THE PROCESS OF BUSINESS MODEL DESIGN IN A DYNAMIC CONTEXT
The Case of Mobile Middleware Technology Providers

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Abstract: The purpose of the paper is to explore the evolution of a company's business model, analyzing how external changes due to the market turbulence can determine the reshaping of the previously adopted model. Considering the case of a Mobile Middleware Technology Provider (MMTP), the study assesses how the market fluidity impacts on a firm's approach towards business modeling, by comparing the business model designed right before the company's market entry, to the one present after two years of activity within the industry. Employing the longitudinal single case study methodology, the research identifies which are the most critical choices to be made at a business modeling level for a MMTP, and shows how these parameters can be combined to constitute a thorough configuration; afterwards, a comparison is carried out between the initial and the current business models adopted, so to identify any change in the parameters prioritization and in the approach towards business modeling as a whole. The research findings allow to provide a business model parameters reference model for MMTPs. Moreover, the longitudinal comparison makes evident that not only the market's characteristics, but also the initial strategic approach towards the new business, strongly affect the firm's business model definition process.

1 INTRODUCTION

The Mobile Content market, i.e. the market for mobile digital content and services, has in the last years been characterized by high levels of dynamicity and uncertainty.

The Mobile Network Operators' (MNO) refocus on digital content – so to cope with the levelling off of voice revenues and to the subsequent decrease of Average Revenue per User (Muller-Veerse, 1999; Arthur D. Little, 2001; Kuo, You, 2006) –, together with the process of value system reconfiguration the Mobile Industry as a whole was going through (Wirtz, 2001; Li, Whalley, 2002; Fjeldstad et al., 2004; Peppard, Rylander, 2006), contributed in shaping a complex context where each market segment experienced significantly different performances (Bertelé et. all, 2008), and is populated by a fast growing range of actors whose activities covered and position within the value network are not so clearly defined.

Among them, a relatively new actor typology is currently taking on a significant role in the competitive ecosystem: the market's technology enabler, from now on referred to as "Mobile Middleware Technology Provider" (MMTP).

Such players are converging in the Mobile Content market from several neighboring business areas, and their moves can strongly influence the market's development, potentially determining unexpected competitive attritions between these new players and incumbents.

These competitive dynamics deserve attention from both researchers and practitioners. Specifically, questions arise concerning the strategies MMTPs will elaborate to compete in the fast-changing and fragmented Mobile Content market, and the business models they will hence design and adopt.

Analyzing the noteworthy case of MMTPs, the purpose of the paper is to explore the evolution of a company's business model, assessing how external changes due to the market turbulence and dynamicity can determine the reshaping of the

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previously adopted model. Moreover, the relation between business model design and the underlying strategy approach a firms adopts will be investigated.

The research focuses on an Italy-based Mobile Middleware Technology Provider, new entrant in the Mobile Content market, finding itself in the condition of developing a business model for the new business area it is going to compete in.

Employing the longitudinal single case study methodology – based on 15 semi-structured interviews carried out in two distinct periods of time, 2006 and 2008 –, the research is articulated into two main steps. At a first stage, it attempts to identify which are the most critical choices to be made at a business modeling level for a MMTP, and to understand how these parameters are interrelated and can be combined to give rise to a thorough business models. At a second stage, a comparison is carried out between the initial and the current business models adopted by the company, in order to identify any change in the parameters prioritization and in the approach towards business modeling as a whole. As a conclusions, inferences will be made concerning the existing relation between business model design and the overall strategy definition process.

2 AN OVERVIEW ON BUSINESS MODELING LITERATURE

The concept of business model generally refers to the "architecture of a business" or the way firms structure their activities in order to create and capture value (Timmers, 1998; Rappa, 2000; Weil, Vitale, 2001). As a literature stream, business modeling has evolved from a piecemeal approach that looked for the single identification of typologies or taxonomies of models, to one searching for the development of a clear and unambiguous ontology – that is, the definition of the basic concepts of a theory – (Osterwalder, 2004), that could be employed as a generalizable tool for supporting strategy analysis on firms. In parallel, business model has become an extensive and dynamic concept, as its focus has shifted from the single firm to the network of firms, and from the sole firm's positioning within the network to the its entire interrelations and hierarchies (Ballon, 2007).

What is widely accepted by the literature is that a business model shall be analyzed through a multi-category approach, as a combination of multiple design dimension, elements or building blocks. However, the proposed dimensions are quite diverse, and the existing body of knowledge shows a lack of homogeneity.

Noteworthy attempts of providing a unified and consistent framework can be found in Rappa (2001), Weil and Vitale (2001), Osterwalder (2004), and Ballon (2007) – this last study asserting a specific focus on Mobile Telecommunication Industry –. The recurrent parameters of their models can be brought back to the general concepts of Value – e.g. value proposition and financial configuration –, and Control – e.g. inter-firm or value network relationships –.

