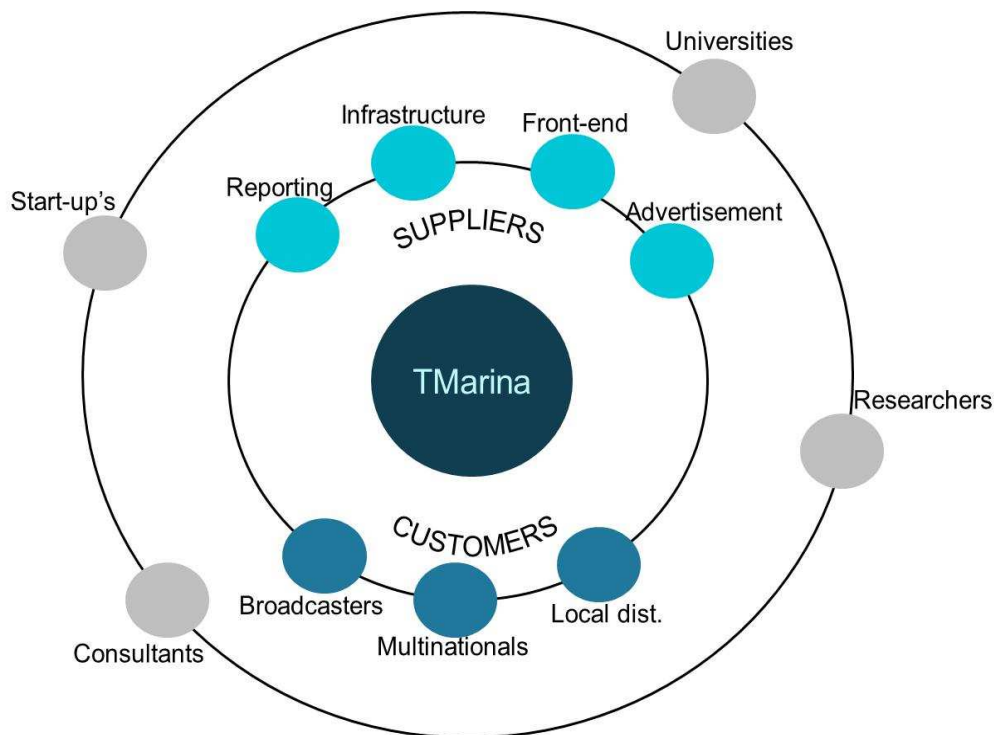


Figure 12 Simplified TMarina innovation ecosystem (By the author)

7.5. ORCHESTRATION MODEL

7.5.1. The orchestration strategy map

The orchestration strategy map was the first proposal developed in this study. It concentrates theoretical suggestions and conveys them to TMarina's specific case. It aims to guide the process of orchestration in an ecosystem setting for wholesale telecommunications industry. There are some key specific concepts for TMarina that are summarized in the strategy map, and that will construct the basis for all projects development within the innovation and strategy management department frame. It is recommended that every stakeholder involve in different projects launch through the innovation funnel at TMarina, get to know and understand this strategy map, keeping its directions in order to standardize their management processes. It intends to lead the orchestration process, not the innovation one.

Role

As previously describe on the literature review section of this research, the first thing that needs to be analyzed is the role TMarina wants to play along the innovation ecosystem. That role will define the way relationships are built and sustain, as well as the way innovation in product and services will be manage, develop, launch and commercialized. Considering interviews, specially the one with the company CEO, it was evident that the role for TMarina in this ecosystem goes to the center, as a hub.

"We design the idea, and look for the needed partners. We look for a partner that can give the better conditions. The idea is that if you have something really innovative to offer, the supplier would come to you, he will want to be with you, and not the other way around. Then you have the power to make the conditions. Then again, when we develop things together, we open for them the opportunity to incorporate new services to their portfolio, which will most probably translate in new businesses in their companies" (TMarina's CEO).

Moreover, from interviews with CEO of the company and director of the innovation and strategy management department, it is clear that the position TMarina wants to fill is the one of a platform leader rather than an integrator. It can be observe in the following extract from one of the interviews.

"Almost all innovations projects that are not strictly related with telecommunications, mostly projects were services are going to be offered to third parties, TMarina needs a partner. We have the network infrastructure (as a telecommunications company), but we always need the technological partner, that give us the technology to reach the actual

customer. Then, TMarina creates a partnership with this company the offer the best level of service possible” (TMarina’s Project Leader).

The key objective of TMarina as a platform leader of their innovation ecosystem should be to envision the innovation and integrate partner's contribution to create the final offering. From current practices it can be observed that TMarina in their methodology for innovation, foresee what the new service is and decide what they have, what they will develop in-house, what they want to partner for and what they have to outsource. During the interview with a current project leader at the company, he pointed out that

“TMarina always propose the whole idea. Afterwards, we analyze what elements are not a part of our assets and we are not interested in developing. Then, we look in which ways we can obtain those elements out of the current offerings” (TMarina’s Project Leader).

This statement shows how is in the company innovation culture to innovate from inside. Although open innovation is practiced, the idea generation is kept in-house and shared it to selected companies that can help leverage assets, and final service offering.

Business objectives

According to the theory, a company needs to define their business objectives to partnering before it actually starts a partnership with third parties. When aggregating operational and tactical business objectives into strategic ones, it is difficult to establish which one is the main objective, as all of them seem to be important. However, for a business model strategy to work, the company needs to establish priorities over those objectives and concentrate efforts toward the top ones. During the interviews conducted, the analyst asked the director of innovation and strategy management to prioritize the five main business objectives for partnering describe in previous sections of this work. The result is shown in figure 13.

