

## The relationship between Open Innovation and Strategy: data-driven analysis of the Mobile Value Services Industry

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### Abstract

*As academic and practitioner studies on the subject amassed in the last decade 2003 – 2013, Open Innovation (OI) has gained growing importance in the broad field of Management and Information Systems. However, existing literature lacks a comprehensive understanding of the relationship existing between OI and a firm's Strategy. Employing a data-driven research approach, based on forty-five qualitative interviews on firms operating in the Mobile Value Services Industry involved in OI undertakings, this study originally highlights six cross-themes the OI-Strategy relationship revolves around: 1) OI and Competitive Advantage; 2) OI and Strategic Positioning; 3) OI and Business Models; 4) OI in Networks; 5) OI and Co-opetition.; 6) OI and Resilient Business Advantages. For each theme, insights are provided concerning: subthemes; findings; criticalities; and areas of development. This reorganization of the real-world OI initiatives constitutes a comprehensive research agenda or roadmap, with value for both academics and practitioners.*

### 1. Introduction

Since the term was coined in the seminal works from Chesbrough [1] [2], research on Open Innovation (OI) has flourished. While a gross search in Google Scholar provides 2.590.000 results, a more refined search in the EBSCO Business Source Complete database (accessed on June 15th, 2013) shows that 533 articles having “Open Innovation” either in their title, abstract or keywords were published in academic journals from 2003 onward (of which, 338 published extremely recently, from 2010 onward); an extended search including other non-academic publication outlets returns more than 2.600 records. Thanks to the variety of possible interpretations and applications, and

to a certain appeal of the concept as a managerial catchword or motto, Open Innovation has been subject to the study of many scholars and practitioners in several Management disciplines.

After a decade from the introduction of Open Innovation in the vocabulary of Management, it is evident that the research stream has progressed along multiple paths [3] [4], crossing the boundaries of the theories on innovation and technology where the concept was originally conceived.

However, this relatively fast and multi-branched diffusion of the concept contemporarily led to an often unstructured or convoluted growth of the related literature stream, where different scholars draw polar conclusions: while some studies claimed OI deserves full consideration as a new paradigm for understanding innovation [5], other works argue that the concept may not be eligible to be regarded as a consistent research stream [6]. Though a certain definitional and conceptual disagreement is not uncommon in the emergent phase of new ideas [7], such lack of clarity risks to determine a substantial confusion in a potentially promising field, which could influence multiples areas in Management.

On top of this, existing literature shows a number of shortcomings or areas of improvement: published studies tend to consider OI only as a branch of the Innovation research *per se*, underrating the impacts on other broad Management areas, such as Strategy. Although the relationship between OI and Strategy appears intuitive, a missing link is found concerning the areas and themes of Strategy that are influenced by OI undertakings.

The effects of a disjoint development of the OI and Strategy as practices are potentially negative for a firm's performance [16]. For instance, the failure in the OI project of iMode the Italian Mobile Network Operator Wind experienced finds its causes in the poor strategic assessment of the internal and external environment's characteristics, coupled with an unclear strategic vision and mission [8] [34] [35]. More

specifically, failing to include OI endeavors in the overall strategic planning process may determine the following issues [16] [32]:

- Inconsistency between the goals of the OI project and those of the overall strategy;
- inconsistent alignment of the OI project's outcome (efficiency vs. effectiveness-driven innovation) with the firm's competitive strategy (based on cost vs. value advantage);
- scarce resource allocation to the OI project, or, on the other hand, poor exploitation of the OI project's outcome at a firm-wise level (because of the "not-invented-here" syndrome and the disruptive trait of change);
- insufficient analysis of the external opportunities and threats affecting the OI endeavor;
- insufficient linkage between the OI endeavor and the firm's internal strengths and weaknesses;
- poor organizational coordination with existing R&D function, resulting in resource dissipation ("reinventing the wheel" issues) at the detriment of strategic performance.