The literature review on business modeling allowed to individuate a further literature gap: as the Mobile Content segment is a relatively young market, and as the "advent" of MMTPs within such market's boundaries is an extremely recent phenomenon, only few consolidated theory on strategy creation and business modeling in such market context and with reference to the specific player typology under consideration is present.

Therefore, starting from the existing literature on business modeling, and taking into account the building blocks so far pinned down, this research attempts to identify the key business model parameters for MMTPs, and to describe the "parameters mix" actually employed by one player operating in the Mobile Content market. Moreover, through a comparative analysis of the business model solutions adopted in different moments in time by the same company, the study will shed light on the impact of a fast changing environment on the business modeling process, also assessing the implications of the strategic approach underlying the business model design choices.

3 RESEARCH METHODOLOGY

The present research is based on case studies, defined by Yin (2003) as "empirical inquiries that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used".

Qualitative research methodology was chosen as particularly suitable for reaching the research objectives, which aim at understanding the complex phenomenon of business modeling development within a given industry – i.e. Mobile Content – characterized by a high level of dynamicity and competitive turbulence, and with reference to a specific typology of players – MMTPs –, and at thus building new theory – or extending existing theories – on it (McCutcheon, Meredith, 1993; Eisenhardt, Graebner, 2007).

To accomplish the previously identified research propositions, a single in-depth longitudinal exploratory case study on an Italy-based Mobile Middleware Technology Providers was performed. (The company name will not be disclosed throughout the paper. All proper names of informants have not been mentioned as well, to preserve their anonymity). This company could be defined a "MMTP" as it presented both a well-defined line of business dedicated to the commercialization of Content and Service Delivery Platforms or CSDP modules, and an offer directed to the Mobile Telecommunications market.

Coherently to the research methodology employed (Pettigrew, 1988), the firms belonging to the theoretical sample were selected as they conformed to the main requirement of the study, where the process of interest was "transparently observable". Specifically, at the time the first set of interviews were collected, this company was an early entrant on the Mobile Content market, and was going through the process of designing a suitable business model.

A single case study methodology allows to provide a thorough, extensive qualitative description and analysis of the business model definition process with the needed depth and insight, hardly replicable when considering a wider theoretical sample. Furthermore, the longitudinal approach enables the establishment of a comparison between the company's conditions in different moments of its history, thus obtaining a valuable "ongoing view" on how it developed with reference to the specific variables under scrutiny.

From May to June, 2006, 10 face-to-face semi-structured interviews were held with 4 persons identified as key participants in the firms' strategy definition and business modeling processes at different levels. The population of informants included the following top and middle managers: Chief Executive Officer (CEO); Chief Information Officer (CIO); Marketing & Sales Manager (MSM); Product Managers (PM).

The semi-structured nature of the interviews made possible to start from some key issues identified through the literature – e.g. the business model parameters highlighted by the existing body of knowledge –, but also to let any innovative issue emerge from the open discussion.

The identification of core business model parameters also leveraged on procedures borrowed from "Grounded Theory" methodology (Glaser, Strauss, 1967), which helps developing new theory or a fresh insight into old theory: after identifying the research "core category, the related "conceptual categories" were then isolated and described by means of applying the "open coding" technique to the interviews transcriptions.

In order to assess the impacts of the fast-changing environment on both the business model initially adopted by the company and, potentially, on the overall strategy employed, more than two years after the first contacts with the firm – from June to July, 2008 –, a second wave of 5 further interviews were held with 3 key informants – this time, the Chief Executive Officer, the Chief Information Officer and the Marketing and Sales Manager were involved –. By maintaining the same research structure in terms of scheme of analysis and questions, the comparability of 2007 and 2008 results was assured. The only addition to the original scheme of analysis was related to questions concerning the business model variation in time. In 2008, the informants were asked to identify any perceived difference between the initial and the current business configuration.

This further set of interviews provided the study with the requested longitude, thus supporting a within-case analysis of changes in the firm's strategic dynamics and business architecture with reference to the temporal dimension.

The need of assessing the whole business modeling decision making process, paying attention to different subunits within the companies, led to the adoption of an "embedded" case study, with multiple units of analysis, related to the set of "decisions" to be made at a business modeling level.

As the validity and reliability of case studies rest heavily on the correctness of the information provided by the interviewees and can be assured by using multiple sources or "looking at data in multiple ways" (Eisenhardt, 1989; Yin, 2003), multiple sources of evidences or research methods were employed: interviews – to be considered the primary data source –, analysis of internal documents – both official and informal –, study of secondary sources on the firm – research reports, websites, newsletters, white papers, databases, international conferences proceedings –. This combination of sources allowed to obtain "data triangulation" or "perceptual triangulation", essential for assuring rigorous results in qualitative research (Bonoma, 1985).