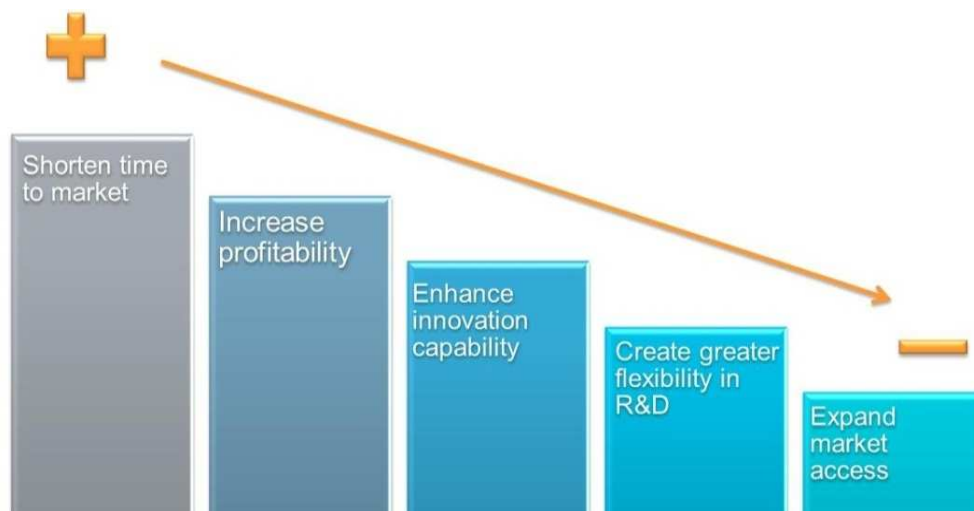


Figure 13 TMarina business objectives for partnering (By the author)

It can be observed that for TMarina, the primary business objective for partnering is to shorten time to market, followed by increase profitability. While expand market access ranked in the last priority. It can then be inferred that this international wholesale company has a business requirement for partnering, which is mainly concern with incorporating already-developed components or subsystems for innovation projects. Those requirements have one main implication for the business model design. The recommendation is basically that TMarina needs to focus on seeking partners with proven capabilities in order to achieve their business objective

Required Capabilities

During the interviews, it was relevant to investigate what type of R&D capabilities TMarina looks for when partnering. Those required capabilities would determine other aspects from the business model of the innovation ecosystem and ultimately, the way in which these co-development alliances will be managed by the hub firm. Interviewed stakeholders agreed upon the fact that in TMarina's business, partnerships are mostly done over critical components for new developments. Although these components are vital for the success industrialization of the entire service that is under development, they are not core capabilities of TMarina. In other words, TMarina invest their core capabilities in the new project and looks for a partner willing to invest their core ones, while avoiding overlapping resources. They may sometimes require partners with contextual capabilities but those are not essentially strategic and therefore, maybe treated as suppliers and will not be discussed in this study.

Following this set of ideas, it is advisable to partner with a small number of companies. This means that the structure of the ecosystem needs to be set to a small number of players that can be arrange in the desired way by the hub firm. Having less partners will allow managing successfully their critical collaboration to the final product. Moreover, it is recommended that the hub firm (TMarina), construct a "medium" depth of relationship with this partners. Medium meaning that is not deeply enough to track all their operations towards the new development, and not superficial enough to let them go on their own. The relationship needs to be flexible and open to changes. The partner needs an amount of independence in their developments while TMarina needs to give them direction and feedback on their progress.

Final recommendation on this area of the business model is to have a contingency plan. The contingency plan when partnering with companies owning critical capabilities for the new service development starts in the relationship itself. The idea is that TMarina partner on a win-win basis with all of the players in the ecosystem. That way, neither TMarina, nor the partner would be willing to abandon their responsibilities as both are tied up by advantages acquired through their relationship. Therefore they need to align business models towards synergetic results. TMarina is advice to go in-house only as last resort. Other alternatives should be looked for before taking a

decision of quitting or going in-house. The relationship should be strong enough to allow management overcome any kind of trouble in the way.

Alignment level

Once a list of partners has been selected, it is recommendable to conduct an analysis that will give TMarina the necessary knowledge to understand the level of alignment they have with a partner. This is more crucial whenever more than one partner exist to cover one specific requirement of the innovation project. Doing a previous evaluation of the level of alignment in technological, strategic and relational matters, would give TMarina the ability to shorten the list of possible partners to the ones that have a greater level of alignment with the company. Depending on the company, this step could be taken with much or less depth. Due to the fact that TMarina is a multinational company, and is one of the elements of a group of global companies, most of their possible partners are already working with other parts of the group on a customer-supplier relationship. Therefore, with those “known” companies, the level of alignment most probably is already known. However, when starting a new project with different business units, it is important to conduct at least a basic analysis in order to understand whether or not the company would be suited for the required project.

Moreover, in order to understand which partner to choose, and supporting the previous analysis, the project leader of one of the current developments at TMarina's gave some insight and some suggestions.

“First fit should be trust, credibility and reputation. It takes a little while, but is important to understand the historical context, objectives, and gather some knowledge of the parties which whom you are getting involve. Next is a technology analysis. We need partners that excel in innovative technology. It is not enough to rely on a partner that is really good at something, but is used to perform only that one same thing over and over again. We need flexibility on their product, as most of the times there is a need for customization. Third would be an evaluation on their commercialization capacity. We need to understand what the financial risks they are willing to absorb are. Moreover, they should be willing to get involved in the whole product life cycle. Every party should be accountable and responsible for their element of innovation with a long term orientation. And keep a constant evaluation. This is crucial” (TMarina's Project Leader).

Think of the future

On the orchestration process TMarina needs to have a clear idea of the philosophy that is going to be praised among the ecosystem. This philosophy should be constructed

mainly on a win-win basis in which TMarina gains advantages as well as their partners. It is important to have a clear understanding that TMarina, as a platform leader, is the partner who has a bigger upfront investment and receive benefits at last. The company should be able to transmit that sense of trust between all partners aiming for a successful collaboration among them. Moreover, TMarina needs to control how the ecosystem moves and reacts to the market in a dynamic response. Innovation cycles should be reached as expect, while risks and benefits shared.

