Emerging business models and strategies for mobile middleware technology providers: A reference framework

Antonio Ghezzi

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EMERGING BUSINESS MODELS AND STRATEGIES FOR MOBILE MIDDLEWARE TECHNOLOGY PROVIDERS: A REFERENCE FRAMEWORK

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Abstract

As Mobile Network Operators are turning their attention to value added services, the need for innovative technology platforms designed for mobile digital contents management becomes evident. Such phenomenon is enhancing the strategic relevance of the “Mobile Middleware Technology Providers” (MMTPs) within the Mobile Content Value Network. The purpose of this paper is to explore which are the most critical choices to be made at a business model design level for a MMTP, to understand how these parameters are interrelated and can be combined to give rise to differential business models, and finally to delineate what are the most significant underlying “strategic patterns” driving the first steps of MMTPs activity within the Mobile Content competitive arena. The research relies on the adoption of a multiple case studies methodology: through 72 semi-structured interviews, 24 MMTPs were analyzed. The research findings show that some key business model parameters identified by the existing literature can be applied to MMTPs’ business model design process, while others were missing or not made explicit. Moreover, three noteworthy business models currently adopted by MMTPs – “Pure Play”, “Full Asset” and “Platform & Content Management” business models – were identified, associated respectively to three underlying strategic patterns – “stay on core”, “grow, wait and see” and “aggressive downstream”.

Keywords: Mobile Communications, Business Model, Strategy, Multiple Case Studies.
1 INTRODUCTION

Forced to face the gradual leveling off of voice revenues (Nomura, 2005; Arthur D. Little/BNP Paribas, 2005) that lead to a subsequent decrease of Average Revenue per User (Muller-Veerse, 1999; MacKenzie, O’Loughlin, 2000), Mobile Network Operators (MNOs) are to cope with a new dilemma: how to generate revenues for sustaining their future growth. The answer seems to come from the development of a wide and appealing offer of value added, non-voice services, pertaining to the so-called Mobile Content segment (Peppard, Rylander, 2006; Kuo, Yu, 2006; Maitland et al., 2002; Li, Whalley, 2002; Noordman, 2006).

However, the strategic reorientation of MNOs will not be straightforward, and won’t take place overnight. Specifically, on the technology architecture level, MNOs will need to introduce new solutions capable of overcoming the constraints and limitations of legacy systems and of the oversimplified Short Message Service Centers, not suitable for providing carrier-grade performances when dealing with “rich media” digital contents. Such solutions are here named “Mobile Content and Service Delivery Platforms” (MCSDPs), and can be defined as middleware platforms combining a wide set of functionalities – consistently aggregated into different modules, and equipped with network-side and device-side interfaces, thus creating an integrated suite with the purpose of supporting some or each phase of the mobile digital content creation, management & delivery process.

The diffusion of second generation delivery platforms will enhance the strategic relevance of a new player typology: the platform supplier, 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 reshape Mobile Content’s Value Network, potentially determining unexpected competitive attritions between these new players and incumbents.

These new competitive dynamics deserve attention from both researchers and practitioners. In particular, questions arise concerning the strategies Mobile Middleware Technology Providers will elaborate to compete in the market, and the business models they will hence design and adopt.

The purpose of this paper is to explore which are the most critical choices – i.e. parameters or “building blocks” – to be made at a business model design level for a MMTP, to understand how such parameters are interrelated and can be combined to give rise to differential business models, and finally to delineate what are the most significant underlying strategies or “strategic patterns” that seem to be driving the first steps of MMTPs activity within the Mobile Content competitive arena.

As a result, a reference model will be created, whose main objective is to provide a description of the key parameters characterizing MMTPs’ business models, to identify the extreme values such variables can assume, and to evaluate and assess the strategic implications of each building block choice. Moreover, the main existing combinations of parameters, which create the business models currently employed by this typology of companies, will be analyzed and interpreted, so to make some inferences regarding the relative overall strategies.

2 LITERATURE REVIEW

2.1 Mobile Middleware Technology Providers Definition

The literature dealing with technology enablers for Mobile Value Network is quite fragmented, and fails to provide a clear and unified definition of Mobile Middleware Technology Providers. Moreover, such players are also associated with several different sets of roles – i.e. set of distinct value added activities covered within a value system.
This lack of homogeneity in definitions is mainly due to the current complexity characterizing the Mobile Content Value Network itself, which results from the juxtaposition of different major value chains and systems, classifiable as follows: Network transport; Applications operation; Content provisioning; Payment processing; Providing device solutions; Network equipment provisioning; Middleware/platform provisioning (Yankee Group, 2000). As a consequence of the different points of view taken, different definitions and roles arise for Mobile Middleware Technology Providers.