Though the study was localized on a single and unique firm, thus lacking the generalizability of results granted by multiple cases (Meredith, 1998), it can be claimed that its findings will be to some extent generalizable, not only to the player typology under scrutiny, but also to every kind of firm going through a process of business model design within complex environments.

4 THE INITIAL BUSINESS MODEL CONFIGURATION

The research took into consideration an Italian Technology Provider, just entering the new business area of Mobile Content.

Founded in the early '90 to operate as a software house for telecommunications systems, in 2006 the company's core business lied on the design and provision of customer care multichannel platforms (e.g. call centers, Interactive Voice Response etc.). At this time, the company had matured advanced skills in content management and channels integration. Moreover, in 2006 the Management Buy-Out process started two years before was completed, making the company totally independent from the group it previously belonged to. For the top management, it was time to look for a business expansion, in order to create the conditions for higher growth and revenues. As the CEO stated:

"*Now the company structure is linear, and we find ourselves in an ideal situation for making strong strategic choices*".

Thanks to the past cooperation with actors belonging to the Mobile Industry, the company had the chance to come into contact with the Mobile Content segment, in which it perceived an high level of attractivity and potential profitability, especially in the niche of video services. The main reasons for the subsequent choice of penetrating the Mobile Content market were disclosed by the initial declarations of the CEO:

"*We consider the business area as particularly attractive, because of its vicinity to our core, and of the prediction that incumbent players are about to invest heavily on infrastructure platforms to enable their value added services offer. The market is going to grow dramatically in the short term: and we want to be there when that happens*".

This point was later confirmed by the Marketing & Sales Manager:

"*Our solution portfolio could be easily enlarged to embrace innovative mobile video solutions both Mobile Network Operators and Mobile Content & Service Providers are going to need to deliver their rich media services*".

The development of the new platform represented an addition of functionalities to the existing solution, and did not represent a major technological issue for the company's software engineers. According to the CIO:

"*After having developed the platform for fixed and IP network, for us, the step of integrating the mobile channel was a piece of cake. We had the technology, we had the know how: it was just about applying it all to a new market*".

The idea of positioning the offer on the video segment held some criticalities, that were quickly overcome thanks to the experience matured in similar project. This clearly emerged from the words of the Product Manager:

"*Making the platform capable of real-time assembly and delivery of video content was quite messy and made us sweat; but nothing we couldn't handle after all. We had done that before*".

The market value drivers the company wanted to leverage on appeared clear and recognizable to the management: video services and real-time content creation and adaptation were key to success. Therefore, the MMTP was positioning itself to deliver innovative, high quality solutions, looking for product leadership in the promising video services niche.

Concerning the role the company desired to play within the Mobile Content Value Network, a clear statement by the CEO synthesized it:

"*We are essentially a technology provider, and we want to maintain our traditional focus*".

The Marketing & Sales Manager further explained this topic, presenting the motivations for such choice:

"*We want our scope to remain strictly technological. This is for three main reasons: first, we don't want to move too much from our core business; second, we don't want to be forced to internally develop the infrastructure and know how necessary for creating and commercializing digital content; and third, we definitely want to maintain a clear separation between our business and our customers'. This last one is a key point. The idea that we may represent a threat to their business, because of the overlapping of one or more activities, mustn't even cross our customers' mind*".

The previous argument allows to infer that in the initial configuration, the firm intended to cover the Platform Layer activities of the Value Network, without any interference with the Content & Service

Layer. The “pure technology provider” positioning was reinforced by further decisions concerning platform provisioning and complementary services: in-house installation of the Content & Service Delivery Platform within Mobile Network Operators’ (MNOs) and Mobile Content & Service Providers’ (MCSPs) infrastructure was the only option made available; customers could also rely on the MMTP for the delivery of technical services related to the platform’s operation management – e.g. maintenance, upgrading, etc. –.

With reference to the revenue model adopted, the company opted for a rigid platform selling to the customer, characterized by fixed revenues for the MMTP. The possibility of establishing a “revenue sharing” model, where revenues coming from the selling of content and services published on the platform are shared between the MMTP and its customer, was strongly criticized by the Marketing & Sales Manager:

“*We absolutely don’t want to set up a dirty model where our revenues and our customers’ revenues are somehow not clearly distinguished. Revenue sharing is not just a way too risky option for a technology provider: it’s simply wrong. Our positioning must be fully transparent to our customers*”.

5 THE CURRENT BUSINESS MODEL CONFIGURATION

When the firm was contacted again in 2008, the situation looked radically different than two years before. The company’s future within the market was far from looking bright.

Falling short of managers expectations, the market had failed to keep its promises of high growth and consistent revenues. Instead, it had revealed its true nature: a context characterized by high levels of complexity, dynamicity and scarce predictability of future trends.

