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Faculty of Business Economics

Master of Management

Masterthesis

Risk management in agricultural open innovation enterprises: case studies of Bulgaria

Desislava Vasileva

Thesis presented in fulfillment of the requirements for the degree of Master of Management, specialization International Marketing Strategy

SUPERVISOR :

Prof. dr. Wim VANHAVERBEKE



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Summary

The central goal of this research paper is to analyze how partnership and attended risk factors should be managed in order to create a successful and sustainable open innovation model in the modern economic landscape. My investigation is based in a highly ambitious agricultural area on the premises of Bulgaria.

The primary objective of the present research is to describe the necessity for open innovation practices that allow entrepreneurs to achieve competitive advantage through partnerships.

The second crucial element of the study is to define the interconnection between major risk factors and the choice of outside partners. It is a critical point of the theoretical review because there is not enough existing literature on the subject. Agricultural companies apply risk practices on a daily basis but have never been considered analysing possibilities and using them as a rule depending on the partner selected.

Despite the increasing attention on the causality between risk factors and open innovation types, there has been relatively little research proving it. Therefore, I will attempt to improve the current analysis by answering the following general research question: What is the level of impact of risk management factors on the diversity of open collaborative business models?

Consequently, I will focus on three different partnership behaviors of cross cases in the agricultural industry of Bulgaria. Main conclusions were acquired by using the transcript of direct face to face interviews. Moreover, each company background is submitted separately thanks to case analysis. It involves company overview and specific information links to its outside partner, main and secondary risk factors, their solving mechanism and the consequent open organization strategy. Afterwards, I have implemented cross-case analysis based on which important insights related to the similarities and contrasts between open innovation types and affected risk elements were gained. All outcomes are found in those three samples are DuPont Pioneer - collaboration with a competitor, Ecofol - with clients and Agredo - with a university.

The results from within-case and cross-case samples helped me to summarize the relation between partnership types and risk management components. Three crucial findings were identified as direct complementary couples: customers-financial risk, universities-technology risk and competitors with a turbulent factor. Furthermore, secondary risk factors and their dependence on outside collaborative participants are still to be proved. The outcomes lead to

the conclusion that there is a strong association between company-specific collaborative strategy and the consequent risks. It is completely unique to each individual enterprise and cannot be applied to all similar cases.

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Chapter I

1. Introduction

“Chaos in the world brings uneasiness, but it also allows the opportunity for creativity and growth” (Tom Barrett). Based on this statement, I could directly define chaos in the economic area as creative destruction made possible by making open collaborations. Go further, Henry Chesbrough (2006) determined the term of open innovation as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively.” The full vision of this concept is what has lured me to make a critical review of each type of open innovation models separately regarding the diversity of possible external partners. As a result, I have come up with three partnership configurations (collaboration with a competitor, client and university) and the specific competitive advantage that has been acquired through their theoretical openness. In this sense, partnership is not an invulnerable association. Open collaborative boundaries make risks closely intertwined with the process of external participants’ selection.

While innovation inherently requires knowledge exchange, such an activity also holds notable risks not only in terms of failure of collaboration, but also in terms of possibly losing competitive advantage if core knowledge flows out to competing organizations (Hurmelinna-Laukkanen, 2011). There is relatively small awareness of the risk management factors and their relation with possible open innovation participants. According to Enkel (2009) "the scarce literature written about risk management dimension in open innovation projects is more focused on highlighting the barriers for a firm to approach open innovation rather than on depicting the risks which accompany such collaborative arrangements." Therefore, this lack of adequate literature within this research field attracts me to provide the comprehensive overview of the risk factors concerning open innovation collaborations with different outside partners (competitor, client and university involved models). In the agreement, the general research question of my master dissertation will explore what is the level of impact of risk management factors on the diversity of open collaborative business models. Once the major risk factors are identified, the research will zoom in how companies manage and handle these risks. Moreover, to add substantial value this master thesis focuses on the formulation of managerial recommendation in terms of how open innovation risks concerning a different type of partners could be overcome.

As there is an existing research regarding risk factors in terms of open innovation activities, this master thesis used it as a base for the case study analysis. Moreover, in order to enhance the existing literature, the focus of this master dissertation is to identify the risk factors in open innovation context concerning different collaboration with various external partners, as well as to propose some recommendations on how companies are to deal with these risks. This master thesis is composed of three case study analyses aimed at answering the main research question as well as linked sub-questions. The case studies were distinctly selected, each separate case study report illustrating collaboration with a different type of external partner, in particular – a competitor, a university and a customer. The purpose being to uncover the full range of the most considerable risk factors concerning various types of partnership.

The present master thesis comprises five chapters in total. The first chapter represents the major objective of this master thesis, as well as an introduction to the general research question. The second chapter describes the review of the existing literature, in particular, transition from closed to open innovation, as well as a definition of open innovation, open innovation collaborations, risk factors related to open innovation practices by further answering to the general research question and related sub-question from a theoretical point of view. The third chapter introduces the research methodology, defining the case study method. Within-case study analyses and cross-case study analyses are performed in the fourth chapter. The final chapter contains the general conclusion, theoretical and managerial contribution as well as delimitation and suggestions for future research.

Chapter II – Literature Background

2.1 The transformation from closed to open innovation' enterprise

2.1.1 The definition of traditional closed innovation concept

The roadmap of innovation starts with a closed innovation concept. It requires companies to generate their own ideas and be in charge of R&D, production and marketing on their own in other words, everything should be done inside the firm. According to the closed-innovation approach, successful innovation requires control throughout the whole process. That kind of companies “must generate their own ideas and then develop them, build them, market them, distribute them, service them, finance them and support them on their own”. In agreement with Chesbrough’s theory, “in order to do anything, one must do everything internally” (Chesbrough, 2003, p. 29). It is an independent innovate mindset which not only requires organizations to be comprehensively acquainted with the needs and preferences of their target market, but also expects customers to be willing to wait as long as necessary in order for their desires to be served. Closed innovation design gives firms a competitive advantage to be truly excellent and unique in the nature of one particular industry, to protect their distinctive know-how from the dangerous world outside, to create an extraordinary way of exploration and exploitation of their R&D department, to establish an intimate relationship with the circle of employees based upon trust and loyalty in order to guarantee their future success, growth and productivity in a commercial and competitive environment. This period is known as “golden era” for closed innovation organizations, because they could minimize risks and create a unique customer value by using their high-quality tacit knowledge. The same independent system is exemplified in the Figure 2.1 below undertaken by Chesbrough:

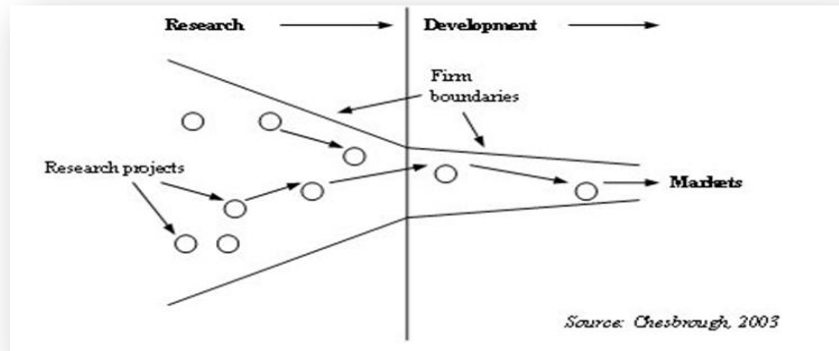


Figure 2.1 Closed innovation model. (Chesbrough, 2003).

The critical conclusion stemming from the graph is that research investigations and development projects reside within non-permeable firm boundaries. As such, there is a heavy reliance upon the company's internal science and technology base to instigate research and develop innovations. The figure illustrates the funneling effect filtered down as go/ no-go decisions are reached, regarding individual projects, potentially through a stage-gate process. The method is limited, because the business work can only enter in one way, at the beginning, and can only exit in one way - by going into the market.

In Chesbrough's review of "Open innovation", there is an interesting comparison between a game of chess and the doing business based on external limitations and internal staff freedom, such perspective being adopted, since closed innovation organizations operate in competitive, but well-known markets. Consequently, they easily become familiar with their rivals as well as with their intentions and capacity. Furthermore, firms become aware of their own abilities and competencies related to raw materials inventory, financial dimensions, HR network and the level of their own innovation performance. In this limited field everything is relatively predictable, every step ahead is expected and clearly accounted for by competitors and each creative idea could be overcome at once.

2.2 Erosion of the Closed Innovation Paradigm

The increasing diffusion of "open innovation" era was made possible, thanks to the rapid growth of modern world habits, turbulence and intensity of new technologies, the escalating rate of new products being launched, individual taste and preferences of customization and

special sensitiveness to price and additional value. These tendencies and desires have made the basic logic behind the closed innovation paradigm fundamentally outdated. Furthermore, according to Chesbrough, there are several factors, mainly exogenous, that have led to the decay of the closed innovation concept.

2.2.1 Increase of the Availability and Mobility of Skilled people

To begin with, the increasing availability and mobility of skilled workers as a result of migration has progressively led to dispersion of external knowledge and highly educated staff over the years. It has allowed employees planning to change jobs, to contribute their abilities, personal understanding and experience elsewhere which has resulted in unequally distributed educational flows between sending and receiving firms, countries and industries. The allocation of HR capital is directly linked to business, because some job openings and resources are based on career advancement to seniority instead of performance which is automatic characteristic for attractiveness and unfair politics (according to trade face).

2.2.2 Increase of the Number of VCs

The second important factor is the skyrocketing development of the venture capital market. It indicates a small percentage of total funds of money provided by investors in order to fund high-risk investments with long-term growth potential and above-average returns. The VC partner is also called “trail-wise sidekick”, because he/she could give life to business ideas by financially support of managers' proven and successful skills (Harvard Business Review). In this sense, there is a possibility for good and promising ideas and technologies to be further developed outside the firm which presents a big challenge in terms of the future development of the closed innovation paradigm.

2.2.3 An Alternative to the “Shelf”

Thirdly, “external options for ideas sitting on the shelf” is a consequence of both previous conditions and "buffer" between research and development. The outside world is a big threat to closed models, because it is full of accessible, knowledgeable people and venture capital which is easy to capture. In a combination, they could create and serve new products/service with common efforts, in a short time and on affordable price.

2.2.4 Increase in the Number of Qualified Suppliers

Finally, the increasing capability of suppliers has turned into a new alternative channel providing an infinite variety of materials, components and systems, extremely diverse in

terms of quantity and quality, equal or even greater than what business can offer by using only internal resources. It is an additional external way to increase the efficiency and effectiveness of innovation in order to create extra customer value.

As a result of all of the above the closed innovation paradigm has lost ground, slowly and inevitably being crashed by the rapidly changing business settings. The only possible way for future growth and development of business perspectives in the new world has come down to overcoming local barriers and establishing an open network. The new environment is characterized by widely distributed knowledge, increasing innovation achieved by single-handed creation, combining the expertise of organizations in the face of competitors, complementors, suppliers and customers in order to comprehensively expand specific business competence and simultaneously preserve one's uniqueness, because companies cannot afford to solely rely on their own research. Hence, the new social concept has become the motivation to invest all resource in order to make additional value creation. "The world is changing very fast. Big will not beat small anymore. It will be the fast beating the slow." (Rupert Murdoch) This was the beginning of Open Innovation paradigm.

2.3 The categorization and exclusivity of the open innovation model

In our fast-moving society, companies are seriously challenged by market forces, technologies and global economy. The drastic shortening of product life cycles, the globalization of competition with the accompanying, growth in the number of possible innovators, the interacting influence of products, technologies on international markets and the increasing difficulty of protecting and monitoring intellectual property and expertise act as motives for development of the Open Innovation concept.