Focusing on the activities strictly related to creation, management & delivery of mobile digital contents, the Value Network here proposed is composed by two parallel but interconnected layers – consistently with the “layered architecture” concept introduced by Huemer (2006):

1. **Content & Service Layer**, covering the activities related to the lifecycle management of mobile digital contents and services;

2. **Platform Layer**, undercurrent to the previous layer, which comprises the activities of designing, producing and operating the middleware platforms destined for mobile contents management and delivery.

![Figure 1. Mobile Digital Content & Service Value Network](image)

The interconnection between the layers becomes evident with the activity of Content Publishing on the MCSDP. The Content & Service Layer can be divided into an “upstream chain”, encompassing the activities from content creation to its preparation for delivery, and a “downstream chain” considering the stages following the content commercialization.

The main focus of MMTPs resides within the Platform Layer: the middleware technology enablers are active in MCSDP design, manufacturing, provisioning – i.e. supplying the platform to the customers, mainly MNOs and/or Mobile Content & Service Providers (MCSPs), operation – i.e. platform technical maintenance and upgrading, and management – i.e. overall handling of the platform’s functionalities, from content publishing to physical distribution, exclusively from a technological point of view; marketing and selling activities are therefore excluded from this area, and belong to the “Content Delivery & Market Making” activity. Nevertheless, an extension of the MMTPs domain to include one or many overcurrent activities may be plausible: such alternative positioning, deriving
from specific choices made at a strategy definition level, would however potentially determine a competition between MMTPs and MCSPs. The strategic implications of this scenario will be discussed later.

As a result of the Value Network model presented above, and given the range of activities topped by this typology of players, a unified and unambiguous definition of the player typology under scrutiny can be offered, thus filling the existing literature gap: Mobile Middleware Technology Providers players are traditionally positioned on the Platform Layer – the technology enabling Value Chain for Mobile Content market, and their core role encompasses some or each activities related to the development of middleware Mobile Content and Service Delivery Platforms.

2.2 Business modelling design parameters

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; Hawkins, 2001). As a literature stream, Business model design 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 generalized tool for supporting strategy analysis on firms. In parallel, business model has become an extensive and dynamic concept, as its focus shifted from the single firm to the network of firms, and from the sole firm’s positioning within the network to 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, being 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), Haaker et al. (2004) and Ballon (2007) – this last study showing specific focus on Mobile Telecommunication Industry. The recurrent parameters of their models can be brought back to the general concepts of “Value”, i.e. the way a firm creates actual benefits to its customers and to itself through its value proposition and financial configuration, and “Control”, i.e. the inter-firms or Value Network relationships the firm is involved in and controls over.

The literature review on business model design 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 theories on strategy creation and business model design in the market context and with reference to the specific player typology under consideration are present.

Therefore, starting from the existing literature on business model design, 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 assess the strategic implications of the “parameters mix” actually employed by these players operating in the Mobile Content market.

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 model design
development within a given industry – i.e. Mobile Content – and with reference to a specific typology of players – MMTPs –, and thus at building new theory – or extending existing theories – on it.

To accomplish the previously identified research propositions, 24 in-depth exploratory case studies on MMTPs were performed. Coherently to the research methodology employed (Pettigrew, 1988), the firm sample was not randomly selected, but firms were picked as they conformed to the main requirement of the study, while representing both similarities and differences considered relevant for the data analysis. The main predetermined filters used to discriminate among firms were: the international reach of the firm – assumed if at least two national markets were served –; the presence of a well-defined line of business – if not the core business – dedicated to the commercialization of Content and Service Delivery Platforms or MCSDP modules; and the presence of an offer directed to the Mobile Telecommunications market. The following table provides the full list of analyzed companies.