According to the CEO, the current situation the company was going through was discouraging:

“*We predicted the market, especially the video segment, would grow dramatically. And when I say dramatically, I don’t mean a 15%-20% growth per year: we expected a 50% growth rate. Well, till now, this just didn’t happen. This is an area we’ve been heavily investing on for three years […], and what we found out now is that, objectively, the results we obtained are so poor they wouldn’t justify to hold the current position*”.

Moreover, the international reach of the company allowed to verify that the criticalities were not depending on some specific condition proper of the Italian context, but could be considered a generalized characteristic of the global market.

The market complexity and dynamicity are well depicted by the words spoken by the Marketing & Sales Manager, who spontaneously admitted the incapacity of predicting the Mobile Content’s future scenarios – the manager even got to ask the researcher for some “hints” to support an interpretation of the competitive environment, thus reinforcing the idea of absence of a clear direction –:

“*My idea of the current market trends is at the moment so confused that, personally, I don’t deny that giving the company a clear indication of where to invest, on which segments, on which kind of services, is really a tough call*”.

The causes for such change are brought back to the scarce commitment of MNOs, to the absence of a real “killer application” for video services and to the uncertainty caused by the unclear norms regulating mobile premium services commercialization. As the Marketing & Sales Manager and the CEO pointed out:

“*The MNOs themselves don’t seem committed, they don’t want to bet on innovative video services. And, even worse, when we sit around a table to discuss about any possible cooperation, they ask us what kind of services to develop to attract their own customer base. That’s something they should know! This is not a good sign*”.

Being the Operators the “network focal”, – i.e. the central firm within the network, expected to drive the whole market’s development –, the absence of strategic initiative on their part determines a strong sense of disorientation, making the identification of the market’s true value driver extremely complex.

In order to cope with this unexpected situation, the company reacted trying to reposition itself: in doing so, it departed from the initial configuration, and appeared to be adopting an approach based on a higher openness and third parties involvement. The management started looking outside the company’s boundaries, searching for greater dialogue and interaction with other actors in the Value Network. The CEO stated that:

“*At the moment, we are constantly talking to every actor in the market*”.

The Marketing & Sales Manager reinforced this message, though clarifying that even this new open approach had not given much results yet:

"*We are looking at what's going on in the market, to get some hint that can help us reposition our offer. However, the external situation looks really confusing: all the players in the chain seem to be taking different directions*".

As a whole, all the informants perceived the urgent need of reshaping the business configuration under banner of flexibility, at all levels: from the value proposition to the activities covered, to the financial configuration adopted. Talking about the reorientation of the solution portfolio, the CIO commented:

"*We are going through a process of repositioning our platforms on more generalist content and services. We are also trying to figure out whether our video solutions may be reapplied to different contexts, like the Web*".

The shift from a rigid vision of the products was also testified by the new tendency of establishing joint projects with several different market players, so to test, by "trial and error", the commercial feasibility of the initiatives, without concentrating investments and the related risks.

Consistent changes also affected the revenue model. Quoting the Marketing & Sales Manager:

"*Our level of flexibility is getting higher and higher as time goes by, and we are willing to set up a wider range of revenue models, if it can win us customers. We are even evaluating revenue sharing models, even if, I have to admit, I don't like them that much*".

The need of sustaining the business made the company even depart from its initial negative stance towards revenue sharing, regarded as dangerous for its competitive implications: as will be discussed later, such radical change can be interpreted as a symptom of the lack of a clear strategy driving the firm's choices.

Concerning the role the company wished to play within the value market, the environmental complexity led the management to strive for a more active positioning, potentially extending the original coverage of activities towards the downstream chain. As the Marketing & Sales Manager stated:

"*By taking part to the call for tenders for the outsourcing of an MNO's Mobile Portal, we understood that many operators are looking for an editorial partner, not only for a technological one. This gave us a useful indication for orienting our future positioning*".

The company was in desperate need of customers, and was ready to exploit every chance the environment was going to offer; even if this meant to abandon the "pure" technology provider role.

As a conclusion, the top managers declared their will of remaining and keep investing on the Mobile Content market: nevertheless, they somehow admitted Mobile Content was never the strategic focus for the company. Taking from the words of the CEO:

"*We moved in the Mobile Content market as a diversification maneuver of our past offer. Thanks God, our main business unit is still focused on a different, consolidated market, creating 90% of our revenues. This allows us to treat the Mobile Content business area as start-up market, following the logics of resources allocation proper of businesses portfolio management*".

The business was and remained a "question mark", and the company was trying to face turbulence and change though a profound reassessment of the initial configuration it shaped. In fact, this reassessment not only encompassed the business model adopted; it also dealt with the underlying strategic approach which guided the design of such model in 2006.

6 A COMPARISON BETWEEN THE TWO CONFIGURATIONS

6.1 The Emerging Core Business Model Parameters

Throughout the first wave of interviews with different managers, the emerging main theme or recurring issue was the search for the most suitable business architecture for competing in the newly entered market. Therefore, business modeling was found to be the "core category" (Glaser, Strauss, 1967) of the research.