The comprehensive review of open innovation network

The "Open innovation" phenomenon is a completely different culture, the necessary change in building, designing and managing new product lifecycle which plays a crucial role for the survival of a company. It is a challenge to take something existing and transform it into something that creates new wealth, economic prosperity or improves the well-being of a society. It can be big or small, brand new or just a little bit different, but it will convert the idea into a potentially successful customer value thanks to the effective exploitation of knowledge diversity and sharing of risks, resources and final result between partners. What is more, open innovation is a complex combination between what is desirable to users, what is possible with technology and what is viable on the marketplace. It starts with an idea

"exploration is the engine that drives innovation. Innovation drives economic growth. So, let's go exploring." as Edith Widder has said.

Open innovations are the proof of quality for tomorrow. Customers expect them. The new paradigm is much more than creating products, it is about solving problems, improving process and overcoming pain. The open innovation cycle involves four practical steps: thinking, sharing, developing and implementing. Firstly, companies need to find the best ideas which usually come from people who care the most about outcome. Firms have to engage those people with business issues in order to create a safe and rewarding environment. Secondly, new concepts have to be shared with partners in order to achieve a common vision. Based on accepted perception, the firm will have a new organizational opportunity to develop. Before the "implementing" stage, you need to explore, capture, categorize, organize, prioritize and evaluate options in order to develop project and plan budgets. Finally, the company will come to the end solution - what will work and what will not. Thanks to sufficient evidence (at previous levels), you and your management team could move forward to the last step – confident and consistent decision-making which will lead to the best result and the superior performance that one is expected to deliver. In this way firms can continually improve the features, benefits, and performance of their products because of technological advance, intense competition and the changing preferences and needs of customers.

One of the most often used definitions of open innovation paradigm is: “the use of purposive inflows and outflows of knowledge to accelerate internal innovation and to expand the markets for external use of innovation, respectively” (Chesbrough, 2006). The key success factors of this concept is the ability to establish a broad network of different sources of information stimulated to investigate in a particular field and to share and develop firm "local search bias" with external partners more valuable than internal ones. The main course of this theory is moving from the “not invented here syndrome” (Katz&Allen, 1982) to “proudly found elsewhere” (Chesbrough, 2003). A good illustration of the core idea is figure 2.2, referring to Chesbrough' work:

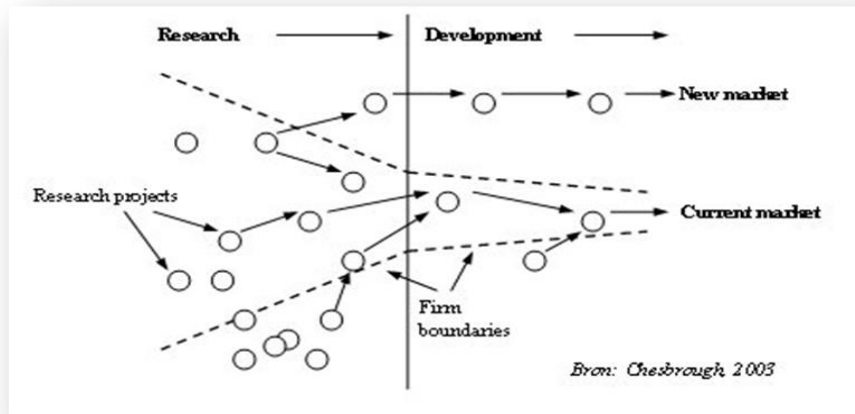


Figure 2.2 Open innovation model. (Chesbrough, 2003)

After a comprehensive analysis of the graph, I am more than convinced that only firms which can make the transition from closed to open mindset and combine external and internal commercialization in a form of idea replacement or complementation will grow globally and will have a key advantage in the marketplace. The “Open innovation” approach requires integration of ideas and combination of the financial revenues and expenses, among partners, related to the improvement of technical performance and acceleration of R&D project innovation. Yet another prerequisite for future the company prosperity is originality- inbound, outbound and coupled competences since innovation can be viewed as a successful implementation of creativity (Ekvall, 1996).

The research around the open innovation family can be perceived as somewhat fragmented and incoherent, because numerous studies have attempted to explain the same existing concept, but with different perspectives. For example, there is a correlation between Chesbrough’s approach and the definition of West and Gallagher (2006) – “systematically encouraging and exploring a wide range of internal and external sources of innovation opportunities, consciously integrating that exploration with firm capabilities and resources, and broadly exploiting those opportunities through multiple channels”. In this sense, Vanhaverbeke (2006) underlines the significance of open innovation models which “discover opportunities, obtain new knowledge or resources, to develop and absorb new technologies, commercialize new products, or simply to stay in touch with the latest technological or market developments. Enterprises are working more and more as part of broader networks to create customer value”. In view of all studies that have been mentioned so far, one may suppose that thinking out of the box by focusing on outside world involving innovative actors and

customers, new partnerships and new technological trends not only enhanced the R&D competency of a certain firm, but also had a positive effect on its innovation performance and all of these techniques are under the umbrella of the open innovation concept.

Stumbles and critiques about open framework model

Despite all advantages of the open-innovation model listed so far, there are some authors who show their ongoing disagreement regarding the novelty called "open innovation". For instance, according to Huzingh (2011) and O'Reilley (2010), the application of "innovation sources began before they were labeled "open innovation". This is nothing new, it is the past, just more of it". The same vision had been followed by Dahlander et al (2010) who described this paradigm as "old wine in new bottles". Those critics had paid attention to past contribution more than others, because according to them an unlimited network of support was actually founded long before coining the term of open innovation. In support of their view in 1996, Powell, Kenneth & Laurel had argued that in a regime of rapid technological development no single firm has all the internal capabilities necessary for success and highlights the importance of strategic alliances. They also commented on the need for learning capacity if a firm is to be adept at both internal and external R&D in order to be able to contribute to such collaboration as well as to be able to learn from such participation. Moreover, authors recognized the open innovation theory as a consequence of the limitation of closed innovation principles.

Collectively, all of these studies outline the critical role for open innovation paradigm. It is the only way for firms to stay competitive, to embrace all possible opportunities and to co-create together, to forget about old and outdated manners and to focus on a new passion economy where inspiration and common goals are the symbol of innovation.

2.4 The benefits and greatest advantages of co-working spaces

According to Max McKeown, "all failure is failure to adopt, all success is successful adaptation" and in the economic world the only chance to reject the old, closed paradigm and to adjust to the new business rules and global language is to become a part of the open innovation environment. This gave way to a whole new level of solving problems by using innovations in order to drive the change in the business cycle called "creative destruction"(Schumpeter, 1942).

Open innovation is a rich, flexible model which includes several important areas which it makes an original contribution to. The successful embracing of this concept allows firms to focus on excellence by facing challenges. For example, the paradigm stimulates collaboration between internal and external sources of knowledge, financial capacity, human capital, advanced technologies, raw materials and decision making skills for future growth and improvement. In this way, companies that work together are getting involved, identifying demand and exploring incentives for co-creation and encouraging entrepreneurship. Cooperation provides possibilities to effectively exploit diversity of ideas between partners, the movement of large portfolio of innovations and reap the economies of scale based on sharing project costs, risks and production schedule. An open innovation system gives birth to new, quality products and services, accelerates time-to-market, makes all participants benefit from their image, reputation and proved professionalism and helps them take part in emerging global networks.

Furthermore, advantages from customer background form new culture, new life and thus advance new civilization and modernization. The satisfaction and attractiveness of regular and potential clients can be increased thanks to the easy access of interesting and innovative goods and low- price service offering.

The open innovation ecosystem highlights the diversity of benefits that will help improve many countries, industries and corporations. It contributes to global and humanitarian development and solves problems that are of urgent need to society and have a global impact. Companies begin the open innovation process, understanding how to define success and what other advantages they can take from engaging with the external community thus encouraging them to analyze and capitalize upon each stage in the process, each response to their published challenge, each solution provider and each licensing negotiation.

2.5 Open Innovation Risks

2.5.1 Risk of Losing Control in Organizational Culture

The open innovation process is becoming more dependent on external knowledge and partners who make the collaboration and consequently innovation difficult to happen without established control and standards. The diversity of partners requires structure out of the information chaos that would otherwise exist. According to Surowiecki (2004), a large number of involved actors could be called “wisdom of crowds”, because their participation is based on collective intelligence, sharing risks and resources which allows them to move

beyond idea and product development to the very specific sense of doing business by achieving competitive advantage.

2.5.2 Risk of Losing Competitive Advantage

Another "dark" side of open innovation is the possibility of conflicting goals between managing a firm's own survival and that of its ecosystem members. For instance, joint projects are considered the most economical way to accessing confidential information about company policy. In some cases, external knowledge sharing has the potential to expose a company's internal distinctive competencies to its rival organizations which may lead to losing competitive advantage or even, in exchange, rivals could gain significant market share or market visibility. Risks of sharing know-how are strictly correlated with the lack of trust or poor communication among partners. Not only does the success of innovations depend on complementary of its team members, but it also requires honesty such as nucleus key of ecosystem and power in different parts of value proposition or value chain.

2.5.3 Risk of Collaboration Diversity

Yet another cause of major anxiety could be the diversity of partners that take part in the knowledge transfer. There are two possibilities - employees might be less willing to share knowledge due to the "safety mentality" and competition between organizational units or workers might avoid developing strong internal competence, because of high dependence on external parties. In the first case, organizations try to link staff with the real business process in order to increase the success rate and make a portfolio that will allow repeatedly and reliably meet the firms' growth goals. Whereas the second risk factor comprises increase of competition level based on R&D projects utilization of outside knowledge sources.

In general, building the whole structure of risk framework covers additional categories of risk drives, with both internal and external origin the above being: workforce (i.e. high staff turnover, safety mentality, poor understanding of tasks, insufficient expertise), collaboration among partners (high complexity and low control among partners, lack of balance in daily work), technology advances (technological uncertainty and inability to adapt modern science), regulations and market barriers (ambiguous industry regulations, administrative burdens, corruption, market uncertainty), clients (constantly changing needs and customizing products), access to finance (insufficient capital and high commercialization costs), organizational culture/ social capital (poor work ethic, low ability to absorb ideas, cultural difference, lack or risk awareness).

The global economic climate and its instability require firms to study risks, to be well informed before moving to open innovation as their sole means of progress and survival in a competitive area. In reality the "open paradigm" stands for a complex dance with many steps and rhythms, with both offensive (stimulating growth) and defensive (decreasing costs and risks) motives. Deciding how to use the optimal blend of open and closed systems, to encourage participation and innovation while maximizing economic value, is the job which manages the competitive advantage of particular business. In any organization, understanding this is essential, if meaningful innovation is to take place.

Open innovation is expected to become the dominant model of the new century therefore moving to the structure of this paradigm is essential for the company's future growth and development. Maintaining the right balance between open and closed innovation and establishing a common language among partners is easier said than done. It requires integration of different theories and economical mechanisms, because it implements the harmony of short-term profitability with long-term sustainability, the challenge of exploitation-exploration paradigm, entailing a variety of risk concerns. Furthermore, the methodology of openness implies an inherent lack of control, both of the processes themselves, and of the potential results (Mahr, Rindfleisch, and Slotegraaf, 2010) therefore the utilization of a risk management approach is required in order to transform the business environment in a more risk-aware organizational place. These practices will allow enterprise entities to better identify, assess, and prepare for external risks.

2.6 Collaborations

Successful open innovations are managed through a culture of collaboration. Collaborative relationships with external partners allow organizations to increase their rate of innovation, differentiate themselves in the marketplace and achieve cost and efficiency savings. Hahnel (1999) has argued that "We should know that only replacing the economics of competition and greed with the economics of equitable cooperation will guarantee a globalization that takes advantage of potential efficiency gains in ways that also promote environmental protection, international equity, economic democracy, and variety." In consideration with this view, Chesbrough complements the vision of collaboration by adding the term 'Open Innovation' to describe the systematic integration of external inputs at different stages during the innovation process. This concept supports the simplest formula that sustainable economic growth could be accomplished through free informational exchange across organizational boundaries and high levels of integration, both on the intra and inter organizational levels.