On the other hand, the company needs to have in mind the required human resources investment needed in order to perform business processes concern with orchestrating the innovation ecosystems. All of these processes are explained in detail in previous sections of this research project. Summarizing, the main processes are six. The first one of these processes is knowledge mobility management, meaning knowledge absorption, network identification and interorganizational socialization. A good knowledge mobility management would guarantee that ideas and independent developments are shared, acquired and deploy within the network. It is also convenient to provide socialization linkages in order to make knowledge flow in the most efficient way. Second process refers to manage innovation appropriability, in other words, capturing the profit generated by innovation. This process is more contract-related and should be discussed in advance as some partners would like to have a clear view on what would be their participation on returns. The third one is management of network stability, includes enhancing reputation of the network, lengthening its shadow over the future and building multiplexity. When it is well perform, this process would discourage network players to disconnect ties so easily, while expanding the scope of current relations and enhancing interaction between partners. The fourth one, management of innovation coherence, which refers to all the process needed to coordinate and align processes, goals and outcomes, both internally and externally. The fifth one is the management of innovation leverage. The orchestrator firm should be in charge of creating the synergetic outcome out of the ecosystem. The resulting development should be much more than simply summing up contributions. The last task for the orchestrator is risk management. Within this process, project team and management should consider upfront new risks raised by co-creation alliances. Initiative risks, interdependence risks and integration risks should be addressed. Having a clear picture about all of them would ultimately modify performance expectations and formulate an iterative process to revise and rethink the innovation strategy.

Finally, the suggested strategy includes three specific tools, balance score card, multiplying risks and value footprint, which will be explained in more detail over following sections. The introduction of these tools is a joint result from theoretical references with the insights acquired through analysis of the system and interviews with people involve in the innovation process at TMarina. They are expected to guide the process of orchestration, providing general metrics and visual aids that would help in making the project, the ecosystem and its elements explicit to all partners and contributors.

The Orchestration Strategy Map

This strategy map brings together TMarinas's objectives in orchestrating innovation ecosystems, showing linkages between decisions and processes. It is a visual aid constructed to help innovation project teams at TMarina to foresee how the ecosystem should be constructed when starting a project within the co-development alliances setting.

The chart represents the orchestration strategy map created after academic research, system observation and empirical information obtained through interviews with key stakeholders of the process.

It identifies five main components that designing a business model for partnering in innovation ecosystems, while one dominant firm aims to perform the role of a hub center for innovation (TMarina).

It is advisable that all stakeholders involved in the innovation process at TMarina know and apply this strategy map, following the process every new project is started and updating it when ecosystems dynamics change.