Through applying the "open coding" method proposed by Grounded Theory approach, the main "conceptual categories" related to the core category were labeled and identified. Such categories corresponded to the core business model parameters or building blocks for the Mobile Middleware Technology Provider under study.

The findings are synthesized in the "MMTP Business Model Parameter Reference Framework" below provided, which identifies three macro-dimensions, in turn divided into nine parameters.

1. *Value Proposition parameters*. Platform characteristics; Offer positioning; Platform

provisioning; Additional services; Resources & competencies.
2. *Value Network parameters*. Vertical integration; Customer ownership.
3. *Financial Configuration parameters*. Revenue model; Cost model.

As it will become clear by analyzing the framework, some building blocks were present in previous models – in particular, Ballon (2007) –, while others – as not present in the existing literature, or not made explicit – were modified or originally created to better express some aspects strictly linked to MMTPs.

For each parameter, a definition will be provided, and the specific "parameters values", i.e. the company's choices concerning the initial business model configuration, will be described and discussed.

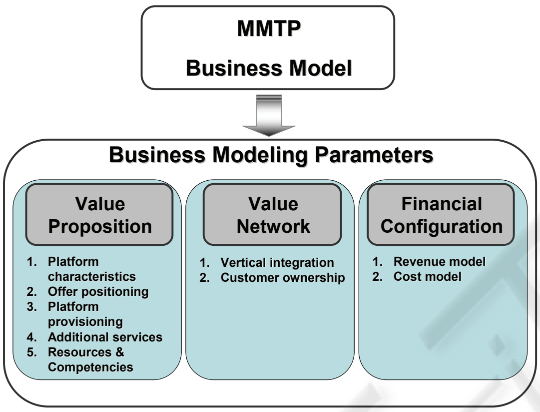

Figure 1: MMTP Business Model Parameters Reference Framework.

Platform characteristics: as the CSDP is the core element of MMTPs' value proposition, its characteristics are a key parameter to be modeled, as they strongly affect the firm positioning. In the initial business model configuration, the firm opted for developing an end-to-end solution, only open to some degree of modularity. This choice was driven by the habits matured within the firm's traditional business – customer care platforms –, where the firm was used to develop vertical solutions for its customers.

Offer positioning: offer positioning is related to the choice of developing a CSDP devoted to the management & delivery of "mature" content – Sms, Mms, logos, wallpapers, ringtones and so on (Bertelè et al., 2008) –, or meant to deal with more innovative and cutting edge services – like video services or Mobile Tv –. As mentioned earlier, the company's management decided to focus on the video services niche, believed to be particularly attractive.

Platform provisioning: the CSDP provision modality is an emergent parameter – not present in the existing literature –, particularly interesting in the case of MMTPs, as it influences the kind of relation the technology supplier creates with its business customers. In the initial configuration, the company only considered the installation of the platform in the customers' "house", maintaining a clear separation between customer and supplier infrastructures. Again, this situation was something the company was accustomed to, and derived from the approach followed in the traditional business.

Additional services: another original parameter for MMTP business modeling, additional services refers to the complementary offer accompanying the CSDP selling, which can range from a simple technological management of the platform's operation – e.g. maintenance, upgrading etc. – to, in some rare case, a commercial management of the content and services published on the platform itself. Coherently to the CEO declaration, in the initial business configuration the company remained strictly focused on a technology dimension.

Resources & Competencies: as the "research based view" and the "dynamic capabilities approach" state, a firm's collection of path-dependent core resources and competencies (R&C), strongly influence its ways of seeking competitive advantage (Hamel, Prahalad, 1990; Barney, 1991; Teece et al., 1997). In 2006, the company showed a clear prevalence of technology-oriented R&C, making it better disposed towards a simple technological partnership with its potential customers.

Vertical integration: the level of vertical integration refers to the MMTP coverage of activities in the Mobile Content Value Network. The clear initial positioning on the Platform Layer activities denotes a firm choice of self-relegation to the technology enabler role, staying out of the downstream chain that allows direct contact with the end user, and clearly separating the MMTP business from the ones of its customers.

Customer ownership: strongly related to the choices concerning vertical integration, customer ownership deals with the nature of relationship established between the MMTP and the end customer. In the first configuration, an intermediated customer ownership on the Technology Provider's part, implying a higher reliance on MNOs and MCSPs, was selected; the CSDP vendor was going to receive only indirect revenues streams from its business counterparts.

Revenue model: the revenue model parameter refers to the kind of revenue streams flowing from the MNO/MCSP to the MTTP, that can vary from mere selling of the platform, to a full revenue sharing agreement on the content/services delivered through the CSDP. The choices at this level are strictly related to the platform provisioning parameter, and shall be considered extremely critical, because of their many implications on the firm's overall positioning and strategy. In the first business model, the company adopts a rigid "system selling" solution, granting a spot, fixed and "assured" revenue for the MMTP, and presupposing a clear distinction between its business and the ones of its customers. As stated before, the revenue sharing model is labeled as "way too risky" and "unfeasible".