In the light of these considerations, this study aims at disclosing the inherent relationship between OI and Strategy, while organizing it in a comprehensive model that takes into account all the key themes of Strategy that are affected by OI.

To do so, a bottom-up approach based on inductive reasoning is followed. A qualitative empirical research on firms operating in the Mobile Value Services Industry and involved in OI initiatives was performed, whose objective was to highlight the mutual impacts of such initiatives on the firms' overall Strategy. The Mobile Industry was selected since indeed it represents a fervent environment for OI activities, as testified by: i) the published studies accounting for OI initiatives undertaken by Mobile actors (e.g. [1] [8] [9] [10]); and ii) the direct field experience of the authors of this study.

The empirical research's findings allowed shedding light on those themes where OI and Strategy are closely coupled, since the former intrinsically influences and develops with the latter.

## 2. Literature review

Open innovation was originally defined as "a model allowing the commercialization of both the ideas of a company as well as ideas coming from other firms" [1] [2]. The body of knowledge springing from this early definition has been subject to revisions and extensions which highlighted, in turn: the role of various actors of the innovation process [11] [12]; the types of network relations [8]; the interplays of

outbound and inbound innovation processes [5] [10]; the issue of value creation and capture [9]; the link between exploration and exploitation in innovation management [13]; the vision of open innovation as absorptive capacity [9] [14]; and the design of an open business model [15].

Indeed, research on OI showed a strong multidisciplinary nature, standing at the crossroad of other traditional research streams, such as Innovation Management (e.g., see [10]), Strategy (e.g. see [16]), Organizational Behavior (e.g. see [17]) and Organizational Design (e.g., see [18]).

Concerning the relationship between OI and Strategy, existing studies have tackled the issue in an unstructured (and often incomplete) fashion [16]. A number of OI-related works have touched upon strategic issues (Table 1), though these themes are largely outside the set of research questions (thus appearing as "secondary findings"); also, no research exists that systematizes these findings to provide a thorough understanding of this multifaceted, complex relationship. This study aims at closing this gap through an inductive contribution based on the assessment of real-world OI endeavors launched in the Mobile Industry.

**Table 1. OI and strategic issues: the points of contact in existing OI literature**

<b>Strategic issues referred to in existing OI literature</b>
Absorptive Capacity (e.g. [9]); Business Models (e.g. [5]); Business Model Innovation (e.g. [19]); Business Strategy (e.g. [16]); Competition Dynamics (e.g. [12]); Differentiation (e.g. [20]); Dynamic Capabilities (e.g. [14]); Dynamic Environments (e.g. [21]); Firm relationships (e.g. [8]); Firm Performance (e.g. [22]); Industry Structure (e.g. [21]); Intangible assets (e.g. [23]); Network evolution (e.g. [8]); Resources (e.g. [9]); Sources of Advantage (e.g. [24]); Strategic Networks (e.g.[25]); Value Creation and Capture (e.g.[1])

*(Note: the full outcomes of the extensive literature review performed on over 150 papers discussing OI are available upon request).*

## 3. Methodology

The inductive inferences the study grounds its contribution on are collected through a set of qualitative interviews on Mobile Value Services firms involved in Open Innovation initiatives.

Qualitative interviews facilitate holistic understanding of complex phenomena that do not separate easily from their contexts [26] [27]. A

multiple qualitative interviews approach reinforced the generalization of results [28], and enabled a comparative analysis of findings, due to the possible presence of extreme cases, polar types, or niche situations within the sample [28].

The qualitative interviews [27] are meant to: i) confirm the existence of any relationship and interplay between the OI initiative undertaken (or currently undertaken) by the firm, and the firm’s overall Strategy; and ii) to identify the specific strategic “themes” affected by OI projects and activities.

To achieve such objectives, secondary sources were used to identify an industry where Open Innovation initiatives and dynamics were widespread. The Mobile Telecommunications industry was selected as an empirical context, due to the high number of OI endeavors currently ongoing within the market [8] [29], and the large availability of data collected by the authors’ research experience in the field. Within this context, a set of fifteen firms involved in OI initiatives were selected through secondary sources.