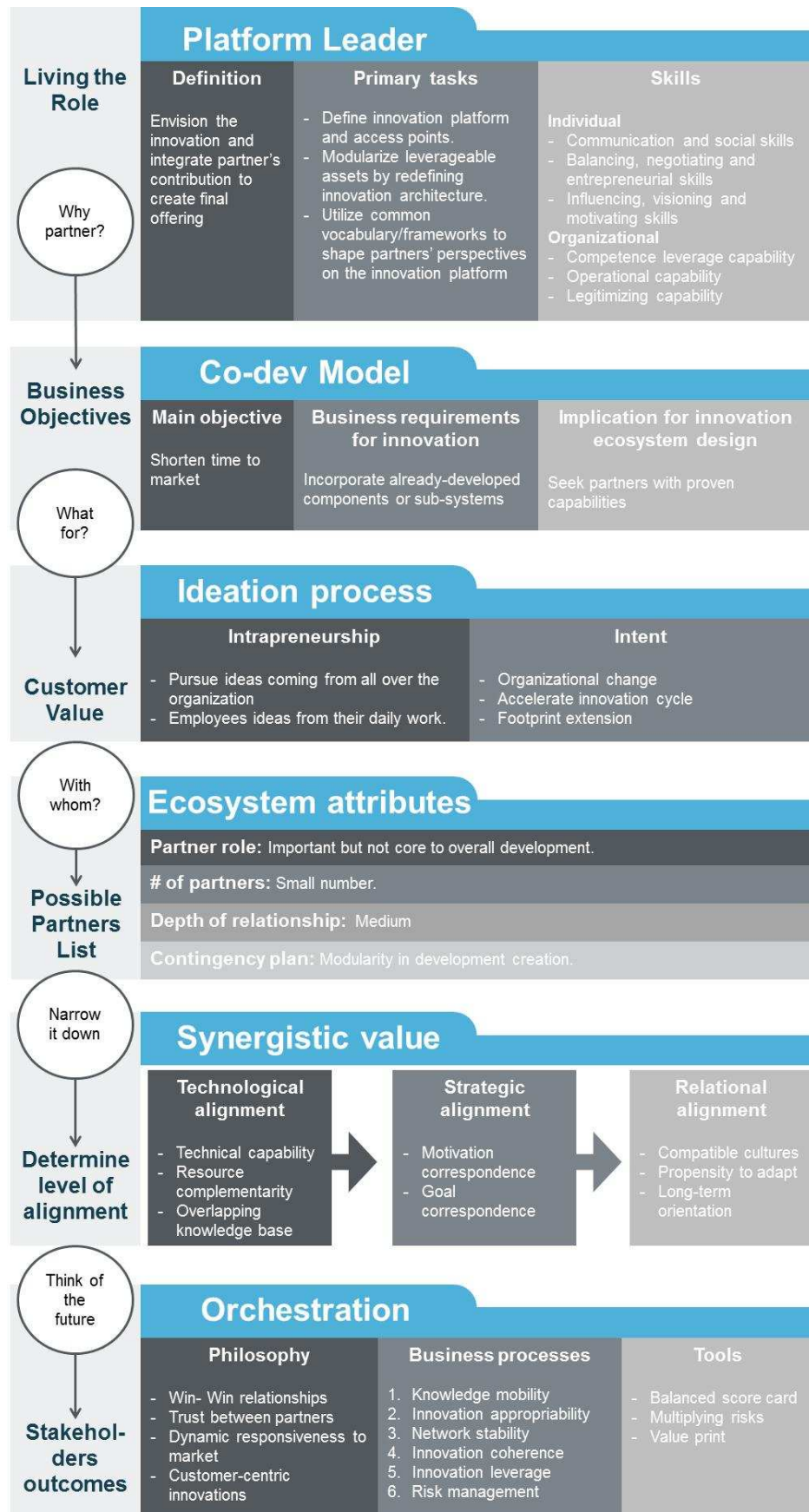


Figure 14 The orchestration strategy map (by the author)

7.5.2. Management tools

Within the orchestration strategy map suggested for TMarina, there's a section for thinking of the future. It mostly makes reference to the management process the project leader needs to perform when the ecosystem for a certain project is defined. One part of it is concern with tools giving guidelines for this management processes. These tools are related with three important aspects identified for managing co-development alliances throughout the theoretical revision. They were developed with a main frame on the theory and empirical information from the company. In this order of ideas, the tools were tailored for TMarina in such a way that they can be used by project managers launching a new service development through the innovation and strategy department procedures.

7.5.2.1. Balanced Scorecard

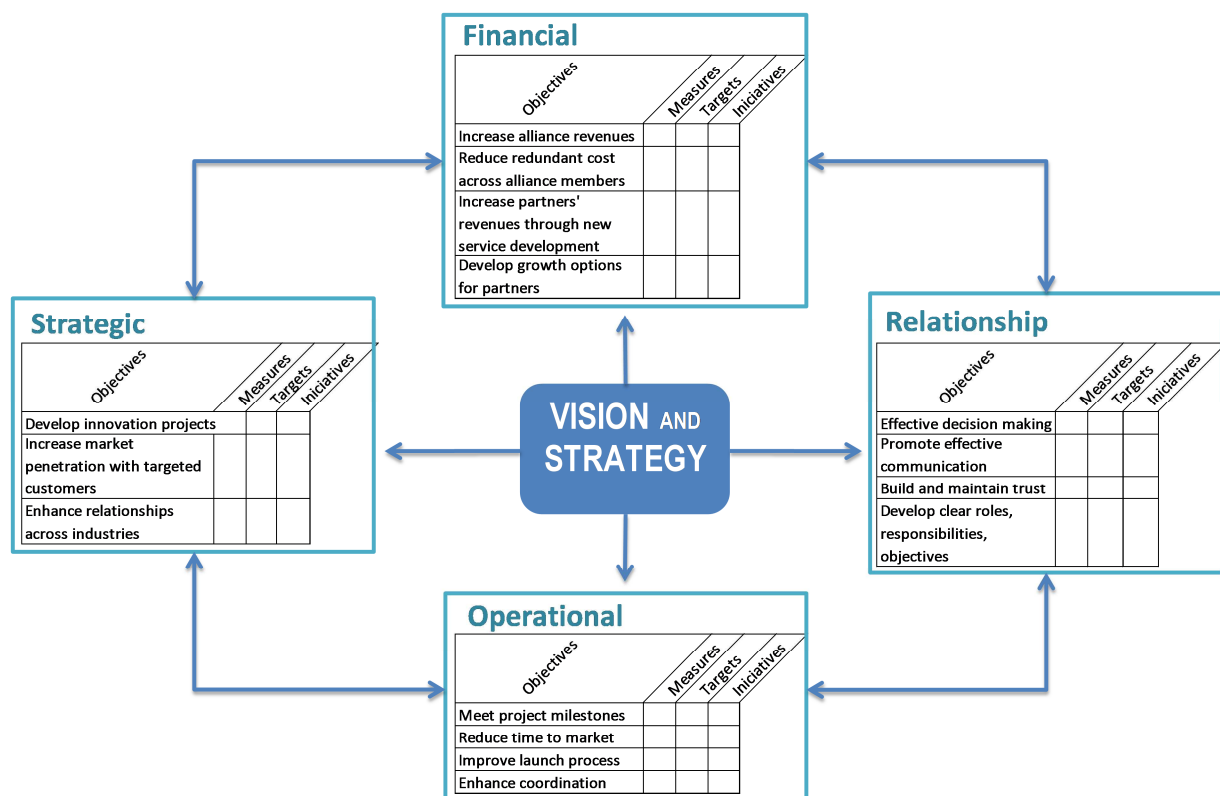


Figure 15 Balance Scorecard (by the author, insight from Dadashian, Shakibfar, Zarandi and Kianfar, 2007)

After the series of interviews, it was identified that a balanced scorecard was a fit methodology that could be used in TMarina's innovation and strategy management department, to track the results from its innovation ecosystem practices. The template in figure 15 is a valuable framework to start with. However, it is highly important to customize it according to the specific project and depending on the project team insight at the time of use. Without that customization, the balance scorecard would fail to provide valuable information as an evaluation mechanism.