Cost model: the cost model refers to the nature and sharing of investments undergone for CSDP development. In 2006, the company decided to rely heavily on internal resources, concentrating the investment within its perimeter. This way, a "product approach" was taken, that is, the MMTP delivers to the market a given product, with scarce or no cooperation of other players in financing the development process: the risks associated to development are not shared, but the player can benefit from a greater strategic independence after the solution is created.

The combination of the above described parameters gave rise to the business model the MMTP adopted in 2006, right after its entry in the Mobile Content market. In the next paragraph, the business model currently employed by the firm will be described and analyzed, and a comparison between the two will be carried out, so to underline any changes, and attempt to interpret their causes.

6.2 The Shift of Business Model Parameters Value

As emerged from the second wave of interviews, in 2008 the business model design decisions taken two years before were put under discussion, and to a great extent reconsidered. Analyzing the interviews and other sources of evidence collected, it can be argued that, as a whole, the "MMTP business model parameters reference framework", built on the basis of the 2006 company conditions, is still valid. However, a significant change in many parameters values was observed.

Platform characteristics: the initial business model's choice of developing vertical platforms, scarcely modular and interoperable, proved itself strategically wrong for the new entrant, as it contributed at slowing down the market penetration process. As Blind (2005) points out, modularity and interoperability with existing systems allow quicker consolidation within the market, and the pursuit of these characteristics is particularly advisable for new entrants. After recognizing its mistake, following a "trial and error" approach, the top management introduced a higher level of modularity and interoperability in the products offered, so to induce their diffusion.

Offer positioning: in 2006, the company selected to focus on the video service business sub-area: this could lead to the exploitation of consistent revenues associated to the attractive segment – higher than the average revenues characterizing the market –; nevertheless, it could make the company face higher risks related to the hardly predictable process of uptake of forefront services. As the informants declared, from 2006 to 2008 the MMTP actually experienced high uncertainty in demand, mainly due to the low commitment showed by MNOs concerning innovative services. Therefore, the management decided to keep focusing on video services, but to make the platforms more flexible and multi-purpose, capable of managing and delivering also "generalist" content and services: the aim was to exploit any possible opportunity that could arise.

Platform provisioning: the first two years of experience within the Mobile Content market taught the new MMTP an important lesson concerning the platform provisioning modality: many customers were not interested in installing the platform in-house, as they were reluctant to cope with the related technological complexity; they'd rather seek for a remote access to CSDP's functionalities, delivered in application service provisioning (ASP). As a result, the "software as a service" approach was introduced among the range of opportunities: this can allow the technology provider to keep a greater presidium on the platform, and to exploit both scale and scope economies on the platform provisioning infrastructure.

Additional services: concerning the offer of services bundled to the CSDP provisioning, the current business model sees the beginning of a gradual departure from platform management services, towards the evaluation of the content marketing & sales option. Should the company go all the way with such choice, it could give rise to the insurgence of a value network "structural equivalence" (Gulati et al., 2000) between MCSPs and MMTPs, thus determining competitive attrition among the two player typologies.

Resources & Competencies: as the initial configuration was characterized by a clear unbalance towards technology-oriented R&C, the current business model denotes an effort to fill the gap, developing content-oriented resources & competencies. This is meant to enable the firm to leverage on a set of newly created assets to propose itself not only as a technology supplier, but even as an "editorial partner" – that is, a player capable of executing the activities of content creation, management and market making – to MNOs.

Vertical integration: In 2008, the top management does not appear so convinced about conserving the rigid technology provider role initially selected. As emerges from both the CEO's and the Marketing & Sales Manager's interviews, some moves are being made towards the extension of activities covered to embrace the Content & Service Layer, as this positioning puts the MMTP in a more central role in the system, closer to the "network focal" – the MNO – and to the primary source of revenues – the end customer – (Gulati et al., 2000; Peppard, Rylander, 2006). Of course, such strategic choice implies a more direct competition with MCSPs.