<table>
<thead>
<tr>
<th>Sample of companies</th>
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<tbody>
<tr>
<td>Alcatel-Lucent</td>
</tr>
<tr>
<td>Bea Systems</td>
</tr>
<tr>
<td>Beeweb</td>
</tr>
<tr>
<td>Converse</td>
</tr>
<tr>
<td>Dylogic</td>
</tr>
<tr>
<td>Ericsson</td>
</tr>
</tbody>
</table>

Table 1. Theoretical sample of companies interviewed

A multiple case study approach reinforced the generalizability of results (Meredith, 1998), and allowed to perform a cross analysis on parameters, to pinpoint differentials in terms of parameters combination – to see which variables changed and which remained constant going from one business model to another –, due to the presence of extreme cases, polar types or niche situations within the theoretical sample (Meredith, 1998). The unit of analysis for each case study were the set of decision made at a business model design 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, study of secondary sources – research reports, websites, newsletters, white papers, databases, international conferences proceedings –. This combination of sources allowed to obtain “data triangulation”, essential for assuring rigorous results in qualitative research (Bonoma, 1985).

From January to July, 2008, 72 semi-structured interviews – both face-to-face and phone interviews – were held with 65 persons identified as key participants in the firms’ strategy definition and business model design processes at different levels. The population of informants included top and middle managers – e.g. Presidents Chief Executive Officers, Chief Information Officers, Chief Financial Officers, Marketing & Sales Managers, Project Manager, Software Engineers and Developers –. The semi-structured nature of the questionnaire made possible to start from some key issues identified through the literature, but also to let innovative issues emerge.

Given the explorative nature of the study, the business model variables identified through the literature analysis only constituted a starting point to guide the interviews: the identification of core business models parameters and the disentanglement of their combinations to create a thorough business model will represent a key finding of the present research.
4  MMTP BUSINESS MODEL CORE PARAMETERS

The research carried out through the multiple case studies allowed to shed light on the core business model design parameters for Mobile Middleware Technology Providers. The findings are synthesized in the “MMTP Business Model Parameter Reference Framework” below provided, which identifies three macro-dimensions, in turn divided into 9 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 borrowed by previous models – in particular, Ballon (2007), while others, as not present in the existing literature or not made explicit, were modified or originally created through the empirical research to better express some aspects strictly linked to MMTPs.

For each and every parameter, the “value range” is identified, i.e. the extremes values the variables can assume, which also represent the major trade-off between opposite choices; the main strategic implications deriving from the parameters adoption are also discussed.

- Platform characteristics.
  As the MCSDP is the core element of MMTPs’ value proposition, its characteristics are a key parameter to be modeled, for they strongly affect the firm positioning. The main alternatives here are developing a modular and interoperable solution versus an integrated and stand-alone system. Should the platform be modular and interoperable, it would allow an easier and faster market diffusion – such choice being advisable for new entrants, searching for quick consolidation within the market (Blind 2005), thanks to the access to a wider customer base; however, to modularity and interoperability is often associated the risk of easy substitutability. In addition to this, a higher modularity and interoperability of MCSDPs can also give rise to interesting “co-opetition” – coexistence of “cooperation” and “competition” – phenomena among MMTPs, where competitors on a project/product can be partners for the modular development a different project/product. On the other hand, providing an integrated and scarcely interoperable platform slows down the market penetration process, but if the solution is adopted by MNOs or MCSPs, it strengthens the ties between the customers and the technology supplier, potentially generating lock-in effects.

- Offer positioning
  Offer positioning is related to the choice of developing a MCSDP devoted to the management & delivery of “mature” contents – 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. While operating in traditional segments grants faster platform diffusion, but forces the MMTP to face a higher level of competition – with a risk of seeing a gradual “commoditization” of its products, the coverage of forefront areas could position the firm in attractive niches, but may even imply higher demand risks, as the uptake of such services is hardly predictable.

- Platform provisioning
  The MCSDP provision modality is an emergent parameter, particularly interesting in the case of MMTPs, as it influences the kind of relation the technology supplier creates with its business customers. Installation in MNOs’ or MCSPs’ house is a typical choice for standard, out-of-the-box solutions which only need parametrization, and implies both an increased technical independence on MNO/MCSP side, and a clear separation between customer-supplier businesses. A particular case of housing is represented by the choice of full outsourcing – coming from a cross-fertilization of the MCSDP market from the IT platform and System Integration markets, where this practice is
widespread; in this alternative, the MMTP physically installs the platform within the customer’s structure, and thoroughly takes on its technical management. On the contrary, the hosting or Application Service Provisioning (ASP) option sees the MMTP maintaining the core platform within its perimeter, and supplying it to its customer following the “software as a service” model: this allows 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**