There are various types of external partners involved in this process. The existing literature is studying the impact of customers, suppliers and universities separately. For example, Chesbrough (2006) names the same external participants like the most important for open innovation entities. However, Dussauge et al. (2000) has been recognized the role of competitors as new possible external partners related to the fast-moving economic world. Collaboration is a powerful socio-organizational mechanism which leads to new products and services being provided, to the development customer relationships, to the establishment of better project and process management methods, to the creation of innovative solutions suiting individual client preferences, to improving education among partners and modeling a new environment where competition is replaced by a new economic factor - co-creation. It is a special way of beneficial interdependence which integrates both complexity and speed in order to change the current company situation and help the enterprise to become a winner on global economic field. What is more, collaborations are always carriers of potential. Those you cooperate with today will think of your tomorrow when they are putting together their skills, resources and creativity in order to achieve a "group genius". The beauty of collaboration is that you can find new solutions, new unique and more effective ways of meeting existing customers' needs which will make you exceptional in the competitive economic environment.

2.6.1 The diversity of portfolio of possible external partners

Crowdsourcing configurations as the part of the open innovation model based on sharing in both the risk and rewards

- Customer involvement or co-creating value with customers

User innovation is seen as an extraordinary strategic resource for reaching high quality levels, fast and reliable delivery, sufficient flexibility and satisfactory services and products. In agreement with Feng (2010), customer involvement attracts new customers, improves customer loyalty, opens new markets and contributes to the profitability of a firm's existing product portfolio. What is more, paying attention to your customers is crucial to your future growth and performance prosperity. If the consumers have changed, you are to alter your product, service or vision as well with regards to your target group preferences. Customers' opinion has therefore established itself as a new marketing tool which might be used to modify or perfect the product by voicing the idea to the manufacturer. Although the creation of an experience environment in which consumers can have active dialogue and gain practical

knowledge about the particular service might sometimes lead to the product remaining the same, being allowed to give feedback and participate in the products development and evolution results in different feelings and impressions on their part. In other words, it is known that customers may forget what you said but they will never forget how you made them feel.

Every great business needs customer involvement, because it is a strategy that leads to word of mouth or world of online reputation management which is the most important business advertisement.

- **Building a relationship with competitors**

Competitor's correlation is beneficial on many levels. Actually, competition involves economic agents selling similar or substitute products or similar target groups of customers. Furthermore, having common products and clients is in a direct relation with dealing with the same difficulties, problems, regulations, financial, technological, weather conditions, etc. In this sense, having a strong competitor collaboration enhances mutual growth, trust and raises the level of professionalism. This kind of partnership allows for additional value creation with regards to the customer and extra profit by selling more physical units at a higher price or in other words the perfect combination includes the optimisation of the balance between competitive benefits and costs. In agreement with Tether (2002) "They (firms) may find areas where their strengths are complimentary for the development of a new range of products or services. As these strengths reflect competencies that can be difficult, time-consuming and costly to develop, it makes sense to collaborate rather than seek to replicate the other firms' strengths, especially in the face of other competitors, or consortiums, that have all the required competencies, or where the collaboration is aimed at developing high risk innovations." Successful innovation is a team sport that helps players to gain a foothold in the high-cost and high-risk industry. Win-win collaboration without a dominant player will result in the following collaborative benefits:

- creating better customer service and focusing on key customers
- innovative thinking that ensures additional value creation
- expanding your business and target group, because the best of both competitors could create the grounds for development of new technical skills, financial prosperity and professionalism

- employees' improvement through knowledge resources available elsewhere across borders of cooperative partners

- **Partnership with universities**

Another category of external partners offering high promise which one cannot but mention are universities, since they allow access to an enormous global pool of talent and skills. This kind of collaboration puts the right people in charge – those who cross boundaries, because at the end of the day people determine the success or failure of industry-university partnerships. Furthermore, business-university team work encourages a sufficiently high level of information exchange for both parties - university researchers are promoting for excellence and companies are supported by academic background institutions during the whole life cycle of their innovation projects – their day to day project solving. This partnership is a challenge to create new knowledge, further value and business opportunities and present them in a public domain as well as a prerequisite for focused work on sharing deep personal problems and after all a means to license collaboration results for future prosperity. Moreover “universities are seen as especially useful for basic and long-term strategic research, particularly in pre-competitive technologies; the sorts of research that many firms regard as excessively expensive to undertake alone, using only their own resources” (Tether, 2002). During the modern open innovation century universities should be viewed not just as a generator of ideas, but as a source of knowledge and competence that can benefit society.

At the end, it is a win-win outcome for both parties. Corporates get access to cutting edge innovation for their product development, while universities leverage their research labs and expertise to generate revenues.

- **Supplier chain cooperation**

Last potential external partner thanks to which companies could generate benefits is the supplier' involvement. Its the most important value contribution could be seen in the following aspects:

- Better production quality
- Lower production costs
- Shorter development cycle
- Lower development costs

According to the findings of Un et al. (2010) suppliers are the most important collaborators for product innovation. Positive effects of supplier cooperation are related to their comprehensive knowledge in specific areas, problem-solving logic, and their cost-oriented vision. In agreement with Li and Vanhaverbeke (2009) of all these inputs of suppliers, innovative knowledge in terms of new technologies and know-how are the most valuable elements.

In the end, without a solid relationship with suppliers, companies will have some difficulties in offering high-quality products and additional adequate service.

2.7 Different types of risks associated with open innovation models

Many studies have shown a positive relationship between project risk management and the success of research and development (R&D) projects (Mu, Peng, & MacLachlan, 2009; Salomo, Weise, & Gemünden, 2007)

Understanding the risk management process and its path of control include uncertainty identification through risk monitoring and control. The main idea is to illustrate the relevance of potential risks and their impact according to different types of open business enterprises. Essentially, project risk is defined as “an uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives” (Project Management Institute, 2008a, p. 127). In short, by using summarized threat possibilities a proficient management contributes to avoiding negative consequences and creating sound understanding of capturing opportunities in the open economic world.

In agreement with Keizer (2001) “The success of product innovation, however, is determinate by external influences and internal circumstances in which all these factors interact. To be effective, a risk assessment method therefore needs to help identify potential risks”. Based on the interaction between open innovation models and outside uncertainties, one could define several categories which shape the conceptual understanding of the risk management process as follow:

- Keizer (2001) discovers technological, market and financial risks
- according to PMBOK® Guide (2003) risks are external: socio-economic, technological and political and internal: risks associated with the project itself, organizational and relationship risks

- European commission (2010) divides risks in: technological, organisational and societal risks, market, financial and turbulence risks

The risk could be an opportunity as well as a threat. Thus the creation of a successful risk treatment plan requires companies to predetermine a whole life cycle. On grounds of the following Table 2.1, this research summarized different types of uncertainties as follow:

Risk category:	Risk summary:	Risk consequences:
Technological risk	Technology dependence and unsecure collaborative performance	Reducing the personal ambitions of technological power
Societal and organizational risk	Irregular consumption and changing customers' interest rate	Fast-moving customer'' temptation and followed product defects and liability
Market risk	It includes the imbalance of purchasing market and returns on investments	Poor management related to some financial errors and geopolitical instability situation
Financial risk	It is about the extensity of a product life-cycle and the rate of market innovation' sensitiveness	Reducing expected profits and damaging current market reputation
Turbulence risk	It is focused on big, cross level projects that require long-term funds.	Limitations of planned business development

Table 2.1 The typology of business risks. Adopted from European commission (2010).

The explanation of different risks enumerated in Table 2.1 is below:

- **Technological risk:**

Technological risks are all those risks that lead to a non-completion, under-performance or false performance of the procured service or product for reasons that lie in the technical operation of the service or product or in its production. In order to be able to reduce this

uncertainty one is to ensure alignment between designs and capabilities as early as at development stage, to check the capacity of selected partners and find a stand-by participant.

According to Cohen & Levinthal (1990) business enterprises often ignore their core internal capacity by sticking with their external partner. This is very dangerous, because it leads to the limitation of building technological competences, losing the motivation of staff work which is replaced of valuable ideas outside company boundaries and the decreasing of absorptive magnitude and the development of creative destruction through the availability of own company skills.

- **Societal and organizational risk:**

The root of the above lies in a complex interaction between diverse business players. According to Manzini (2007) open collaborations could be viewed as "creative communities" based on their occurrence and impressive development. The main problem is their incapability of creating common vision of future goals, prosperity and value formation. Due to the mixed background of different cultures, generations and economical understandings establishing a clear research plan of future vision and results becomes cumbersome. On one hand, inappropriate collaboration could render the the end product or service confusing to the target audience, on the other hand ethical issues and the level of social education of users might be under the power of business skills and expectations. This two- way misunderstanding is related to the lack of social acceptance and uptake by the users of the new or changed service, absence of compatibility with existing products and institutional routines, insufficient absorptive capacity - public skills and awareness. Measures to limit those risks may include marketing and awareness measures, transparent life-cycle and early user involvement (client associations or long-term contracting and framework contracts in order to create some form of trust and transparency without stifling innovation and flexibility.

- **Market risks:**

A market risk is the possibility for an investor to experience losses due to factors that affect the overall performance of the financial markets in which he is involved. Producers might fear of being caught in the market failure trap, i.e. to have invested heavily in R&D department and innovation activities without the scale to get the necessary return. In this regard, market uncertainty is one of the key risks associated with the return of assets/investments. This factor will help an entrepreneur to understand the investment by calculating the expected minimum yield back. Should the investment exceed the cost of capital the direction of the business

project is attractive and productive. Sources of market risk include recessions, political turmoil, exchange rates, stock prices and commodity prices as well as changes in interest rates; the most important element here being political sensitiveness especially in an unsafe climate directly linked to a high degree of corruption, bureaucracy, taxation and unpredictable trends of market evolution.

In agreement with Robert Arnott thoughts: "In investing, what is comfortable is rarely profitable.", market risk is an obligatory business challenge that diversificates the company from the commodity magnet by making it singular and updating its competitiveness.

- **Financial risks:**

The financial risk involves the threat of non- performance of collaborative innovation and new product development which leads to loss of firms' assets.

The central idea of open collaborate on is to be flexible, to attract existing as well as new customer groups, to satisfy shareholders by investing their capital for sustainable growth and to combine all pieces of exclusivity of internal IP and R&D capacity of possible open innovative partners. Additionally, Keupp and Gassmann (2009) said that "The high costs of internal R&D and short product life cycles imply considerable financial risks of innovation that firms can scarcely solve by relying on internal measures". The hottest obstacle is faced in continuously changing trade nature and customer behavior that leads to reduction of the length of the service and product life-cycle. Based on this statement, one comes to the conclusion that it is vital for open business models to nourish a sustainable trust-based culture with their customers in order to avoid the problem with clients changing demands and interest rates. Along this line of thought, it is very important for an entrepreneur to know and predict the economy sensitiveness, regulations and market barriers in favor of its trade future progress and financial recapture volume.

- **Turbulence risks:**

They are dangerous, complex, unpredictable, and mainly associated with major projects. This type of management difficulties affect different actors at different stages in the development of corporate collaboration. To survive, companies must demonstrate their strong dynamic abilities by continuously discoursing and watching the actor's behavior - commercialization of the relevant knowledge - licensing. According to today's business statement, "Innovative behavior has a lot to do with risky appetite (Dutton & Jackson 1987, March & Shapira, 1987,

Busenitz & Barney, 1997, Sarasvathy, Simon & Lave, 1998, Berglund & Hellström 2002, Forlani 2002, Berglund 2007). This trend of passion has its root at a set of measures which are sources of profits at various levels.

One way to limit risk is by breaking down big innovative projects into small individual modules. This allows for certain investment to be postponed until the moment of launching the new product or even following its adaptation on a market. It reduces the risks of failure of a business plan.