The proposed balanced scorecard for innovation ecosystems at TMarina looks at a four-perspective analysis, namely, financial, strategic, operational and relationship. This criterion was determined based on two main factors: the suggested general academic references on this topic combined with the insight gain through analysis of current projects and interviews with TMarina's experts. The framework should help each project team and innovation department staff to build on specific terms provided each different project. In the framework, some general objectives are proposed. These objectives reflect what can be a general evaluation for innovation through co-development alliances. However, measurements, targets and initiatives per project should be defined upon each project, and decision makers should include innovation and strategy management department staff (in charge of project management activities), TMarina's project leader, and involved partners project leaders. The suggested objectives are the following:

1. Financial perspective
 - Increase alliance revenues
 - Reduce redundant costs across alliance members
 - Increase partners' revenues through generation of new service development
 - Develop growth option for partners
2. Strategic perspective
 - Develop new ideas for innovation projects
 - Increase market penetration with targeted customers
 - Enhance relationships across industries
3. Operational perspective
 - Meet project milestones
 - Reduce time to market
 - Improve launch process
 - Enhance coordination among members
4. Relationship perspective
 - Promote effective decision making
 - Promote effective communication
 - Build and maintain trust among members
 - Develop clear roles, responsibilities and objectives

It is important to bear in mind that this tool involves a lot of subjectivity. Therefore it is not easy to implement, and thus require commitment from all parties involved. It's also key to have regular feedback on how the indicators are useful to provide the required information. In fact, regular revision to partnerships arrangements is needed due to the fact that innovation projects can always change direction, and all considerations may not be easy to be identified upfront.

7.5.2.2. Multiplying risks

All innovation developments implicitly suggest a whole deal of risk. Being TMarina a platform leader for innovation within its industry, risk assessment should be performed at their level, which corresponds to the combined risk of all elements of the project. When asked if TMarina's partners are subject to same level of risk as the company itself, a project leader answered the following.

"The truth is they don't. They are subject to much less risk than we are. They are covered by TMarina core and are not responsible for customer relationships, portfolio development, invoicing or quality of service. They are only in charge that the element they are providing (technology), do not fail. At the end, they represent around 10- 15% of the whole development. The remaining 85% is TMarina's job" (TMarina's Project Leader).

A multiplying risk tool is suggested with two main purposes. The first one is to force innovation managers, project members and all partners involved in a co-innovation development, think about the new risks that an alliance setting rise. Although probabilities are always rough, it is good to have an idea of the likelihood of an event happening. Investors always analyze likelihoods and risks of their bets, it doesn't have to be different with innovation projects. The second purpose of the tool is to provide a visual aid for managers to follow up projects risks and think about actions to mitigate them.

The philosophy underlying this tool is that the probability of independent events happening simultaneously is the product of the independent probabilities. It applies to every stochastic process and applies as well for innovation through ecosystems. Take for instance a project that is the result of four different partners. Each partner is confident that with an 85% probability, they will end up their responsibilities on time and according to specifications. Then, the joint probability of the complete project finishing on time and within specifications is not the average (85%), but the product (52%). It could sound like a pretty bad number to bet on. It's a 50% bet. However, managers should be careful when considering the numbers. First consideration, a probability is a rough number and should be treated as one. Is not at all a deterministic representation of the future, rather an idea of how could results turn out to be. Second consideration, a

probability is not a good or a bad number per se. A number is just a number. Depending on the context, the number may acquire a good or bad connotation. The important thing is to have the number in mind whenever decisions are going to be made. A 52% bet is not bad if managers bet on it knowing that they have 52% chance to comply with specifications, and 48% chance to fail. It is bad, if managers bet on that same project, thinking they have an 85% chance of finishing on time and within specs, when the project really has a 52% chance.

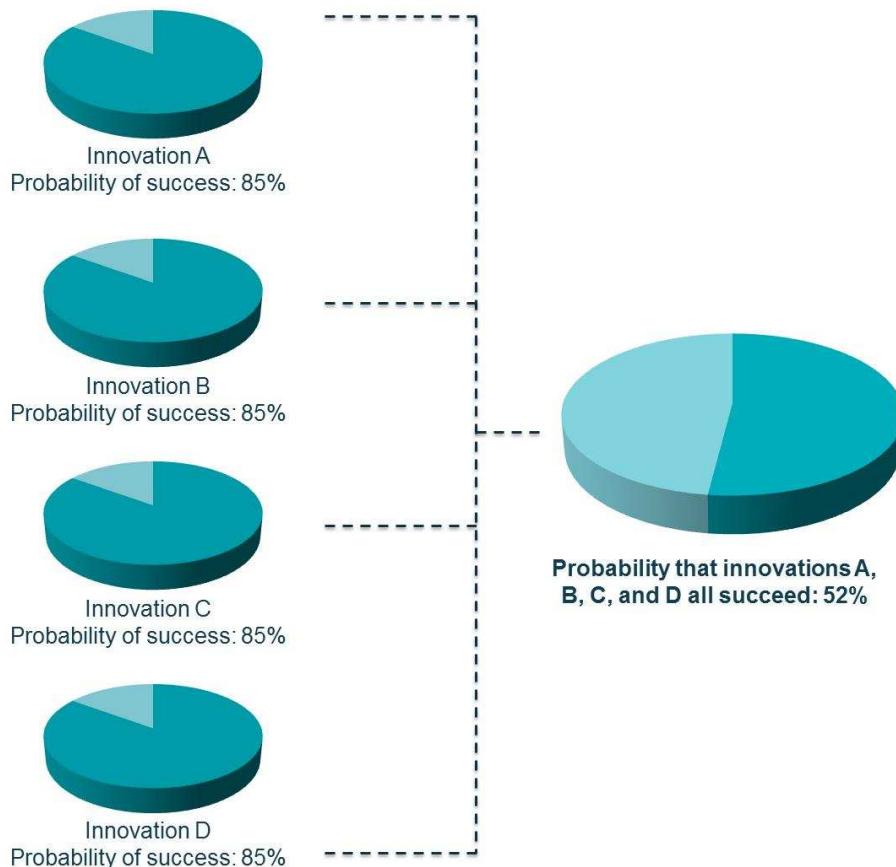


Figure 16 Multiplying risks tool (adapted from Adner, 2012)

The good thing about this tool is that it gives an idea of project odds and helps managers convey information in an easy way to all stakeholders involved in the co-innovation process. It's also a communication tool which helps everybody involved to speak the same language.