Table 2 below provides a full list of the fifteen firms involved in the empirical validation process.

As for Apple and Google, questions were raised concerning the adherence of their innovation models to the OI paradigm – e.g., see the arguments related to Apple’s “open but closed model” in [14]. In this study, we include these firms in the sample investigated due to their enabling role in the as Application Store providers in the Mobile Applications Ecosystem – intended as part of the overall Mobile Value Services.

**Table 2. Sample of firms interviewed**

Case ID	Firm	Firm category in the Mobile industry
1	Apple	Device Manufacturer
2	Beeweb	Mobile Content & Service Provider
3	Buongiorno	Mobile Content & Service Provider
4	Dada	Mobile Content & Service Provider
5	Ericsson	Mobile Technology Provider
6	Getjar	Software Developer
7	Google (Android)	Mobile Platform Provider
8	H3G	Mobile Network Operator
9	Huawuei	Mobile Technology Provider
10	Nokia	Device Manufacturer
11	Siemens	Device Manufacturer
12	TIM	Mobile Network Operator
13	Vodafone	Mobile Network Operator
14	Wind	Mobile Network Operator

**15 Zero9 Mobile Content & Service Provider**

Data were gathered through both primary and secondary sources. Face-to-face semi-structured interviews represented the primary source of information. The semi-structured nature of the interviews employed for data collection made it possible to start from some key issues identified through the literature, but also to let any innovative issue emerge from the open discussion [26] [27].

From June to December, 2012, forty-five face-to-face semi-structured interviews were held with informants identified as key participants in firms’ open innovation initiatives and in the strategy definition process at different levels. The population of informants included the following top and middle managers: Chief Executive Officers (CEO); Vice Presidents – Mobile Value Added Services (VPM); Marketing & Sales Managers (MSM); Product Managers (PMs).

As the objective of the study is not only to confirm a generic relationship between OI and strategy, but also to specify where and how Strategy was mutually affected by OI, informants were asked to provide detailed answers, discussing the thorough implications of the initiative. The involvement of multiple sources of information (three informants per company were interviewed) helped ensuring such comprehensiveness and detail.

The informants were first presented with a number of definitions of Open Innovation as a concept and practice, in order to guarantee that the underlying core category for the research was fully understood by all respondents. After this, informants were asked to provide a detailed description of the OI initiative/s performed by their firms. Then, informants were asked whether the OI initiatives undertaken by their firms (in the past, or currently ongoing) could impact one or more strategic issues or themes, and to provide examples of their claim. Such combined and incremental request of initiative description, OI-Strategy relationship assessment and exemplification provided insightful comments to the empirical process, while allowing the researchers to avoid any misunderstanding in the process of data gathering.

As a last point, informants were asked to prioritize and discuss the key managerial issues related to the OI-Strategy relationship as occurring in their own company.

The responses from interviewees were first recorded and transcribed; later, following the recommendations from Eisenhardt [30], a within-case data analysis was carried out, so as to generate the necessary insight on the issues under scrutiny; then, a

cross-case analysis allowed to perform a comparison between the different responses from informants belonging to the two different firms. In this phase, data from different interviews were summarized, interpreted and tabulated from the transcripts, according to the themes related to the theoretical framework (i.e. open innovation impacts on strategy).

If any information remained unclear and/or more data was needed, informants were contacted later by telephone for additional questions. Lastly, the case descriptions and results were reviewed and confirmed by the interviewees, to mend any error or bias and ultimately ensure the correctness of interpretations.

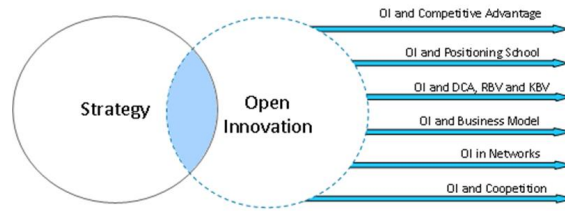
#### 4. The Open Innovation-Strategy relationship: six cross-themes

The interviews allowed to confirm the existence of a strong OI-Strategy relationship: all informants from the fifteen firms agreed that OI initiatives ultimately take the form of strategic decisions, because i) they had long term impacts; ii) they involved the organization as a whole; iii) they required significant resource allocation; and iv) and they influenced performance.