2.8 Literature gap

Existing literature offers an unlimited diversity of analyses related to risk management factors in an open innovation background. Moreover, several authors have performed a comprehensive evaluation and diagnostics of all aspects of business risk based on their researches on the premises of open innovation concept. Data is still insufficient because conclusions are very broad and cannot be assigned to a particular open innovation type regarding its external partner. Therefore, the topic of direct contribution: the specific participant - major risk possibility is under-explored. As a result, the goal of my master dissertation is to shed some light on the interconnection between a selected partner and their dependence on one primary risk element. I have based my research on case studies from the area of Bulgarian agriculture.

Furthermore, zooming in a particular partnership does not only allow me to clarify the effects entailed by a single primary risk, but it also requires a detailed analysis of the interconnection with secondary risk factors. Defining the additional risks is hence providing entrepreneurs with complete risk guidelines with respect to the selected partner. The lack of existing literature regarding this hypothesis, makes my discussion invaluable for economic business entities in the area of agriculture. It will motivate companies to dedicate their strict attention when choosing an external partner by taking into consideration all possible negative consequences (technological, market, turbulent, social, organizational and market risks). Moreover, the theory will be extended to present a comprehensive overview of the risks regarding collaboration with various types of external partners (competitors, clients and universities).

Chapter III Methodology

This chapter describes in detail the chosen model of gather data. It involves three components: defining case study method, research design and data collection regarding the tackling of the research problem.

3.1 Defining case study method

Firstly, each case study could include a single or multiple examples. As far as I am concerned, my critical review is to present different firm backgrounds and their know-how. According to Simons (2009) the correct case study definitions is "... in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, program or system in a 'real life'" (ibid., p. 21). She also emphasized that a case study should not be seen as a method in and of itself. Rather, it is a design frame that may incorporate a number of methods. Stake agrees; he stated that a case study is not a methodological choice, but rather a choice of what is to be studied – by whatever methods we choose to study the case. In agreement with those authors, I have planned to make my analysis by following the research case concept of Yin: "The fundamental goal of case study research is to conduct an in-depth analysis of an issue, within its context with a view to understand the issue from the perspective of participants...Methods used in case study to facilitate achieving the aim of co-constructing data most often include observations, interviews, focus groups, document and artifact analysis (Merriam, 2009; Simons, 2009; Stake, 1995; 2006; Stewart, 2014; Yin, 2014)".

The design of my case study research portfolio is based on the theory of "Case Study Research" by Yin, 2009. According to Yin and Moore, generalization of results from case studies, from either single or multiple designs, stems from theory rather than from populations and those examples can be explained by three rival theories: a knowledge-driven theory, a problem-solving theory, and a social-interaction theory.

Multiple case-study projects, in their true essence, investigate the real-life innovative phenomenon in the boundaries of advance definite theoretical line concept. The lack of formalized methodology about case study structure, gives me freedom to explain the acquired experience and final result in my way. The main advantages characterizing the methodology of my research are directly related to close examination of the specific conditions and their relationship in the defined industry- agricultural area of Bulgaria and insight detailed view that describes the real - life situation and firm' main strategy through face to face interviews.

They will provide me with confidential information regarding the secret in balancing risk factors and relationships in collaborative enterprises. By following Yin's research concept, it appears a possibility choosing entrepreneurs to influence the direction of main outcomes and the generalization of their ideas. Defined as a limitation factor could be benefit in the same way put in the strong cultural conditions of Bulgarian agricultural barriers. The basic structure of multiple -case analysis is as follow:

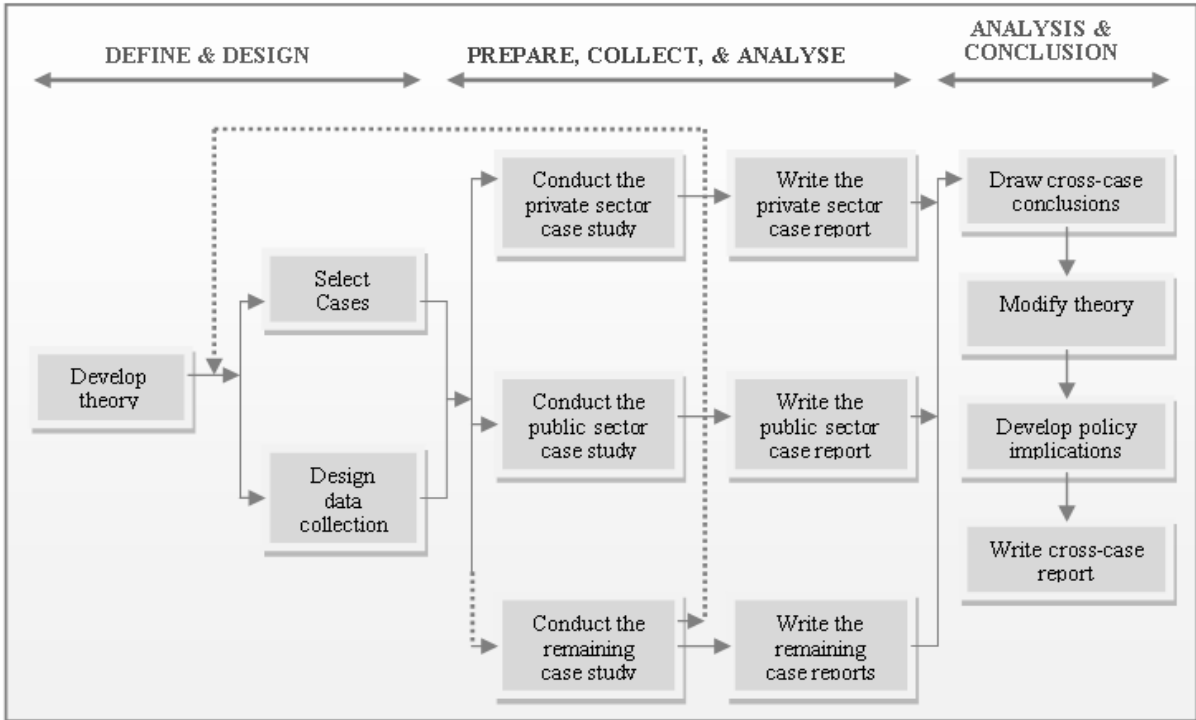


Figure 3.1 Multiple-Case Study approach, Yin (2009)

3.2 Research design

With view on my research design method, I have planned to design a clear strategy for each type of open collaborative business model. My main purpose is to clarify the correlation between particular open market cooperations and possible outside risk factors and the level of their influence or to link selected business examples to the initial question of my report. It will help every separate commercial entity to develop a specific way of sustainable innovative future, to proceed with risk limitation and to advance towards achieving better return of investments in a short time with the correct partner. As far as methodology is concerned, this correlation will ensure coherence of the report. The practical description of my experimental treatments is based on qualitative as well as quantitate cross case method design. It includes correlation between the sets of dependent and independent variables- specific open business

model linked to portfolio of possible external risks. The essential “ingredients” of my practical material comprise using three cases of different open collaborative stories in the border of agricultural region of Bulgaria – Pioneer, Agredo and Ecofol. I have decided to focus on the farming field, because it is one of the most innovative and fast growing sectors in my country. Planned examples involve a variety of partnership combinations: DuPont Pioneer – agreement with competitor in order to meet the current and future needs of their clients; Agredo –negotiation with universities in search of modern agricultural perspective and Ecofol – makes harmony with their clients in the direction of providing them with necessary knowledge, experience and qualifications for precise future bio free agricultural area. The basic lesson behind my study is clarification of the difference and the level of risk’ dependency and flexibility among the complex morphing open business models.

Moreover, following the steps in agreement with Yin’s approach, I have to justify the validity and reliability of choosing cases in order to prove the quality control of existing results and conclusion. My survey research design involves a questionnaire instrument that helps me to confirm the positive or negative consequences of the hypothetical statements of the theoretical review. In the following paragraphs, readers could encounter detailed information and gathered data enabling them to find a justification of the research question by using real life examples. The table below implements covered design techniques:

Tests:	Case study tactic:	Phase of research in which tactics occur:
Construct validity:	-Use multiple sources of evidence -Have information from secondary data sources	Data collection Composition
Internal validity:	-Do explanation building	Data analyses
External validity:	-Use replication logic in multiple-case studies and cross-case analysis	Research design

Reliability:	-Apply case study protocol -Develop case study database	Data collection
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Table 3.2 Case study tactics for four design tests. Adapted from “Case Study Research Design and Methods”, Yin, 2009, p.41

3.3 Data collecting

There are no cookbook procedures that have to be followed or defined number of samples that have to be used in order to make data collection possible. This process starts even before focusing on an appropriate case study view. Collecting is a preparation for the real investigations and in my project not only have I taken into consideration direct face to face interviews and email correspondence - systematic gathering of information, but I have become aware of secondary data like company profile- web literature, presentations, magazines etc. – i. e. additional knowledge. Likewise, Yin (1994) and Eisenhardt (1989) highlight the importance of collecting data by focusing on different methods, tactics and a wide range of resources in order to combine quantitative and qualitative research as well as to confirm the true results of accrued knowledge. Having some serious time limitations, I have decided to fully focus on three case studies directly related to research question - different types of open innovation: with competitor, university and customer group that are affecting contrary risk portfolio. All interviews are equally relevant to the central question, because all of them are made in the same way - with company managers, in the comfort of their workplace thus being predisposed to giving honest replies simultaneously providing me with supplementary documentation clarifying their vision and opinions. In the table below I have summarized basic information about profiles of choose companies.

Criteria	Firms	Case 1: “Ecofol”	Case 2: “DuPont Pioneer”	Case 3: “Agredo”
Country:		Bulgaria	Bulgaria + USA	Bulgaria
Industry and products direction:		Agricultural area Fertilizers Producer	Agricultural area Seeds Producer	Agricultural area
Market size:		Medium	Large size	Small, start-up company
Type of collaboration:		Customer involvement	Competitor collaboration	University partnership

Interviewer:	Tatyana Mihaylova CEO	Ivan Kostadinov Product manager	Irena Petkova, Finance & logistic Manager
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Table 3.3 Own illustration of the description of case studies.

Chapter IV Case Study Analysis

The following chapter involves within case analysis and cross case analysis. They are driving me to perform necessary investigations and acquire real-life experience both have turned out crucial for my thesis since they prove the main points and illustrate the analysis on the research question.

4.1 Within case analysis

This paragraph involves interpretative analysis of each case study separately. The main findings are based on the answers of research questions guidelines.

Case 1: Competitor collective intelligence – “DuPont Pioneer”, Ivan Kostadinov, Product manager

DuPont Pioneer is one of the world's leading crop management and agronomy tips companies around the world founded in the distant 1926. Its potential was based on world-class, innovative, high-value products and intelligent, sustainable system solutions. It was possible thanks to the company' global, interdisciplinary image based on collaborations. DuPont Pioneer made a cooperation with all possible outside participants: competitors, customers, suppliers and universities in order to guarantee its long-term success with products that help growers exceed their goals and with programs that connect it to new markets and profits opportunities. Firms' main strategy is increasingly developed collaborations with competitors. It is something like a collective brain process and according to the interview with the product company manager - Ivan Kostadinov, I could use his words in order to explain the common work of two business agricultural giants in the market arena - DuPont Pioneer and BASF as follow:

"It is the real example of respect, of balancing collective professional priorities with individual company needs and requirements in a way that communicates maximum respect for clients as well. Our negotiation is the model of win-win partnership through which each company could achieve competitive advantage without losing its power and identity."