Another original parameter for MMTP business model design, additional services refers to the complementary offer accompanying the MCSDP selling, which can range from a simple technological management of the platform’s operation – e.g. maintenance, upgrading etc. – to, in some rare case, as discussed in the next paragraph, a commercial management of the contents and services published on the MCSDP itself. While the first choice is a natural consequence of the platform provider’s traditional role, the second implies an atypical evolution of MMTP positioning and market scope, and gives 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 “research based view” and the “dynamic capabilities approach” state, a firm’s collection of path-dependent core resources and competencies strongly influence its ways of seeking competitive advantage (Hamel, Prahalad, 1990; Teece et al., 1997). As a consequence, if the prevalence of technology oriented R&C makes a firm better disposed towards a mere technological partnership with its potential customers, the unbalance towards content oriented resources and capabilities enhance the MMTP tendency to propose itself as an “editorial partner” to MNOs, that is, a player capable of covering the activities of content creation, management and market making.

- **Vertical integration**

The level of vertical integration refers to the MMTP coverage of activities in the Mobile Content Value Network. A positioning on the Platform Layer activities denotes a clear choice of self-relegation to a peripheral place in the network, covering a technology enabler role which does not go beyond the MCSDP provisioning and management processes, and stays out the downstream chain that allows direct contact with the end user. Contrariwise, selecting a positioning embracing an integrated technological and commercial management of both the platform and the contents published on it, 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**

Strongly related to the choices concerning vertical integration, customer ownership deals with the nature of the relationship established between the MMTP and the end customer. An intermediated customer ownership on the Technology Provider’s part implies a higher reliance on MNOs and MCSPs; the MCSDP vendor only receives indirect revenues streams from its business counterparts. Instead, a direct relationship with the end customer enhances the MMTP position in the Value Network, causing competitive attritions with MCSPs.

- **Revenue model**

The revenue model parameter refers to the kind of revenue streams flowing from the MNO/MCSP to the MMTP, that can vary from mere selling of the platform, to a full revenue sharing agreement on the contents/services delivered through the MCSDP. The choices related to this element, are strictly linked to the platform provisioning parameter, and shall be considered extremely critical,
because of their many implications on the firm’s overall positioning and strategy. While system selling is based on a spot and fixed revenue for the MMTP, and presupposes a clear distinction between its business and the ones of its customers, the full revenue sharing solution rests on a division of potential revenues coming from contents/service selling to end customers. As such, the latter 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, for the technology provider is sharing not only opportunities, but also risks related to the service commercialization, finding itself in a “business sharing” condition.

The case studies showed that system selling and revenue sharing agreements only represent the extremes of the continuum of solutions available: in between, players can go for hybrid alternatives, like the combination of a “start-up fee” – also known as “set-up fee” or “minimum granted” – covering MCSDP development and installation costs, and a “monthly rent” for the platform provisioning; a “monthly rent” integrated with a “consumption fee” after exceeding predetermined thresholds of usage; or else, a “start-up fee” plus a “revenue sharing” agreement.

- **Cost model**

The cost model refers to the nature of investment undergone for MCSDP development. If the investment are concentrated on the MMTP side, the risks associated to the project are not shared, but the player can benefit from a greater strategic independence after the solution is created. 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.

<table>
<thead>
<tr>
<th>Business Model Parameter</th>
<th>Value Range (Trade-off)</th>
<th>Strategic Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Platform Characteristic</strong></td>
<td>Modular, Interoperable</td>
<td>Easier diffusion/Substitution. Co-opetition with other MMTP.</td>
</tr>
<tr>
<td></td>
<td>Vertical, Stand-alone</td>
<td>Increased control. Lock-in/lock-out effects.</td>
</tr>
<tr>
<td><strong>Platform Provisioning</strong></td>
<td>In-house installation</td>
<td>Increased MNO/MCSP technical independence. Separation between MMTP and MNO/MCSP business.</td>
</tr>
<tr>
<td></td>
<td>Hosting (ASP)</td>
<td>MNO/MCSP reliance on MMTP technological infrastructure. Exploitation of scale/scope economies on the MMTP side.</td>
</tr>
<tr>
<td><strong>Additional Services</strong></td>
<td>Platform Management</td>
<td>Focus on technology dimension. Full technical service approach.</td>
</tr>
<tr>
<td></td>
<td>Content Mktg &amp; Sales</td>
<td>Extension on downstream activities. Competition with MCSP.</td>
</tr>
<tr>
<td><strong>Resources &amp; Competencies</strong></td>
<td>Technology oriented</td>
<td>Disposition towards technology partnership.</td>
</tr>
<tr>
<td></td>
<td>Content oriented</td>
<td>Disposition towards editorial partnership.</td>
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</tbody>
</table>
Vertical Integration