Going down to a deeper level of detail, the answers collected converged and revolved around a set of six cross-themes which comprehensively describe the OI – Strategy relationship:

1. **Open Innovation and Competitive Advantage**, illustrating how the new mechanisms to bring ideas into market and the new types of source of innovation to integrate to the internal resources, can create a new perspective on how to achieve a competitive advantage respect to the old traditional perspective.
2. **Open Innovation and Positioning School**, showing what the main variables that influence the positioning strategy of a company in an open context are, compared to the traditional thoughts of the Positioning School.
3. **Open Innovation and Resilient Business Advantages**, describing the role of OI as a core internal source of advantage and resilience.
4. **Open Innovation and Business Model**, disclosing the OI effect on the numerous dimensions determining the firm’s logic of value creation and capture, and elaborating on the rise of the “open business model” constructs.
5. **Open Innovation in Networks**, accounting for the modifications in inter-firms relationships and networks structures resulting from OI endeavors.
6. **Open Innovation and Co-opetition**, highlighting the different role of competitors in the network of firms.

We hence propose a model that depicts how the overlapping between OI and Strategy can be reorganized along these six cross-themes, as shown in Figure 1.



**Figure 1. OI-Strategy relationship: the cross-themes model**

In the remainder of Section 4, the empirical investigation outcomes that gave rise to the cross-themes model are summarized and reported for each theme.

##### 4.1. OI and Competitive Advantage

The qualitative interviews on firms operating in the Mobile Value Services industry highlight competitive advantage as a key strategic element mutually affected by Open Innovation initiatives.

Within the sample, five companies explicitly claimed that OI influenced their value creation, value capture and performance differentiation ability.

Table 3 below illustrates the examples emerged through the empirical research.

**Table 3. OI – Competitive advantage: the Mobile firms’ initiatives**

OI - Competitive Advantage relationship
<b>Apple.</b> The open approach towards applications developers favored both the iPhone device uptake and the increase of revenues and margins from applications sold on the App Store.
<b>Getjar.</b> The creation of an open network of independent software developers (who could exploit Getjar’s repository of content and services as a distribution channel) gave the company an edge when compared to other competitors following a closed approach.
<b>Google (Android).</b> The open approach towards application developers and device manufacturers enabled the quick diffusion of the Android platform; the large pool of customers acquired was hence leveraged to market a range of branded or co-branded devices (Google Phones).
<b>Vodafone.</b> The increasingly open approach towards partnering third parties (e.g. Mobile Content & Service

Providers) allowed widening the range of content and services offered on the Vodafone Live! Mobile Portal (and subsequently, on the Mobile Store Vodafone 360°), and increase margins.

**Wind.** The adoption of NTT DoCoMo's iMode open ecosystem was meant to outperform rivals in the content and service market: however criticalities in the high number of third parties to be managed and interoperability issues determined both value creation and value capture problems, which eventually led to the failure of the open ecosystem.

#### 4.2. OI and Strategic Positioning

The qualitative interviews on companies operating in the Mobile industry explicitly mention the industry structure features (e.g. switching costs; entry/exit barriers; economies of scale/scope/learning; capital requirements; advantages independent of cost, bargaining power of buyers/suppliers) embedded in those traditional models synthesizing a positioning approach as a key strategic element mutually affected by Open Innovation initiatives.

Within the sample, eleven companies explicitly claimed that OI influenced the firm's external and internal strategic context as traditionally conceived, as well as the firm's positioning.

Table 4 below describes the examples emerged through the empirical research.