DuPont Pioneer is a crucial example of the open innovative business model and followed creative destruction in the face of expansion of market and technical knowledge, the opportunity to invent smart new value combinations of an end product; mixed work society, resource-based and financial availability. DuPont Pioneer believes that "innovations highlight

the customer value, their new needs, desires and particular expectations." Therefore, all company efforts are focusing on creating a product with rapid results directly related to the increase of farmer' crop yields and product expanded life time value. It is a big recognition to make a creative destruction exactly with the biggest competitor that you have - BASF. The common formation of "Clearfield" technology is the proof of mature business cooperation. It is the revolutionary technology based on the selected specific hybrid and clear crop' gene for good production of labor and excellent weed control. Through this partnership, DuPont Pioneer earned new competitive advantage - supplement know how that gives the company an exclusive using rights. Only those two enterprises could use this special license for high quality. It is a crucial success for Pioneer - for internal distinction among competitors as well as for customer productivity maximization. Usually, such technology takes a lot of time, resources, efforts and professional knowledge to be made and in most causes the final result does not have the characteristics expected. "Clearfield" technology is the symbol of quality. It is interesting that Pioneer is using it with its brand name and actually most of the clients did not know about this common project of competitors. In this sense, Clearfield technology is equal to Pioneer - both are signs for excellent product value expectations with limited risk possibilities.

Of course, each new project is related to some negative outcomes. The same is happening with DuPont Pioneer and BASF partnership. They are still sustaining together thanks to the correctly defined risks factors and their sufficient mitigation. By following the dark side of their common work, I could define three basic risks with the different level of dependence - turbulent, market and technological. In agreement with the interview session, I could conclude that turbulence is one of the biggest uncertainties among competitors' partnerships. It is because of the large scale projects that are becoming increasingly complex and challenging to manage. This kind of business plans include risks in all possible directions: conflicting objectives between companies, shifts in information technology, new ways of networking, changing workforce, legal and regulatory requirements, the unequal mixture of finances, resources, intellectual capital and creativity. Of course, those barriers cannot be overcome completely, but their effect could partially be mitigated through advance long term contracts. In this case, "Clearfield" technology is defining the exclusive rights between DuPont Pioneer and BASF companies only. Going through the other two risks - market and technological - both have limited influence. Those competitors have extensive previous experience and they are very well aware that nothing is too big to sustain forever. Their partnership has very

limited market risk achieved by sharing ownership of the common project. In this way, expected returns on investments could come from the target audience of the two companies and respectively the all negatives will be divided. In terms of technology, it is almost impossible for risks to arise rapidly. The goal of the partnership between DuPont Pioneer and BASF was to achieve mutual advantage by using the best technologies, resources, human capacity and general products and creating a real innovation bombing. It is close to the concept of competition for competence. Their high valuable "Clearfield" technology was hidden information and a lot of clients did not expect this collaboration and had never thought it would be possible. Both companies used this mechanism with their logo claiming it was their own achievement. Therefore, technology dependence or loss of brand individuality is barely possible.

Competitors collaboration or joint venture is a successful strategy, because each partner could learn from the other. A risk portfolio has an interesting structure. It depends on the direction of business ambitions of different players. Some organizations are looking to reduce future investments, but others desire to achieve perfect technology or just to reveal some of their competences in order to keep the interest of their rivals for the top. In this sense, companies have to look for a partner with the connate future vision of prosperity.

Case 2: Collaborative harmony with customers – “Ecofol”, Tatyana Mihaylova, CEO

Ecofol is one of the best innovative and successful examples for collaboration with Bulgarian farmers. The company was founded 30 years ago and during its whole lifetime, the manager department had been creating a reliable trust bridge with customers for their common future advance and prosperity. This partnership is extraordinary, it is a new way of being creative, of doing more with less, of changing company's basic ideas and resource exploitation regarding society's changing needs and sensations. The main purpose of Ecofol is not only to be closer to their target group than its competitors, but also to make them a part of daily business activity and planned advanced products. This partnership is the best way to inspire customers, to create a bridge between them and their business, to educate them about future development - what they have to expect and how to use it and to change their mentality. It is the territory where clients become designers, incubators of new ideas. When the company keeps customers close, the owner could easily manage their perceptions, make them loyal and increase their desire to purchase more and more, because real progress is only possible if there is a contribution from both parties. The right partners are as valuable as your business, because they will become the life blood of your daily work. In order to prove its loyalty Ecofol is

making seminars as well as demo days annually. For example, common projects such as "Together in the field", "Together for a new beginning" and etc. have become famous across the whole country. Moreover, this company has professional agronomists who have continuously provided personal guidance on how, when and which products to use to achieve profitability and crop yield extension to each great Bulgarian farmer individually.

The biggest secret of Ecofol customer collaboration is the way that they make consumers feel satisfied. For example, organizations have some products being major trademarks and others for export and hobby gardening. The most interesting company strategy is related to the products with private labels. Ecofol is creating some specific products which are suited to particular clients – such as brand name products that increase immunity in their crop yields (Contessa, Tedi Green). With private branding, Ecofol is creating its own unique image, which begets a marketing identity and promotes stronger customer recognition and loyalty. One additional advantage of using this business method stems from the expansion of control over pricing, marketing and sales. For instance, private labels make it harder for competitors to match and price check for substitute products.

In agreement with the CEO of the company, **"The voice of customers is implemented into new product development. Selling Ecofol product portfolio is going beyond pricing, it is the symbol of quality and value that guarantees better farming results as well as higher company margin."**(Tatyana Mihaylova)

Of course customer collaboration innovation has some risky sides that have to be taken into account. Based on my interview' answers, I could define three different risk categories according to Ecofol case - the biggest trouble: financial unitability; the medium: social and organization risk and the lowest barrier - technology differences. First of all, some risks arise due to the big tolerance that Ecofol grants its customers and the following missing contract procedure. It makes a company task for commercial sustaining a bit difficult to be achieved for fixed periods of time. On the other hand, in order to prevent social risk, Ecofol has used a special formula to choose the customers best suited for collaboration - "customer profile". Led by it, the company is targeting the most trustable clients, because they will promise the longest product lifecycle as well as secure return on investments. Finally, so as to limit technology risks, Ecofol is utilizing the need for innovation among Bulgarian farmers. Personal agricultural advisors are those who create a bridge between the company and its clients. They create a supply and demand concept of particular products. Clients and advisors together are the company's eyes and ears that help to control risk factors in the best way.

Based on this example of customer collaboration, I could conclude that it is a successful partnership thanks to the big benefits portfolio and because of adequate opposite reaction to each risk factor. Of course, I cannot generalize all risks and their degree of impact being exactly the same for each customer collaboration in the agricultural area, because it is continuously altering possible risks and company business tactics that result in avoiding them.

Case 3: Collaborations with universities – “Agredo”, Irena Petkova, Finance & logistic Manager

Agredo is a company focusing on the modern agricultural area. Their main purpose is to give adequate decisions to the particular customer market audience. Agredo is not a producer, it makes a sustainable and innovative business thanks to the sophisticated portfolio of open collaborations. On one hand, they work with competitors by representing their quality products to the Bulgarian agricultural industry, yet on the other hand - the company is using collaborative outsourcing approach by giving some of its seeds to the customers for cultivation and development and afterward the seeds are coming back - ready for selling and exploitation. It is the smart way of doing business with limited risk possibilities and minimum investments. Those kinds of successful partnerships are possible thanks to university intervention. The core strategy of Agredo is based on the cooperation with professional high educated institutions.

As Mrs. Petkova said, "**our logo also has special meaning - AGRicultural EDucational Opportunities**".

The main university partner of Agredo is - the Agricultural University of Plovdiv. This company's champion is very important because it combines benefits in two as - it educates employees with agricultural background about the best features and quality level of their products and advanced scientific techniques and the key activity is helping the organization in proving, cultivating and applying seeds in the Bulgarian environment. Last, but not least the university convinces clients in the guaranteed final results. Without this collaboration, Agredo will lose the opportunity of internal education and professional capacity improvement. Moreover, its service could be easily substituted, because clients will be unaware of the valuable features of Spanish and French products and they will not believe in using them.

Going through the Agredo university partnership, I could find it successful thanks to the well-guided risk management concept. Identified major risks of this collaboration are: technological; social and organizational risks and market risks. I begin with the technological

ones because the above have the greatest effect. University service is something that Agredo used necessarily for better product position on the market and to expand its current clients' portfolio, to real demo experiments that will guarantee value and quality to customers and differentiate them from competitors' items. Following the interview answer "**The problem could occur if the university technology equipment does not have an expected operational level and misses some additional product benefits that may have a crucial significance for farmers.**"(Irena Petkova). For example, agrarian customers are always searching for some new, additional product value which is directly related to yield enhancing and adequate better returns on investments. If this kind of supplement product features are not found, cannot be guaranteed it could limit company success and its future financial progress. Continuing with social and organizational risk it is worth mentioning that consumer preferences for a particular product or service are usually highly varied and therefore could not be well-defined and summarized in one item. Clients' current emotional expectations are difficult to control, especially in the agricultural area where it takes a lot of time and efforts to show and convince the audience in the product features. Therefore, some validity of the life cycle of Agredo service is managed by using personal agricultural advisors who are mediators between the company and target clients. Moreover, they create and sustain the positive brand image of Agredo and increase its popularity and superiority. In the same line of thought, I will proceed with market risk. According to the university collaboration, each analysis or experiment requires financial validity in order to be made in a quality way. Agredo pays to the partner in the case of receiving correct information for each single product, soil particularity and test seeds. Those financial investments have to give the result in the form of customer feedback - increasing product demand and purchasing. If the university findings do not yield the expected results they could be easily adjusted to different agricultural conditions. In this sense, the survey result is always valuable. It cannot predict the return on investments in detail, but its significance lies in it being the company key resource for future productivity.

Finally, I could conclude that technological risk has a significant meaning in all university collaborations. It is normal because scientific experiment and professional equipment are provided on the basis of this open negotiation. Additional following risks factors are complemented from the company main strategy, particular university surveys and correct customer expectations.

4.2 Cross case analysis and results

The purpose of the cross case analysis is designed by shedding a bit more light on the relationship between open innovation configurations and their dependence on the fixed risks portfolio. Engaging with particular examples, my expertise goes beyond the single individual knowledge and focuses on the comparison of all results from different samples. It is an interesting process that should provide the reader with lessons on the evaluation of the above-mentioned companies and their interrelation with risk factors as well as make some general conclusions and expand personal experience.

The following Table 4.1 is facilitated by using exclusive information from three different types of open innovation models (with clients, competitors and universities) and their relationship with three types of risks dimensions: high, medium and low level. All involved investigations are developed thanks to the interview dialogue session presented in Appendix chapter.

Risk level	Case study	DuPont Pioneer: (collaboration with competitor)	Ecofol: (collaboration with customers)	Agredo: (collaboration with university)
High risk		Turbulence risk	Financial risk	Technology risk
Medium Risk		Market risk	Social and organizational risk	Social and organizational risk
Low risk		Technology risk	Technology risk	Market risk

Table 4.1 The description of multiple case approach

Collective capacity from the cross- case analysis involves some similarities as well as some differences based on explored research connections. All results are presented simultaneously. Each case reported a fundamental value of collaborative combinations regarding possible external partners- competitors, clients or universities. Nevertheless, their different negotiating participant is the similarity related to their major motive of cooperation - the achievement of competitive advantage. The motive described is a logically correct process because the purpose of each open innovation model is to share and to be provided with new knowledge capacity, technical competence, professional human capacity, advanced R&D department, resource availability and expand current market shares.

Based on the chosen case studies, I could generalize the causal connection between preferred business partner and expected competitive advantage:

- **Competitors' partnership:** The main driver of this cooperation is internal "know-how". It is a strategic benefit because it entails a lot of positive outcomes: license acquisition, highly trained workforce or exclusive technology rights.

- **Customer collaboration:** The essential factor of competitive advantage in client clusters is their direct participation in real-time information flow. It creates successful and sustainable customer loyalty and satisfaction and helps the company in expanding the current market segment and counting up with the new one.