7.5.2.3. Value Blueprint

The value blueprint is a tool proposed by Adner (2012), which aims at making explicit the ecosystem elements which will ultimately shape the final offering. It is an exercise

that should be performed specific to the project, and involve all actors making up its ecosystem. It's a way to picture the actions that will lead to accomplish a given value proposition. For TMarina would be a useful tool in order to understand the ecosystem for each project and how its elements would convey to end customers.

The recommended process to construct the value blueprint starts with identification of all elements involved in the innovation project. this phase is constructed on five steps. First step is identifying the final customer. The project team should made clear who is the final target for the innovation that is going to be develop, in other words, who needs to adopt it in order to claim it was successful. Second step consist on identifying what is the project about. TMarina's manager of the new service development department refers to this issue as a major problem. He specifically mentioned that:

"Many times, discussions with partners are eternal due to the fact that everybody has in mind different objectives. A clear understanding of what is being discussed is a key element on innovation through partnerships" (Tmarina's New Service Development Manager).

The third step involves suppliers of TMarina. Suppliers in this case may or may not be considered as partners. It all depends on whether or not they meet the requirements to become one. In any case, if their input is needed to build TMarina's element for innovation, it should be considered in the value blueprint construction. During the interview, manager of new service development made it clear that for TMarina exist a spectrum of collaborators going from strategic alliances, through partnerships and ending in suppliers. One issue that should be looked upon is the fact mentioned by the new service development manager when stating that:

"It would be ideal to have a correlation between selected partners for a given project and strategic alliances. However, it's not the case most of the times. Although strategic partners should appear to be our first choice when partnering for a given project, they end up always being the last. And it happens because those alliances are agreed upon on a strategic level, in other words, just as a political arrangement and without having any project in mind. When the time comes for a project they tend to give bad service, bad timing and non-competitive prices. Therefore we have to resort in other partners and suppliers" (TMarina's New Services Development Manager).

In this case, it can be infer that all suppliers may be partners and not all strategic allies may collaborate on innovation projects. Fourth step is to identify intermediaries. Intermediaries are companies that stand between TMarina and the end customer. Considering TMarina is a wholesaler supplier, most of the times there are lots of intermediaries between them and final users of the innovation. It is important to identify them, and look at them as possible partners if needed. It's key to understand that if the innovation has to go through them, they need to agree on letting it truly go through, and

this rarely happens without incentives of gain advantages. Fifth step of this phase is to identify complementors. For each intermediary it should be identified how upstream their supply chain goes in order to complete their required element for the new service development.

Next phase of the construction for a project value blueprint is the identification of risks in the mapped ecosystem. For each element mapped, the project team should ask themselves what is the level of risk intrinsic to each element. This risk assessment should include the risk of co-innovation, meaning compliance with their element of innovation in time and shape, and risk of adoption, representing willingness to undertake the activity they are required to. For some partners, only co-innovation risks may be considered. However, for intermediaries, the most relevant one is the adoption risk factor. The theory suggests that those risks get a visual identification through a green-yellow-red traffic light spectrum. In this way for a partner (co-innovator) to have a green light means that they are already in place, they are confident with the time boundaries and they have all the necessary technology and resources in order to complete their element of the project. Yellow would mean that they are not 100% confident on compliance but they have a plan to surpass all problems that may arise. Red would mean that they are neither in good shape to develop what is required, nor have a plan to get there. On the adoption risk side, a green light would mean that the intermediary is eager to participate and collaborate with TMarina in the development and commercialization of the given innovation project. The yellow, would mean that they are neutral in which case, they may not see a clear advantage for them in the project, nevertheless are open to inducement. The red light would mean that they have clear reasons not to collaborate in the project and prefer not to participate on it. This analysis would force team members to understand the needed activities that they should carry out in order to make all yellow and red lights, somehow greener. It is rare that all project start with only green lights, and it's important to bear in mind that having a green map doesn't guarantee success. Yellow may be acceptable in some cases, but red are the ones that deserve greater attention since they mean a clear limitation for the project. If it's impossible to make them disappear, the process should be iterated in the aim of identifying new paths. And although having a green map doesn't guarantee success, it does make explicit if the company needs to be prepared for delays or disappointments. Therefore, next step of the process is to work on analyzing and understand problems that are causing yellow and specially red lights. And define activities that could draw a viable solution to overcome them all.

Last phase of the construction of the value blueprint is to update it regularly depending upon changes in the plan. One important thing to have in mind is that innovations are always flexible in results. This means that the scope of the project may not be determined, but actually is most probably variable, and whenever changes occur, the map should be updated and communicated to all parties involved. The company CEO's sees it this way:

“It is really difficult to align interests among different partner companies. When you are dealing with a whole spectrum of possibilities (innovation phase one), you don’t really know what exact direction the project would take at the end. Then it makes it difficult to know a priori the interest of all participants”. (TMarina’s CEO)

Therefore, it is necessary to update constantly the value blueprint for each project. Being careful and sure that every participant shares its understanding and the way it is constructed.

The following is an example of how a value blueprint can be created for an innovation project at TMarina. It is just a generic map that shows elements and linkages in an innovation process. It should be adapted to every specific project as mentioned before.