Customer ownership: the shift towards a more central position in the Value Network characterizing the current business model manifests itself even through the search for a more direct relationship with the end customer. As the Marketing & Sales Manager asserted, the company is strongly evaluating the possibility of setting up agreements and solutions for managing the end user with few or no intervention from other actors. This repositioning can cause competitive attritions with MCSPs

Revenue model: strictly related to the consideration made at the platform provisioning level, the MMTP learnt that many customers were not willing to sustain high investment – which turned into fixed costs – for acquiring the platform; they'd rather pay a annual/monthly fee, or a "consumption fee" for the platform usage. This leads to the decision of adopting more flexible revenue models, which could respond to a more variegated range of customer needs. Moreover, as the company struggles to create a solid customer base and generate incomes, almost out of the blue the vituperated "revenue sharing" agreement – resting on a division of potential revenues coming from content/service selling to end customer – becomes a feasible option. This solution is strongly affected by the uptake and the consequent success of the service provided by MNOs and MCSPs; therefore, the MMTP revenues are spread on the whole service lifecycle, and are subject to a higher variance, because the technology provider is sharing not only opportunities, but also risks related to the service commercialization, finding itself in a "business sharing" condition. Though now considered feasible, the solution is not yet implemented, as no potential partner has proposed this kind of agreement. Quoting the Marketing & Sales Manager:

"*We are ready for revenue sharing. At the moment, we have none of these agreements ongoing. But, I repeat, not for our own will…*" .

Cost model: forced to face the market complexity and turbulence, the company gradually reconsidered its initial choice of concentrating investments, and sought to share spending – and risks – associated to solutions development among different business partners. This new direction is confirmed by the repeated reference to the "project" concept – contrasting with the "product approach" previously adopted – made by both the CEO, the CIO and the Marketing & Sales Manager. In the case of joint investment between the MMTP and the MNO/MCSP, the risks related to the project are spread on several actors; still, the MMTP enjoys less freedom , as its choices will have to be aligned with the strategic priorities of its partners.

As will emerge from the analysis carried out in the next paragraph, the origins of such changes cannot be brought back only to exogenous factors – i.e. the market complexity and dynamicity –, but also to endogenous ones, mainly related to the underlying strategic approach that drove the initial business model design process.

7 DISCUSSION

The longitudinal study on the business model adopted by the company from 2006 to 2008 showed significant changes in terms of values assumed by the core parameters identified. Form a superficial analysis, one could infer the reasons of such differentials are to be brought back exclusively to exogenous factors, i.e. the complexity, dynamicity and hard predictability of the Mobile Content market. Unexpectedly finding itself at the mercy of turbulent competition and uncertainty, one could conclude that the relatively inexperienced new entrant tried to shift from a rigid to a flexible business model, declining such choice at all levels.

Instead, the profound reassessment of the initial business model configuration was only the tip of the iceberg: in fact, the company was undergoing a deeper redefinition and rebalancing of the underlying strategy that drove the first business model design; a strategy that proved itself deficient in the first two years of activity.

As can be inferred by deeply analyzing the interviews and the additional sources available, in 2006, after the Management Buy-Out, the company found itself in the condition of looking for new revenues to sustain its growth. Almost accidentally getting in contact with players belonging to the Mobile Industry – these firms needing an adaptation of the traditional IVR platform for new purposes, different than the ones institutionally established –, the company sought to take advantage of a contingent opportunity, and started collecting information on the Mobile Content market. On the basis of such information and data – which, from an *ex post* analysis, can be labeled as fragmentary and incomplete –, lacking the necessary insight, a sloppy external strategic analysis was performed, which made the top management conclude the market was attractive and extremely profitable. A deeper external analysis would have allowed to identify the market peculiarities, as well as the threats resident in the video segment, and develop a business strategy accordingly.

A much deeper focus was put on carrying out an internal strategic analysis, aiming at identifying how the company could be adapted to fit the new business: the result was that, since the products could be easily adjusted to respond the apparent Mobile players needs, the top management was confident that the company could rapidly take the role of MMTP, substantially replicating the model adopted in the traditional business.

Following the corporate strategy input, the management chose to "rush in" the neighboring business area where it could pursue correlated diversification. However, an insufficient effort was put in the development of a dedicated strategy at a business level, which lacked an adequate external analysis, and suffered from an unbalance on internal analysis. The CEO final statement concerning the relevance of the traditional business in comparison to the start up market almost appears to be an admission that Mobile Content was never a strategic priority for the company.

The "lame strategy" resulting from this excessive "inward focus" taken by the management was not suitable for driving the competition in the newly entered market. It also made difficult to identify the right business model, which represents an concretization of the overall strategy. In terms of value proposition, the company was essentially bringing to a new market the slightly modified version of its traditional products portfolio, thus showing to follow a "technology-driven" approach implying the search for an application for a technology already available, not the answer to real customers needs – which, in the initial strategy development process, were never actually assessed.

In the first two years of activity in the Mobile Content market (2006-2008), the top management gradually became aware of its mistakes made in the strategy definition process, which resulted in a wrong approach towards business modeling, with reference to the choices in the parameters design. The negative impact of the adoption of a rigid business model on the company's performances were also amplified by exogenous factors like market dynamicity and turbulence.

In order to get back on track, the management then looked for a repositioning of its offer, which ineluctably had to pass through the reshaping of the initial business model, and the further rebalancing of its underlying business strategy.