- **University cooperation:** Academic world and agricultural industry are partnering in order to reach the goal of free access to the modern technologies and latest professional mechanisms of convincing and improving product' quality and design portfolio.

Choosing a particular kind of open innovation partner will differentiate your future competitive advantage and the main risk possibility.

According to the second part of this consequence and in agreement with received answers from interviews, I have come to the next finding: each particular type of innovation with the agricultural background leads to one major risk:

- **Competitors' partnership:** The recognized essential risk is turbulence. Complex partnership project usually includes progress monitoring and risk management on many levels. You first have to create trust among participants, common future vision, mutually advantageous and exclusive superior rights only at their disposal. This win-win collaboration is very difficult to achieve, because of many uncertainties through levels and each mistake comes to many losses - financial and strategical. In order to limit them, one could turn to contracts with strict conditions and time limit.

- **Customer collaboration:** The crucial obstacle here is financial instability. Sharing company vision with customers is always costly. For example, in order to be attractive entrepreneurs usually make personal branding, a lot of advertisements, team buildings, open days, presentations, demo samples etc. The problem arises when the customer expected value starts jumping because it limits product life cycle and calculates some financial losses.

- **University cooperation:** The main barrier is technology uncertainty. Without adequate and professional university support, companies usually advance slower, could miss some supplement product benefits or may become less attractive, because of incorrect market positioning.

In agreement with direct discussions with companies' representatives, I could come up with the last survey finding: company personal collaborative strategy is in direct connection with secondary risk probabilities.

In my private examples the situation is going to happen in the following way:

DuPont Pioneer - Cooperation is interesting with co-branding or the strategy of joint product/technology in order to capture exclusive market segment. According to this approach risk activity is market and technology barrier - an imbalance between planned and real return on investments results and technological misunderstanding.

Ecofol - It is differentiated with customer care by applying personal branding strategy which is directly related to social and organizational risks and technological barriers during the process of modifying products.

Agredo - Partnership is made on consulting strategy with the following social and organizational and market risks. They are controlled with the participation of individual agricultural advisors.

Finally, the fundamental power of cross-case analysis emerges from understanding how expertise can be built and shared. This approach helps me to look closely at the research problem and collected database - theory and interviews in order to summarize the main results in the table:



Figure 4.1 Own illustration based on the information gathered from the interviews

By testing the range of propositions related to different open innovation models and coherent risk portfolio I could find a strong connection between company selected partner and desired competitive advantage. Moreover, I identified the stable pattern of relation between outside participant and a major risk influences. In this sense, methodology method answers directly to the research question - there is the dependence, but only among open innovation partner and major risk possibility. Continue on the results' way, multiple agricultural samples ensure that creating personal firm strategy correlates to the specific type of secondary risks. Generalizing this information, I could complete that open innovative partner is not vulnerable to company limited risks factors.

Chapter V: Conclusion

This chapter involves argumentation related to the general research question in two dimensions: the contribution of the master thesis to the existing literature and the main findings derived from the detailed accomplished interview sessions. The main thesis inferences enrich the current literature with identifying critical overview on the specific external partner in open innovation concept and the related particular risk factors. Additionally, essential managerial findings and the way of their practical implementation concerning three agricultural firms in Bulgaria are discussed. Furthermore, the limitations and recommendations for future research are described.

5.1 Theoretical contribution

This paragraph is based on the acquired results from the case study and cross case study analysis. The main findings are divided into three groups and all of them are interconnected. Firstly, essential competitive advantages are summarized according to the specific external partner. Those benefits play the role of drivers that make possible an open innovation model. Secondly, the main risk uncertainty is specified in the agreement with a collaborative participant. Finally, additional risk factors are determined for each type of partnership. The analysis of the results demonstrates that, less important risks are dependent on the individual company strategy, but not on an external partner, which is the topic of this research. Therefore, a part of the outcomes is still to be proved.

First of all, when a company transforms its model from closed to open innovation design it should have a deep motive to do this. Cooperation provides the possibility for economies of scale, creating qualified products and services, accelerates time-to-market, gaining brand image benefits, etc. The interview session confirmed all possible competitive advantages through collaboration. Additionally, the results demonstrate that each benefit could be directly related to the specific business partner.

Based on the collected results, through competitors' firms will achieve supplemental know-how, clients will enrich the partnership with their trust, loyalty and following market grow. Finally, university participation is useful for creating high-quality products and their adjustment to the clients' needs and preferences.

Next to the achieved competitive benefits, firms start to be vulnerable to the surrounding environment. According to the existing literature, there are some established risk factors

which are: technological, social and organizational, market, financial and turbulence. It is a basic risk classification which is confirmed and expanded thanks to the cross case and within case analysis. The main findings of the thesis are generated in two dimensions – a main risk factor which is in direct connection to a particular external partner and secondary risk factors which are dependent on the individual company's strategy. In agreement with the causal connection between the external participant and the main risk stimulus, three different pairs are identified: customers- financial risks, universities-technology risks and competitors with a turbulent factor. The lack of literature support provided the possibility to identify those correlations.

Furthermore, the results of the second dimension establish a parallel between the particular company strategy and following the secondary risk factors. In this sense, those risks are independent of the external partner - which is the topic of this survey. Therefore, the summarizing of results is not recommended.

All in all, after conducting case study and cross case study analyses, three additional modifications were made in order to enrich the literature review. Firstly, competitive advantages in correspondence with external partners are confirmed according to the literature review. Secondly, a direct connection between the external participant and the main risk factor is defined as an entirely new outcome for enriching currently written articles. Finally, the relation between the individual company strategy and the secondary risk factors is obtained. Unfortunately, it cannot be generalized as a standard, because it is a strictly singular company finding.

In the same vein, the essential contribution of the master thesis is the finding that companies have to adjust their business mechanism concerning different types of open innovation partners and assessing the main risk possibilities.

5.2 Practical contribution

The following section includes some crucial findings that managers have to take into account before making a particular partnership possible. All of the outcomes are linked to risk factors, their appearance and evaluation according to an external participant in the open innovation background. Finally, the results between the selected case studies are compared - all of them are part of the agricultural industry of Bulgaria.

The main contribution for managers could be summarized on three levels, summarized below:

- Open collaboration for achieving competitive advantage

The strategy of opening firm boundaries is directly related to exclusive benefits for both negotiated sides. Thanks to the interview experience was developed the idea of three essential competitive advantages that could be achieved through collaboration with particular business partners, as follows:

Managers who decide to take action with competitors have to look for obtaining additional “know-how” in the terms of license acquisition, highly trained labor force or exclusive technology rights. Based on this negotiation economies of scale, fast growing productivity and technological quality are guaranteed.

Entrepreneurs who focus on the clients’ participation have to be able to solve the problem of customer loyalty and satisfaction. Sharing of the work environment will create trust between the partners and a following market grow.

Managers who are responsible for university assistance partnerships should be provided with modern technical equipment and high-quality experiments and demo samples made by professional academic experts. Those supervisors have to expect the proved quality and diverse product range.

- Causal connections between an external partner and the main risk dependence and the way of its overcoming

Next to the benefits of competitive advantage, a collaboration usually comes with risk challenges. The genetic connection between the specific collaborative participant and its complementary risk factor is the essential part of the current research paper. After organizing competitive advantages for successful and sustainable collaboration, entrepreneurs have to trigger activities for correct risk elimination as follows:

In competitors' partnership, the most important risk is turbulence or uncertainty on many levels simultaneously. Managers have to be very careful in regulating big projects because their decisions determine the correct partition of financial resources, raw materials, intellectual capital, etc., between partners and they have to guarantee a win-win collaboration. If necessary entrepreneurs should reassess the priorities and change the expectations of the collaborative participants. It is a big obligation to managers who have to use contracts made in advance in order to be able to limit self-wellness and make the final results more predictable.

The customer collaboration model is under the direct influence of the financial risk factor. Managers invest a lot in advertisements, team buildings, open days, presentations, demo samples and especially in personal branding. The main problem is related to the permanent changing of customers' needs and expectations. The agricultural field has a conservative behavior which does not allow rapid products' modifications or immediately increasing the output range. Therefore, to create a personal branding attitude, managers have to ensure the maximization of the lifecycle of a product. This goal is achievable by individually prepared contracts with each corporate client separately and for a particular time period. In this way, entrepreneurs will overcome financial uncertainty and secure the company's return on investments.

University cooperation is also dependent on a specific risk factor, namely the technological one. Managers are partnering with academics for using their professional technical equipment and skilled, knowledgeable human resources. It is a smart way to provide buyers with proven quality products and fast-paced agricultural decisions. Moreover, correct market positioning and explaining all service benefits play a crucial role in attracting new and retaining current company clients. A problem could arise when a chosen university does not have enough technical capacity for experimentation and explanation of necessary aggro analyses. Consequently, the educational institution might actually work against the interests of a company by missing some essential product advantages that are directly related to future financial losses. Therefore, the proper way of being a successful manager includes selecting the university with the best reputation that the client audience will respect.

- Individual company strategy which is related to the influence of secondary risk factors

Another issue is related to secondary risk factors. They are an obligatory part of each type of open collaboration, but their level of influence is lower than the major factor. Based on the same previous three cases was developed the idea of their subjection:

- DuPont Pioneer (competitor partnership) applies a co-branding strategy with BASF. According to it, secondary risk activities are market and technological uncertainty.

- Ecofol (customer collaboration) handles with the personal branding strategy which is supplemented with social, organizational and technological barriers.

- Agredo (university involvement) is using a consulting strategy. It involves social, organizational and market risk elements.

All of the enlisted risks are not related to the open collaborative structure concerning the type of external participant, but regard the character of the individual company strategy. Due to this fact, no conclusions can be drawn since they are not generalizable.

Finally, this master thesis acknowledges the importance of correct managing and evaluation of the causal connection between risk factors and the specific type of open innovation concerning the external partner.

5.3 Delimitations and topics for future research

The main purpose of this paragraph is to explain what the research paper is not able to cover by itself. It is necessary, because of the vast amount of published materials about open innovation models and related risk management factors. The focus of this paper is the agricultural field and the geographical coverage of the sample is Bulgaria. The analysis is not applicable to all business sectors or industries because its purpose is to provide the reader with correct results in a timeline limitation, conceived in conditions of three different types of case studies and their risk dependence in a particular cultural context. A further limitation of this research paper is the number of interviewees considered as well as selected case studies. Those limitations in the theoretical and managerial review will give an opportunity to the next researcher to modify this paper in different directions in order to be able to discover new business practices which still stay beyond of my exploratory paper. Moreover, the information requested from the speakers was more or less sensitive that makes it hard to be freely gathered in details. All of those limitations of the research paper makes difficult to generalize the results and categorize them like standards, but at the same time provides everyone with rich data to understand the level of dependence between open mindset models and possible risk elements in details.

Finally, to enhance the understanding of risk management practices, further research seems appropriate to investigate the interaction effect between risk management at the organizational as well as individual levels. Moreover, complex collaborations already include more than one business partners and it will be interesting to explore their way of interacting in a relationship with risk limitations.

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Appendices

Interview Question Guidelines

Basic introductory question:
1. May I kindly ask you to introduce your company and your personal business position and responsibilities ?
Theory1: Open innovation and collaboration findings:
2. Are you familiar with the term “open innovation” and does the concept useful for your industry area ?
3. Which are the main reasons to transform your enterprise from closed to open business model ?
4. What is the role and importance of open innovation concept ?
5. How did the idea to collaborate come about ?
6. Which is the partner that you are collaborate with ?
7. What competitive advantage does your company expect to achieve through collaborating?
Theory2: Risk management review:
8. Which is the best definition of company risk according to your personal point of view?
9. Do cultural differences and personal values make risks possible? Is there a communicative risk?
10. If we identify more risks, does this mean we have less capacity or competence? (prestige)
11. Is there the model of evaluating capabilities or potential difficulties of choosing your planned partners ?
12. Which are key risks or factors in your specific type of collaboration?
13. Which are the medium and lowest risk weakness that comes to you after negotiation? Could you give me some examples, please?
14. What is the level of transparency in your collaborative model (“ upwards” and” downwards”)?
15. Do you think that risk management could add value and why?
Result orientation quiz:
16. Do you think that the big portfolio of risks affects differently on the diversity of collaborations and complexity of external partners and why ?
17. How should your partnership success or failure be evaluated/ measured? Which "return on investment" do you expect to have?