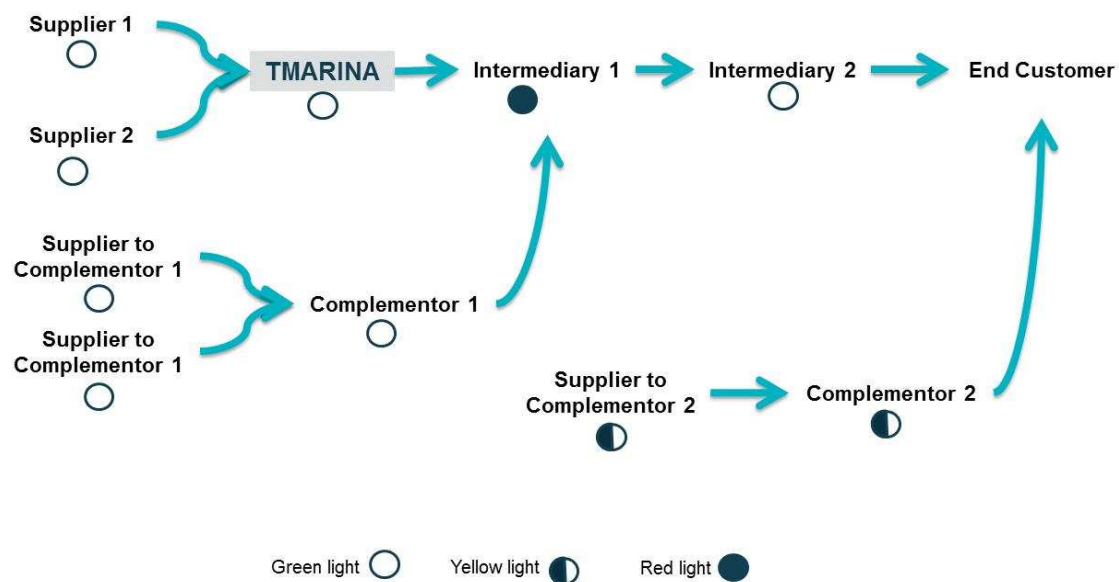


Figure 17 Generic Value Blueprint for TMarina (adapted from Adner, 2012)

7.5.3. Key factors for success

Considering TMarina’s scenario, and after contrasting theoretical concepts with practical ones, it was possible to identify and group in four main aspects some key factors for success. Success here makes reference to good and great accomplishments on the practice of orchestrating innovation ecosystems for upcoming projects. Those factors for success are an outline for every project leader and innovation manager staff is advice to modify depending on the project. However, they summarize the findings and feelings from the interviewed, the academic research and personal analysis.

First category is “look out for the relationship”. A cornerstone of innovation ecosystems comes in the form of relationships. It must not be forgotten that all this partnerships and alliances created rise from human interaction. There’s a considerable amount of human aspects involve in this transaction and therefore it has to be look after. Trust was identified as the foundation for success in innovation ecosystems. Theory suggested it, and interviews findings supported it.

“I think that more than 50% is trust between parties. At the end, when there’s business, the contract is the easiest part to manage. When you already have costs and revenues forecast, develop a business plan and negotiate margins between parties is an easy part. But when you are starting a project, an innovation one, it is always subject to a great level of uncertainty. Then it is key to have mutual trust in the relationship. Therefore, we look for someone who is good at what they do, but at the same time, in whom you could trust 100%” (TMarina’s Project Leader).

Another element of relationship status is communication. It is very important that the hub firm, in this case TMarina, establish a communication mean through which partners can effectively communicate their ideas. It is a difficult task since sometimes partners may not be located in the same city, not even in the same country. However, as the project grows and business becomes much and more interesting, channels for communication may expand and become more effective, affecting project outcomes.

“That was one of the key aspects of this project development. Initially they [partner] were only located in physical offices in USA. When they realized that Latin America and Spain were big businesses centers, they contract an office in Spain. Now I’m able to speak with their Spanish office, with Spanish people. This at the end turned out to be easier, from a cultural wide perspective. In South America now they have offices in Colombia, Brazil, and Argentina. That for us was a proof of their interest of getting involved as a partner. I started working with them two years ago, and our communication was based on telephone and video conference. And now (one year ago, and drive by the current project) they have installed offices in Madrid, and one of the team members is actually located inside TMarina offices in Madrid. I can really notice the difference and improvement for the project. There has been a radical change, from zone time differences and limitations for communication (culture, language, ways of working) to actual participation and involvement” (TMarina’s Project Leader).

One third important aspect of relationship-based transactions is the point of contact between parties. There should be a clear understanding of who is the point of contact from each of the partners. Not only to become more productive and avoid double working, but in order to develop a stronger relationship. Once that people identify their

counterpart in the other firm, they can start a relationship that would eventually affect the way they work together and the results they can obtain and expect from each other.

“In general, the aim is to match different companies in a common objective. And this is highly dependent on human interaction as most of the times relationships are based in the personal levels of understanding” (Tmarina’s CEO).

“I have three different contacts with my main partner, depending on different levels. One of them is the director in Europe, whom with I develop strategic matters. The second one is a technical representative, whom with I discuss technical design. The third one is a financial representative, whom which I discuss costs, contracts (trial and industrialized phases) and revenue management” (TMarina’s Project Leader).

Second category is “keep in mind the strategy”. The strategy map suggested for orchestrating innovation ecosystems is a tool that stakeholders should keep in mind every time they get involve in co-development agreements with third parties. This means that they should always bear in mind what the strategy is for TMarina, why do they aim at when innovating through ecosystems, what they expect and what do they offer in exchange. Keeping those aspects in mind would help them drive their decisions accurately on the expected track for the business to get the expected competitive advantage. It is important to understand that expectancies and offerings come at different levels which different types of partners. Some examples are covered in the ecosystem architecture section.

Third category is referred to “share goals and orientation”. This means that for an innovation ecosystem to work, it is imperative to have a share vision on what is it that is going to be develop. Even though innovation is by essence flexible and uncertain, a degree of understanding on the drivers of the development must exist among all partners. That understanding and common objective understanding would enhance relationships and make results more real and attainable. This category also includes a long-term orientation partnership. All partners should have in mind an expected life cycle of the project, and understand that it is not merely a supplier-customer traditional transaction. Partners should be willing to get involved in the whole life cycle, from development to actual commercialization, and post-service. Moreover, it is essential for the hub firm (TMarina) to transmit the idea of having an ecosystem wide customer. In other words, making all partners look at the same final customers as their own. This is important as some partners may be thinking that their customer is TMarina, which in fact the idea that should be convey is that TMarina is their partner and the customer is other. This fact would turn the idea of a customer-centric innovation a real one, and not just a philosophy.