**Table 4. OI – Strategic Positioning: the Mobile firms' initiatives**

OI – Strategic Positioning relationship
<b>Beeweb.</b> The Open Innovation phenomenon radically changed the industry structure, enhancing the role of single software developers.
<b>Buongiorno.</b> Open Innovation jeopardized the positioning and role of traditional Mobile Content & Service Providers, who risked to be gradually replaced by independent developers.
<b>Dada.</b> Open Innovation, coupled with the App Store launch, lowered the market's entry barriers. Open Innovation, as a practice, dramatically modified the supplier-buyer relationships as traditionally conceived (e.g. in Porterian models).
<b>Getjar.</b> The creation of an open network of independent software developers (who could exploit Getjar's repository of content and services as a distribution channel) gave the company an edge when compared to other competitors following a closed approach.
<b>Google (Android).</b> The inherently open and involving innovation paradigm adopted by Google redefined the business boundaries and thus lowered the entry barriers

to the Mobile Applications market, while enabling the exploitation of several IT assets and competences (e.g. open platforms and software development kits) in the Mobile ecosystem.

**Nokia.** Convergence in the Fixed, Mobile and Media industries expanded the market's boundaries, making it impossible for a single firm to "manage it all": open innovation allows to "seize the day" anytime an opportunity comes in the form of a new idea from one of your partners.

**TIM.** The company's value chain was modified: several activities that were considered core (and performed internally), like R&D and innovation, are now outsourced to trusted third parties and managed through an open innovation approach.

**Vodafone.** For Mobile Network Operators, Open Innovation has a "Janus face": on the one hand, it competes away some key assets (e.g. Mobile Portal; unique relationships with Mobile Content & Service Providers; closed approach towards customer management to facilitate value appropriation); on the other, as the process is unstoppable, Operators shall look for all the opportunities open innovation brings about (e.g. new partners; a new way to orchestrate relationships; the ability to give up the proprietary control of a number of expensive activities, such as R&D; new customers).

**Wind.** The adoption of NTT DoCoMo's iMode open ecosystem was meant to outperform rivals in the content and service market: however criticalities in the high number of third parties to be managed and interoperability issues determined both value creation and value capture problems, which eventually led to the failure of the open ecosystem.

**Zero9.** Open Innovation on the application development side almost kicked incumbent Service Providers out of the market.

#### 4.3. OI and the Business Model

The qualitative interviews on Mobile firms operating highlight the business model concept and constructs as another key strategic theme mutually affected by Open Innovation initiatives.

Within the sample, six companies explicitly claimed that OI influenced the firm's business model, turning it – to various extents- to a so called "open business model".

Table 5 below illustrates the examples emerged through the empirical research.

**Table 5. OI – Business Model: the Mobile firms' initiatives**

OI – Business Model relationship
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**Dada.** The business model was changed in its offer, since the current inability to tackle the market changes through a proper open strategy forced to withdraw a number of traditional services.

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**Ericsson.** The company's business model is oriented towards innovation in an open fashion, leveraging a combination of external and internal technology resources.

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**Google (Android).** The company adopts a fully open approach in all the business it covers: an open ecosystem is the foundation of the Android endeavor, in all the aspects of it.

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**H3G.** The Operator follows the open innovation tenets with reference to the development of its value added services value proposition.

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**Nokia.** The company's business model is shaped to properly absorb new ideas coming from quite diverse sources, either internal or external.

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**TIM.** An open business model constitutes the foundation of the TIM Store initiatives, where a plethora of third parties cooperate in developing and delivering a wide offer of applications.

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#### 4.4. OI in Networks

Networks, in all their forms (e.g. strategic networks; value networks; inter-organizational networks; and communities) were another major theme emerging from the qualitative interviews which is mutually affected by Open Innovation initiatives.

Within the sample, seven companies explicitly argued that OI influenced the firm's attitude towards networking, as well as the existing inter-firm relationship (in terms of relationship formation and orchestration).

Table 6 below illustrates the examples emerged through the empirical research.