Full transcripts of the interviews

Project: Master thesis: Risk management in agricultural small and medium sized open innovation enterprises, Hasselt university

Subject: Relationship with competitors

Case 1: Company “DuPont Pioneer”

Interviewee: Ivan Kostadinov, Product manager

Transcript 1:

1. May I kindly ask you to introduce your company and your personal business position and responsibilities?

R: My name is Ivan Kostadinov and I am the Product manager at the company DuPont Pioneer - Bulgarian department. Our business has the leading position in USA agricultural trade as well as tremendous market share among Bulgarian enterprises.

2. Are you familiar with the term “open innovation” and does the concept useful for your industry area?

R: Yes, I am. The term of "open innovation" has a crucial role in each separate business which is willing to sustain and adapt to changing marketing environment during 21st century. Without permanent developing and searching for something new and different, Pioneer would have lost strong position and brand reputation among competitors. Innovations highlight the customer value, their new needs, wants and particular expectations. In this sense company advancement is obligatory.

3. Which are the main reasons to transform your enterprise from closed to open business model?

R: All private resources, technical equipment and employees are brilliant, but each company has its own insight limit. In order to be able to keep the rhythm of innovation we have decided to follow some techniques that make us successful:

- collaborate with Purdue University to Plovdiv University and Agricultural University - Plovdiv and etc. to make researches for common projects (the last one-for soil treatment "Striptill"). It helps for creating company new know how.

- customer involvement which is possible by making demo farmer samples where the final result cannot be replaced, hidden or controlled. It proves products' power in the real time.

- competitors' partnership - with BASF- combining the best features of two products for designing new product technology - Clearfield

4. What is the role and importance of open innovation concept?

R: In our case, not only is innovation something new, modern or different, but it is the base of growing, the way to become famous in the world aspect. Through innovations DuPont Pioneer develop technologies, achieve new market share, but the most important consequent is finding followers all over the world who contribute for good image, competence and company reputation.

5. How did the idea to collaborate come about?

R: Firstly, in my mind comes one of the very old proverbs according to which "two heads are better than one". Each business is perfectly aware about the greatest benefits that has as well as the things that it is doing poorly. It has borne the idea to collaborate, to combine the best own features with the advantages of partners, but keeping company secrets through advance make contracts.

6. Which is the partner that you are collaborate with?

R: As I told in one of the previous questions, we have made collaborations with universities, customers and competitors. The most interesting one for me is the partnership with BASF (like competitors). Together we have created a new technology "Clearfield" - cleaner fields and higher yields. Only our two enterprises have an exclusive right to use this license for quality. It is very important for agricultural field, because improving technology takes a lot of time, resources, efforts and professional knowledge to be made and sometimes the final results have negative consequences. In this sense, "Clearfield" technology makes us extraordinary and differentiate us among competitors.

7. What competitive advantage does your company expect to achieve through collaborating?

R: In the mature agricultural industry, making collaboration with competitors is a very fashion way to innovate therefore I will focus on this alliance. The competitive advantage that we plan to acquire through this partnership is additional "knowhow" - supplement knowledge to the internal own company R&D department. It is a very successful strategy, because Pioneer will use approved product business line and furthermore the using of exclusive rights could limit the competition, because of the quality, time and geographic license restrictions.

8. Which is the best definition of company risk according to your personal point of view?

R: The biggest risk that company like Pioneer could do is stopping innovation and waiting to see what competitors will do or "wait and see" approach. In today's business world the barriers to entry are low and the ability to scale is fast therefore without differentiation Pioneer will "dropping out of the race", lost financial stability and stop growing brand reputation.

9. Do cultural differences and personal values make risks possible? Is there a communicative risk?

R: Pioneer is a multinational company with departments all over the world. The main goal is to keep growing and we are pleased to find new customers and work together for protecting their crops and reaching their yield potential. I have a personal experience in my common work with the girl of Egypt office. Nevertheless, her different sex, culture and attitude we did not face any communicative risks, because we are professionals. We both know very well company's purposes and strictly follow the formula to achieve them.

10. If we identify more risks, does this mean we have less capacity or competence? (prestige)

R: Definitely not. I think that new risks are like new job to be done, new challenge - for example new product to be invented. As large is your risk capacity as innovative you will be, because risk is the required uncertainly for better results.

11. Is there the model of evaluating capabilities or potential difficulties of choosing your planned partners?

R: Yes, we usually follow those model in selection of our future partners. For example, if we decided to be focused on competitors' collaboration we will use at least two options. There is an internal team who discusses pros and cons of potential partner and finally it votes for one choice, but it is for each project individually. The rest of details are firm confidential information.

12. Which are key risks or factors in your specific type of collaboration?

R: If we continue observing competitors' partnership, our company biggest risk will be turbulence risk, because it is a complex type of uncertainly in all levels that are related to direct loss of financial as well as human resource capacity. For example, the risk challenge between Pioneer and BASF could be based on their different market sizes and contrast hypothetical power and brand reputation that they have. Secondly, their licensing

collaboration could lead to unethical business practices with negative influence on both agricultural giants. Moreover, it is possible companies to search for developing different business goal and product lines - seeds and plant protection. It is a very difficult task to achieve an agreement and manage the big risk portfolio therefore there is an innovation team that is staying responsible for those actions.

13. Which are the medium and lowest risk weakness that comes to you after negotiation? Could you give me some examples, please?

R: According to my opinion, medium risk in the same collaboration could be identified with market risk. In our case, using our own seeds line with better technology treatment and equipment (thanks to BASF) could bring the expectation of increasing financial stability for both project sides. Of course, it is related to good brand awareness and customer trust ability. Usually, planned returns on investments is reality, because firms combine their best products and practices without additional tricky experimentations. Of course, real companies' profitability could be managed after pushing the product in real market competition, but expected risk has a medium level.

The lowest risk is normally related to technology advancement. Business conditions like losses of internal singular resources, IP or exclusive licensing rights are totally impossible, because everything is arranged in advance with signed commitments for particular time period. Moreover, most of the clients are not aware with internal business practices and their common technology project therefore it is staying like an internal company secret.

14. What is the level of transparency in your collaborative model ("upwards" and "downwards")?

R: The transparency level takes the very high rank. It is very important for the stability of our collaboration, because we are making a partnership with mature business entities with big professional experience. Additionally, all of our projects are defined with advance signed contracts.

15. Do you think that risk management could add value and why?

R: Absolutely. Limiting risk factors could give company confidence to be more focused and investing heavily in some products/services with low level of uncertainly. It will help them to invest their resources in correct way and to expect better returns on investments.

16. Do you think that the big portfolio of risks affects differently on the diversity of collaborations and complexity of external partners and why?

R: Big business projects involve diverse risk portfolio. Of course, I agree that they affect differently depending on particular partnership. Sometimes, players in one project could be concerned about different risks. The reason is that each company is searching to achieve different value - technological, financial, brand positioning and etc. Nowadays, market arena is very sophisticated therefore using contracts is a safety way to avoid some kind of possible risks.

17. How should your partnership success or failure be evaluated/ measured? Which "return on investment" do you expect to have?

R: Most of the time, our competitors' partnership is happening successfully for both sides - BASF earning additional profit through license and Pioneer has an exclusive right for using the technology for particular time period. I cannot give you the correct percent of return on investment, because I deal with the documentation from the office of Bulgarian department only, but the overall view is enough satisfactory.

Subject: Customer involvement

Case 2: Company "Ecofol"

Interviewee: Tatyana Mihaylova, CEO

Transcript 2:

1. May I kindly ask you to introduce your company and your personal business position and responsibilities?

R: My name is Tatyana Mihaylova, the CEO of Bulgarian medium sized agricultural company. Ecofol is the market leader in production and sales of foliar fertilizers mainly in Bulgaria.

2. Are you familiar with the term "open innovation" and does the concept useful for your industry area?

R: Of course, I am familiar with the term of "open innovation". This strategy creates the quality of our products and keeps on customer's interest. We are the model of modernization by creating the wish in clients' minds. When they are aware enough about our idea, they will

follow our products and supplement service. According to my opinion, not only is innovation the way of controlling customer needs, but it is also the method of managing competitors' level.

3. Which are the main reasons to transform your enterprise from closed to open business model?

R: Closed business model is easy to be copied nevertheless you had or you had not been creating patents. Not only is the Bulgarian society guided from the quality of products, but it is also vulnerable from price as well as personal attitude. Therefore, substitute products with close features are one of the biggest problems for closed businesses. Open way of playing on the market is customer involvement - stay close to the consumers via agronomist who creates the direct channel relationship between client' interests and the developing of company individual farming program. Moreover, university cooperation that makes possible professional outside knowledge to become part of new products structure. Science practice clarifies real product expectations and make clients willing to pay for something which is university approved.

4. What is the role and importance of open innovation concept?

R: We are Bulgarian company and each transformation leads to some changes in all business structure. If some features need to be modified it should be for profit therefore innovation is equal to financial prosperity. Ecofol considers innovation by keeping customers close and satisfied, by making them feel special, by giving them the key of controlling used products and agricultural process as a whole. By following the innovative model for the end customer who will be ready to pay a lot more, company will achieve financial progress and sustainability.

5. How did the idea to collaborate come about?

R: Our company is always searching for new knowledge, modern way to become part of customer' family and last, but not least- way to earn more finances. All of those motives keep risks. The main driver of collaboration is risk sharing. Each idea is good for business when it is guardedly

6. Which is the partner that you are collaborate with?

Ecofol makes collaboration with customers as well as universities, but the company is well - known between Bulgarian farmers like company for Bulgarian customers. Thanks to this

partnership with clients, Ecofol makes them special. The main strategy is to create a product for each customer individually, with its brand name and agricultural needs. It is the only company with personal treatment through creating and constant changing of current products and supplement service in the boundaries of Bulgaria.

7. What competitive advantage does your company expect to achieve through collaborating?

R: Our core business collaboration is customer involvement. They are the main driver of our entrepreneurial story. By making partnership with clients, Ecofol is looking for achieving the consumers' loyalty as well as their satisfaction. It is a painful pleasure to create successful business combining with your target group, to keep it aware about your product quality and to precisely measure financial returns. Customer loyalty and satisfaction is tremendous benefits, because they are real company' advertisement - through word of mouth they will bring new regular customers of the company.

8. Which is the best definition of company risk according to your personal point of view?

R: According to me, company risk is equal to substitute products and consequently firm's competitors. For example, the import of alternative agricultural products with lower prices will be enough in order to destroy our market segment. Therefore, Ecofol is working very hard on customer involvement and making them feel special. Usually our clients are emotional, but we did not use the contracts of engagement, because we are following the free market policy.

9. Do cultural differences and personal values make risks possible? Is there a communicative risk?

R: The majority of managers' company team are relatives and our common vision helps us for achieving good financial results. We are operating only in Bulgarian boundaries and each of us is responsible for different agricultural region. Based on the good internal coordination and fluent communication we could stay close to each customer and to dominant among competitors.

10. If we identify more risks, does this mean we have less capacity or competence? (prestige)

R: I have an opposite opinion. If there is a risk, it means that it is a possibility for changing. Risks are company advisors for future development and prosperity. Each uncertainly is a subject for experimentation. It should not always give a positive result, but it will provide company with additional knowledge which we will improve and modify in our R&D capacity or we will never spend time on it again.