In such strive for rebalancing the strategy and reshaping the business model straightaway while continuing to operate within the market, the search of constant dialogue and interaction with other firms in the value network become a key element. Through this new "outward focus", the management tried to compensate the initial lack of insight on the market context by collecting information on the competitive environment by means of establishing a wide set of inter-firm relationships, thus maturing a "learning by doing" experience. In addition to this, the open and collaborative approach helped the company to diminish the impact of external uncertainty, by sharing opportunities and risks with new partners.

As the company is now changing direction, it will need to find the right alignment between business models parameters through a "two footed strategy" balancing both the inward and the outward focus. Of course, the rebalancing process will not be completed straightforwardly. In the short run, such reorientation could also lead to choices which appear strategically incoherent, like the sudden reversal of the original stance concerning revenue sharing models.

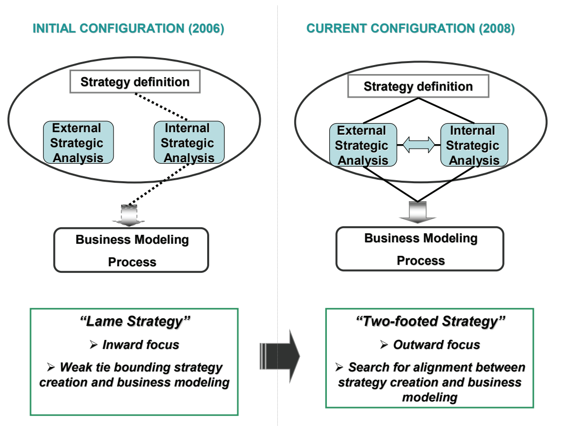

Figure 2: The initial and current approaches compared.

In figure 2, a comparison between the consecutive approaches towards strategy definition and business modeling is portrayed. The initial configuration sees the development of a "lame strategy", resting only on internal strategic analysis, and a weak link between strategy creation an business model definition. On the contrary, the current configuration is characterized by a stronger tie bounding the "two footed strategy" – i.e. a strategy founded on both external and internal analysis – and the business model, and the strive to find the right alignment between internal and external focus.

What emerges from the longitudinal case study is that, especially when facing convulse changes and uncertainty, the correct balance between external and internal strategic analysis, between the "inward focus" and the "outward focus", is essential for developing an adequate business model. Had the company developed a well-balanced strategy before entering the new market, the impact of the fast-changing environment on the initial business model would have been less dramatic, and would have not determined such radical changes in the parameters values.

8 CONCLUSIONS

The research allowed to identify the core business modeling parameters for Mobile Middleware Technology Providers; moreover, it shed light on the relationship existing between business modeling and strategy definition.

Concerning the first research objective, the findings show that some key business model parameters identified by the existing literature can be applied to MMTPs' business modeling activity, while others were missing or not made explicit.

With reference to the influence of the context dynamicity and turbulence on business modeling, the research demonstrates that what really matter in determining a change in the business model adopted are not only the exogenous factors – e.g. dynamicity, high competitive pressure, uncertainty etc. –, but also endogenous elements, like the nature and quality of the strategy definition process, the alignment between external and internal strategic analysis, and the ties bounding strategy to business modeling.

Business modeling is intimately related to strategy, as the latter determines the former's adequacy and performances. While a "lame strategy" where external and internal analysis are not correctly balanced leads to the development of an unstable business model, potentially more influenced by external dynamics, a strategy well grounded on both an inward and an outward focus represents a solid foundation for the business architecture, making it less vulnerable to uncertainty and change.

The paper's value for researchers can be brought back to its contribution to Value Network, Business Modeling and Strategy definition theories. Existing literature on Value Network – with specific reference to the Mobile Content Network – was extended, through the provisioning of a unified definition for the player typology under scrutiny and its role in terms of activities covered; in addition to this, the intrinsic value of establishing and maintaining a wide set of inter-firm relationships to obtain a more central role in the network was evidences. Business modeling literature was applied to the study of a new player typology, and original design parameters have emerged. Moreover, the relation between strategy creation and business modeling was made explicit, through the in-depth analysis of how choices made at a strategy definition level affect the business modeling process. The essentiality of achieving the right balance between external and internal strategic analysis, expressed by the "inward look" and the "outward look" concepts, was also confirmed.

The value for practitioners lies in the creation and provisioning of a "reference model" capable of supporting the decision making process of business modeling for a MMTP, as it presents strong ties between business model parameters and their strategic implications. The business model parameters presented in the reference framework are confirmed even after the change in the strategic approach: what varies is the values such parameters assume, as a consequence of a new strategic orientation of the management – passing from the "inward focus" to the "outward focus" –. Moreover, the study provides a "noteworthy case" of how the interpretation of corporate strategy's priorities can influence business strategy definition, and, in turn, business model design.

The research represent a significant step towards the development of business modeling theory, with reference to MMTPs. Future works will need to confirm the generalizability of results, applying the reference framework to a wider sample of players, and to evaluate the impact of strategy definition on business model design in different contexts.

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