<table>
<thead>
<tr>
<th>Platform Layer coverage</th>
<th>Relegation to technology enabler role.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content &amp; Service Layer coverage</td>
<td>More invasive role within the VN. Competition with MCSP.</td>
</tr>
</tbody>
</table>

Customer Ownership

<table>
<thead>
<tr>
<th>Intermediated</th>
<th>Increased dependence on MNO/MCSP</th>
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</thead>
<tbody>
<tr>
<td>Direct</td>
<td>More central role in the VN. Competition with MCSP.</td>
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</table>

Revenue Model

<table>
<thead>
<tr>
<th>System Selling</th>
<th>Clear separation between MMTP and MNO/MCSP business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Revenue Sharing</td>
<td>Business sharing (opportunities/risks) between MMTP and MNO/MCSP.</td>
</tr>
</tbody>
</table>

Cost Model

<table>
<thead>
<tr>
<th>Concentrated Investment</th>
<th>Increased independence.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint Investment</td>
<td>Increased risk.</td>
</tr>
<tr>
<td></td>
<td>Risk sharing.</td>
</tr>
<tr>
<td></td>
<td>Increased dependence on MNO/MCSP.</td>
</tr>
</tbody>
</table>

Table 2. MMTP Business Model Parameters reference framework

In the next section, the noteworthy combinations of business models parameters, as emerged from the case studies, will be disclosed, and the related strategies will be described.

5 EMERGING BUSINESS MODELS AND CORE PARAMETERS

After identifying the strategic implication of single business model parameters, the further step of the study focuses on discovering and interpreting MMTPs’ emerging business models and strategies.

The in-depth analysis on the theoretical sample of 24 firms allowed to identify three main emerging business models currently developed and adopted by these players, corresponding to noteworthy specific combinations of parameters: such business models were then associated to three underlying “strategic patterns” that appear to be driving the players activity in the Value Network.

1. “Pure play” Business Model, determined by a “Stay on core” strategic pattern;
2. “Full asset” Business Model, determined by a “Grow, wait and see” strategic pattern;

Figure 2. MMTPs emerging business models and strategic patterns
The “Pure Play” Business Model is adopted by 14 firms out of 24, and is characterized by: a value proposition strongly focused on technology, in terms of platform provisioning – in-house installation is preferred to ASP or outsourcing, additional services – restricted to platform management, and resources & capabilities mainly technology oriented; a clear positioning on the Platform layer of the Value Network – distant from the end customer, bringing about a sharp distinction between the MMTP and MNO/MCSP businesses; and a financial configuration resting on fixed revenues and concentrated investments. The model is therefore defined “pure play” as the MMTPs employing it have pursued a consistent alignment between internal structure and external positioning, totally focused on the role of technology enablement.

The strategy determining this architecture is called “stay on core”, as all the informants of the firms comprised in the cluster declared that the business model design process was guided by the strategic choices of focusing on the traditional core business, oriented to the simple offer of technology. Other motivations leading to such conservative strategic positioning were the decision to restrain from representing a threat – real competition or even potential overlapping of activities – to their current customers, MNO/MCSP, and the unwillingness to internally develop ex novo the structure and know-how necessary for creating and commercializing digital contents.

The adoption of “dirty” business models characterized by a non-transparent positioning towards the customers is explicitly criticized. In particular, the establishment of a full revenue sharing agreement is considered not advisable by the large majority of “pure play” firms – the informants belonging to 12 companies out of 14 labeled it as “way too risky” or “unfeasible”, for the following reasons: the revenue models structure grants extremely low margins to the technology provider – ranging from 1% to 5% of the total revenue; revenue sharing relies too strongly on the delivered services’ performance, and usually turns into a “loose-loose” game for the MMTP – if the service is unsuccessful, a full coverage of MCSDP development and installation costs is not assure; but even if the service proves itself appealing to the market, the MMTP is often forced to renegotiate the contract and reduce its share of margins, due to the higher bargaining power its customers possess.