11. Is there the model of evaluating capabilities or potential difficulties of choosing your planned partners?

R: Yes, few years ago we invented an interesting model of evaluating the best customers to collaborate with. As I said, it is only for clients' cooperation. We have named our model "customer profile". According to it we make basic customer characteristics that involves 35 criteria - previous agricultural experience, education in this field, financial capacity, size of cultivated area and etc. Thanks to our model, we choose which customer will be willing to work with us for longer period, to pay more, to experiment more, to be loyal and finally we are ready to take the correct decision.

12. Which are key risks or factors in your specific type of collaboration?

R: According to the story of our customer collaboration, the biggest problem is usually associated to the financial instability. The risk is coming, because of the missing contracts with clients. The policy of Ecofol is directed to the development of private products according to personal agricultural needs and problems. In most of the cases those products are taking the name of the brand for which they are made for. The problem is instability customer behavior. Farmers feel free to get out of the collaboration at any single time without calculating any losses. Unfortunately, the situation with Ecofol is different. Our company has to lost time, skills, money in order to modify the product for the next partner and to compensate its current financial trouble.

13. Which are the medium and lowest risk weakness that comes to you after negotiation? Could you give me some examples, please?

R: As far as I am concerned, social and organizational risk will take the medium uncertainly place. It is related to insecurity market, immature and uneducated agricultural audience. The thing that is happening with Ecofol products is that they exceed company clients thanks to the use of advanced technology and complex internal composition. Potential customers do not understand clearly the specialty of Ecofol service therefore they could be

easily manipulated from each new substitute product. In order to limit those uncertainly Ecofol company is making all kind of social activities like team buildings, workshops, presentations, promotion and etc. for sustaining the awareness of its buyers and followers. Moreover, each solid farmer has personal agronomist advisor to keep him informed and make the bridge between company and client easily - achieved.

The lowest possible risk in our company is a technology one. The company tactic is to create a need among Bulgarian farmers and after that showing the community how their problem could be covered. It is a smart technique that makes customers vulnerable without their understanding. Of course, sometimes company generates losses because of some farmers who have decided to follow different service. In this situation Ecofol has to make new experiments and to change some product ingredients in order to adjust it for the next client- side exploitation.

14. What is the level of transparency in your collaborative model ("upwards" and "downwards")?

R: It is somewhere in the middle, because of the particularity of our work area. We did not use the contracts in our common job with customers, because we believe in correct formula of our products. The problem is that time, season period and unpredictable weather conditions could affect the final result of farmers' yield. If clients have negative consequents or non-development outcomes they could take emotional and irregular decision to get out of collaboration.

15. Do you think that risk management could add value and why?

R: Yes, I believe in this idea. Controlling risks is helpful for company in many ways. By staying close to our customers, we follow their principles of development, we make possible their product vision, we understand the best features of our products through clients' eyes and make them much more clear, visible and obsession. In this way, we manage low quality side of our service and make it invisible for buyers' view. In such manner, risk management highlight the competitive advantage of our products and protect company from financial losses and bad resource allocation.

16. Do you think that the big portfolio of risks affects differently on the diversity of collaborations and complexity of external partners and why?

R: Of course. Each separate partnership needs personal risk management model. I think so, because organizations have different benefits and they search for partners with different project goals. It means that each business line/project is vulnerable in the various of existing market barriers.

17. How should your partnership success or failure be evaluated/ measured? Which "return on investment" do you expect to have?

R: Ecofol customer partnership obviously has the positive consequences. Company increases its market share and profitability year by year thanks to its flexible business structure. Usually our product technology development is made according to the order of particular customer which mean that those science progress is financially covered. Our company have never made resource allocation for particular product line by its own, because it is financially unacceptable. Moreover, Ecofol products could be easily adjusted for the needs of the next customer, if the previous has took decision to escape common project. In this sense, technology experiments are always covered from the clients and company return on investments are guaranteed even only from the selling of basic simple product for regular daily farmers using.

Subject: University partnership

Case 3: Company “Agredo”

Interviewee: Irena Petkova, Finance & logistic Manager

Transcript 3:

1. May I kindly ask you to introduce your company and your personal business position and responsibilities?

R: Agredo is a small Bulgarian enterprise in agriculture department, mainly focused on technology improvement and selling of high-quality seeds portfolio. It is the real example of contemporary farming based on the permanent changing of company' business model - including new key suppliers and market share expansion. I am part of the financial and logistic department, but I could say that I am the right hand of our CEO.

2. Are you familiar with the term “open innovation” and does the concept useful for your industry area?

R: Yes, I am pretty well aware of this term, because innovation has important meaning for our company as well as for the industry as a whole. The creative destruction in crop production field is extremely useful, because it is the correct way of increasing competitiveness, protecting green environment, achieving better yields with less resources and improving financial stability thanks to the advanced quality service.

3. Which are the main reasons to transform your enterprise from closed to open business model?

R: The essential idea of following open innovation concept is its flexible lifetime approach. It gives the possibility to be involved in multicultural alliance network and to exchange experience, resources, technology, information and ideas with people all over the world. It is the only way of continuously growing like company reputation, technological advancement and financial resistance.

4. What is the role and importance of open innovation concept?

R: Agredo is today's company thanks to this concept. Open innovation model is the core of our trade marketing. We are the representative of one Spain and one France seeds' brand which we prepare for the exploitation to Bulgarian farming conditions through universities and finally we are selling qualitative products as a result of customer partnership - where the linked ingredient is personal farm expert. Everything that we are doing is equal to open innovation. Additionally, our logo also has special meaning - **AGR**icultural **ED**ucational **O**pportunities.

5. How did the idea to collaborate come about?

R: Agredo is not a producer, it is just a selling company. The only way to prove its exclusivity is by making collaborations. Those alliances help of keeping competition on the top level, increasing social sensitiveness to particular brand service and creating trust ability outside of formal meetings thanks to the experiments with academics background.

6. Which is the partner that you are collaborate with?

R: Agredo would be very boast with the big and diverse portfolio of open innovation practices. In our business we have negotiated with all possible outside partners as follow:

- with suppliers/competitors - we are something like their representatives, but additionally we are using practical experience to convince customers in superiority of product features in Bulgarian environment conditions

- with customers - Agredo is using collaborative outsourcing approach by giving some of its seeds to the customers in order to cultivate and develop them. Afterwards, seeds that are ready for selling and exploitation are coming back to us. In this way, Agredo protects cost structure and economy of scale by limiting expenses related to product research, development and marketing

- with universities - creating particular technology for clear understanding of agricultural seeds' application

The last collaboration is the newest one and the biggest challenge for us.

7. What competitive advantage does your company expect to achieve through collaborating?

R: According to the last collaboration that we have made - with universities we are trying to acquire competitive advantage in two directions. On one hand - improving our internal knowledge and professional capacity by direct education of our personal advisors for possible farming needs and on the other hand, the learn of using the correct competent technology that will help company to prove the quality and uniqueness of using products and will adjust crops for particular customer preferences and environment conditions.

8. Which is the best definition of company risk according to your personal point of view?

R: Agredo' priority is to make business and its processing assets as secure as possible. In this sense, financially unstable market place in agricultural conservative field is crucial for us as well as our competitors. Farming process is based on the reimbursement mechanism via deferred payment. It is a barrier that is still difficult to find the way of stable opposite reaction that will guarantee our return on investments.

9. Do cultural differences and personal values make risks possible? Is there a communicative risk?

R: First of all, our core business structure is founded on the common work with Spanish and French partners. In those projects we strictly follow professional obligations and personal

preferences are not tolerated, because the work that is gathering all of us together is to remain valuable to customers over time. Secondly, through negotiations with universities, our employees estimate highly the experimentations and recommendations of competent academics without any doubt or comments, because not only do specialists help in proving quality, but they also support the company image by using word of mouth approach.

10. If we identify more risks, does this mean we have less capacity or competence? (prestige)

R: Definitely not. In philosophical aspect, risk has two sides- real risk and positive risk. I strongly believe that all results - after production or experimentation process are meaningful. Therefore, I would identify "more risks" like extra motivations, additional chances for success.

11. Is there the model of evaluating capabilities or potential difficulties of choosing your planned partners?

R: Yes, we are using some kind of regulations in choosing potential key product suppliers and university partners.

In academic partnership until this moment we are using only one participant - Agrarian university of Plovdiv. The reason behind is that we are operating in Bulgarian boundaries only and the institution with the highest prestige and reputation among our clients is this university. Some of Bulgarian grant farmers know personally those academics and it helps Agredo to increase the trust ability of using international products after the analyses of experimentative prove quality.

In competitor's negotiations we are not searching for new partners, because we are the exclusive representative of two international brands. Our relations are not just for business; we have created very strong friendship which could endure each trade storm.

12. Which are key risks or factors in your specific type of collaboration?

R: According to my personal point of view, the biggest risk directly related to our university partnership is a technology uncertainly. Before officially presenting our products and let them go the market place we are obligatory using university service. Academics are helping us in making real experiment in labs as well as proving grounds in order to be able to confirm product quality, its correct exploitation and market positioning. The problem could occur if the university technology equipment does not have an expected operational level and

miss some additional product benefits that may have a crucial meaning for farmers. In this aspect, technology risk be equal to company financial inconvertibility.

13. Which are the medium and lowest risk weakness that comes to you after negotiation? Could you give me some examples, please?

R: I think that we can recognize the social and organizational risk like medium trouble of the company. The clear task of Agredo' agronomist team is to present the individual schedule of product exploitation for each client separately. The problem is related to advance customer expectations. Usually their idea of effectiveness is associated to directly to higher crop yields and consequently bigger profitability. Of course, there are a lot more time and farming conditions before increasing final results therefore customers could feel fooled because of missing of their assumption on time. Moreover, the tactic of word of mouth affects positively as well as negatively the end clients therefore Agredo employees have to be very careful with their public expressions.

The lowest risk could be considering with market liability. For example, for each university analysis, Agredo is paying for receiving the correct final result. It could be analyses for each product value separately, for soil index or seed favorability and etc. If the specialists did not get the wanted results or did not find any singular condition, they could use the same analyses for the future provident of different crop characteristics. In this sense, the return on investments in university partnerships have never been lost at all.

14. What is the level of transparency in your collaborative model ("upwards" and "downwards")?

R: In our university partnership the level of transparency is very high and it is the issue that we are really taking care about. Agredo does not have its special technology equipment therefore the Agricultural University - Plovdiv is its eyes and ears in the proving of product quality in Bulgarian agro environment. In this way, open, see-through information can encourage company effectiveness and guarantee better outcomes for customers.

15. Do you think that risk management could add value and why?

R: Risk management is always helpful tool for the business at all. It is the way taken by firms to exploit uncertainly. Agredo is considering risk management like additional motivation. Each survey has final result, no matter it is positive, negative or with zero effect. I strongly believe that uncertainly exploitation could limit financial future problems and might

improve the qualification of company team. The last one would be consider like organization' new competitive advantage.

16. Do you think that the big portfolio of risks affects differently on the diversity of collaborations and complexity of external partners and why?

R: It is logically to be true. Principally, I suppose that financial uncertainly is the leading one for all development companies, but if we focus on this analyses more carefully, we will see that all risks depend on current company project, its key goals and possible outside participants that firm is planning to collaborate with.

17. How should your partnership success or failure be evaluated/ measured? Which "return on investment" do you expect to have?

R: According to me, there are three basic benefits to a partnership deal: revenue, knowledge and future business. Now we are making a common project together with university for preparing bio-stimulant that well help us in developing imported seeds for direct customer exploitation. Based on this negotiation, we have achieved additional value like particular knowledge about the structure and product quality and we have also guaranteed our future success by personal return on investments via customers. Of course, the financially rebound percent is still not clear, because the technology is not get the market yet. By the way, the expected company result is good, because the current clients are already attracting from our new ambitious product.

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Vasileva, Desislava

Datum: **22/08/2017**