The fourth category of the key factors for success identified for TMarina is to “never forget the role”. People dealing with partnerships, essentially project leaders and innovation and strategy management staff should always live their role as platform leaders, global hub, and centralizer of ideas. The company has the global position and the needed assets in order to claim their spot in the center of the ecosystem. It is a company that was born to centralize services and spread them out throughout the globe. It owns the advantage to do it, and people allocating assets and sourcing for partnerships should always keep in mind the idea and the assets that want to be levered. At the end the idea is value creation. This value should be distributed along the industry, and TMarina should be in charge of it.



Figure 18 KFS in TMarina Orchestrating Innovation Ecosystems (by the author)

It's important to consider that these factors for success have a counterpart in what can be called factors for failure. This means that if not considered when innovation through partnership alliances, the company can fail to achieve their desired outcomes. In other words, if TMarina does not follow a specific strategy plan for co-innovation developments, structuring their processes with standard methodologies they can fall in unproductive service developments, in which partners can fail to gain their expected advantage and ultimately lose their motivation to collaborate in TMarina's ecosystem. Therefore, it is crucial that TMarina knows and applied methodologies to track their codevelopment projects, both for attaining their business objectives and enhancing their innovation ecosystem dynamics.

8. CONCLUSIONS

Innovation in the telecommunication industry has become a critical need for companies to stay competitive and grow on their markets. However, the increasing complexity of ideas and the specialization of technologies have driven firms to search for partners to complement their skills and assets, share their risk and returns, and ultimately create together and evolve into an innovation ecosystem. Is the case of TMarina, an international company offering telecommunication services in a wholesale level, which managers recognized the importance of value creation through more rapid and flexible innovation cycles in order to respond to market changes. Their business strategy towards innovation had change, and even though platform ideas are kept in-house, critical components for development lay on their partners.

Nevertheless, as large corporations keep on relying on partnerships to contribute to critical elements for their final offerings, execution and incorporation of those elements into a coherent customer-facing solution has become a complex problem, highlighting the need for developing effective network management competencies. Particularly, TMarina has failed to capitalize on their co-development innovations and now, having the necessary size and assets to claim a central position on the ecosystem, is ready to orchestrate relationships, and create and sustain a competitive advantage on ecosystems dynamics.

Having performed an analysis on both, theoretical findings and empirical information from the company, it is clear that TMarina need to perform the role of platform leader and bring together all the elements envisioned in the new development proposal, delivering a new service experience to their customer. Succeeding in this task will require having a clear and specific business model for partnering with innovation purposes, understanding how different elements need to be recruited and bring together. Strategy should focus on shorten time to market looking for a small amount of partners with the required proven capabilities, with whom they can create a medium depth collaboration and align business processes for co-creation. Partners should be carefully selected considering elements of trust, credibility, reputation, flexibility, commercialization capacity and willingness to get involved in all the life span of the development. Furthermore, the hub firm should create a win-win environment, looking to the future and conveying the required information through appropriate channels.

It's clever to understand from the beginning that innovation ecosystems are created upon relationships; therefore, they intrinsically involve human beings. Consequently, trust between partners is cornerstone that will eventually determine the result obtain through collaboration. Moreover, the firm aiming to orchestrate the ecosystem should understand that wanting to lead and leading effectively are two different things. In order to appeal to partners, the leader has to understand what exactly are they looking for, and what they are willing to offer. TMarina suppliers expect to upgrade their reputation when turning into partners while customers expect tailored made products and participation in an exciting technological new development. TMarina asks in exchange

a genuine involvement in the project, sharing risks and returns and obtaining insight and feedback from early development stages. It is a transaction of loyalty and service.

On the other hand, using the suggested orchestration tools will help the hub firm to clarify issues that arise when different team mates (in this case, coming from different companies) disagree on the right course of action. They should be considered both as tools for follow up of ecosystems dynamics, and a proactive exercise for a project team discipline. Whenever a group setting exists, and specifically on this case were it is not only a group of people, but a group of companies, frameworks are useful tools to communicate and debate. Moreover, it's important to remind that these tools are meant to be used iteratively, and adapt to every specific project using the opinions from all contributors. Balanced score card, for instance, should be used to track partnering results and define clear metrics and targets for relationships along the ecosystem. The multiplying risks tool, on the other hand, should aim to develop a better understanding of the odds and support making better bets. Finally, constructing the value blueprint will force to make the path for value proposition explicit and prevent falling on unexpected problems, mapping linkages and dependencies along the way. The ecosystem leader should cultivate the challenging vision for creating a value blueprint that assures value for the end user, return for partners and ultimately, economic and non-economic advantages to itself. All these tools will help TMarina, and any other firms aiming to grow into a hub for cross-innovation to articulate a share vision among partners and communicate a unified idea on objectives, strategies and expected outcomes.

Now that this study has been performed, it's time to call for action and commitment from TMarina and all companies wanting to take the lip and transform from pure middlemen, to actual hubs for cross-innovation. Look out for relationships, keep in mind the strategy, share goals and orientation and never forget the role. Becoming the ecosystems orchestrator is not an easy task and it requires a lot of management commitment. However, as puzzling as it is, the results may change the complete way in which the company face its future. Strategic business models and tools should be applied systematically, in such a way that they become "business as usual" processes among the innovation department's staff. The situation is known, and the former unknown solution is now a clear path for action. Then again, the question reminds in the potential orchestrator: are they ready for the challenge?

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