The “Full Asset” Business Model is adopted by 8 firms. It differs from the “pure play” model in the tendency shown by these MMTPs to acquire and/or develop a wide portfolio of assets, resources and capabilities, not only related to the Platform Layer, but also to the Content & Service Layer. Nevertheless, for the moment these players are not leveraging on their “full asset” portfolio, as their actual coverage is still concentrated on technology activities, not being far from the positioning chosen by “pure play” MMTPs.

Analyzing the interviews, it is possible to argue that these firms are following a “grow, wait and see” strategy, as they recognize the value of creating a know-how on content creation and commercialization, and keep on investing on their pool of assets, but are still reluctant to abandon their traditional business. They would rather wait that the market takes a more defined shape, where they hold a consolidated position as a technology enabler; as soon as “time is right”, they may decide to exploit their high competitive potential, expanding their scope to the market making of contents and services.

The “Platform & Content Management” Business Model is only adopted by 2 firms: still, it deserves attention as its implications for the future development of the whole Value Network can be extremely significant. The MMTPs employing this model have extended their reach to the Content & Service Layer, embracing a integrated technical-commercial management of mobile digital contents. Their value proposition lists to hosting solutions of platform provisioning, to additional services related to content market making, and to content-oriented resources & capabilities; their vertical integration is high, covering activities which grant higher customer ownership; their financial configuration sees the possibility of establishing revenue sharing agreements, as well as joint investments.

Taking advantage of the evolved relationships cultivated with their partners – the MNO Vodafone in one case, and the Media Company Mediaset in the other, these players made innovative and explorative strategic choices, particularly aggressive in the downstream activities close to the end
customer. Their aim is to contribute in creating the commercial ecosystem that represents the main outlet for their technology solutions, and at the same time to place themselves in a more central position in the network, closer to the network focal and to the end user.

The drawback of this new role is related to the competitive dynamics that it could generate. MCSPs could see their business threatened, and start perceiving MMTPs as competitors: to retaliate, they could try to strengthen the ties linking them to Content Providers and Operators, thus isolating the platform providers; the biggest MCSPs could also undertake a process of upstream integration, acquiring the skills to internally develop their MCSDP. However, as the phenomenon of overlapping between MMTPs and MCSPs is extremely recent and not yet generalized, its competitive evolutions are still hardly foreseeable, and shall be subject to future research.

6 CONCLUSIONS

The research allowed to identify the core business model design parameters for Mobile Middleware Technology Providers; moreover, it shed light on how these building blocks are currently combined by MMTPs to give rise to complete business models architectures, and what strategies seem to drive such design choices.

Concerning the first major research objective – the business model parameters identification, the findings shows that some key business model parameters identified by the existing literature can be applied to MMTPs’ business model design activity, while others were missing or not made explicit. With reference to the second research objective – the individuation of the analyzed players’ design choices, three noteworthy business model currently adopted by MMTPs – “Pure Play”, “Full Asset” and “Platform & Content Management” business models – were identified, associated respectively to three underlying strategic patterns – “stay on core”, “grow, wait and see” and “aggressive downstream”. Thanks to the rigor of the methodology employed, and to the width and significance of the theoretical sample analyzed, these research can be replicated, and its findings can be generalized.

The paper’s value for researchers can be brought back to its contribution to Value Network, Business model design 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. Business model design literature was applied to the study of a new player typology, and original design parameters, as well as their combinations to create a first “taxonomy” of MMTPs business models, have emerged. Moreover, the relation between strategy creation and business model design was made explicit, through the identification of business model design choices’ strategic implications.

The value for practitioners lies in the creation and provisioning of a “reference framework” capable of supporting the decision making process of business model design for a MMTP, as it presents strong ties between business model parameters and strategic implications.

The research represent a significant step towards the development of business model design theory with reference to Mobile Middleware Technology Providers. However, it does not analyze the potential different performances coming from alternative parameters selection. Future works will have to concentrate on the identification of newly emerged strategic patterns, resulting in alternative combinations of business model parameters, and to develop comparative or “benchmarking” analysis among them, in order to explain any differential in firms performances, pinpointing which single parameter or parameters mix may be seen as the origin of such deltas.

References