**Table 6. OI – Networks: the Mobile firms' initiatives**

OI - Networks relationship
<b>Apple.</b> The company's open application store model leveraged a network of third parties interested in publishing their application on the App Store. Such network was orchestrated in an open fashion (e.g. high independence granted to third parties concerning marketing and pricing policies; incentivizing revenue sharing agreements).
<b>Ericsson.</b> The company established a very large and ambitious open collaboration with 41 partners to create standard network solutions for mobile and wireless systems beyond 3G: the knowledge used and developed was complex and new, though teachable.

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Since the ultimate goal was a world-wide standard, the complementarity of the knowledge was a key issue.

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**Getjar.** The aggregator publishes content and services developed by an open network independent software developers.

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**Google (Android).** The company's recurring trait is the attention paid to the creation of a wide (possibly unlimited) network or "ecosystem", where all participants were orchestrated by Google (the central entity) in an open fashion. Such approach granted the free flow of value in all its forms (revenues, ideas, knowledge): value capture was guaranteed by the widespread of Google's products or services in all the network's commercial outputs.

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**Nokia.** The company, through Nokia Ventures Organization, sources ideas throughout the organization with most leads coming from Nokia Research itself, and increasingly involves external third parties in the innovation and knowledge sharing process.

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**Siemens.** Through two cooperating entities, Siemens Technology Accelerator (which commercializes non-core technologies from Siemens' patent portfolio) and Siemens Mobile Acceleration (which incubates Information and Communication Mobile technologies), the company sources ideas from the central and peripheral R&D functions.

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**Vodafone.** Several open networking initiatives were undertaken, among which the creation of the social network community Vodafone Lab to attract new ideas largely coming from outside of the company.

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#### 4.5. OI and Co-opetition

Co-opetition, i.e. the coexistence between competition and cooperation dynamics involving two or more competing actors [32], is a further strategic theme that was fed by the rise of the Open Innovation paradigm.

Within the sample, four companies explicitly claimed that OI influenced the way the firm interacted with competitors, often turning a pure competitive stance into a hybrid relationship.

Table 7 below illustrates the examples emerged through the empirical research.

**Table 7. OI – Co-opetition: the Mobile firms' initiatives**

OI – Co-opetition relationship
<b>Beeweb.</b> A more open approach towards old competitors allowed coming up with innovative technology products and services.
<b>Google (Android).</b> The company has always been

characterized by both an open and a co-opetitive stance towards external actors: “open source” resources from Google are made available to competitors, since the company is looking for long term diffusion rather than short term profits coming from the commercialization of proprietary services.

**Huawuei.** The Open Innovation “philosophy” embraced by the company transformed several competitive relationships into alliances for the achievement of specific business goals.

**Nokia.** The Device Manufacturer, now active in the content and application segment through the Ovi Store (managed in an open fashion), finds itself in a co-opetitive condition with reference to Mobile Network Operators: while Operators are the main customers for Nokia devices (and are to be dealt with since they control the end user through the SIM cards), they are also competitors in the Portals and Stores market for value added services. Such condition was mainly due to the changes determined in the industry by the application of an open innovation paradigm.

#### 4.6. OI – Resilient Business Advantages

Mobile Value Added Services companies argue that their portfolio of strategic resources, competencies, dynamic capabilities and absorptive capacities significantly changed due to their Open Innovation undertakings.

Within the sample, seven companies explicitly claimed that OI either influences the firm’s ability to create and maintain resilient business advantages.

Table 8 below illustrates the examples emerged through the qualitative interviews.

**Table 8. OI – Resilient Business Advantages: the Mobile firms’ initiatives**

OI – Resilient Business Advantages
<p><b>Apple.</b> The open approach Apple adopts in managing its store offer is considered a core competence for the company, while the open store is indeed a core resource.</p>
<p><b>Ericsson.</b> The absorptive capacity that allows leveraging external sources of knowledge and combining them with internal innovation to develop innovative technologies is essential in the ever-changing Mobile environment.</p>
<p><b>Google (Android).</b> An open approach towards service innovation, development and commercialization is the key assets Google’s strategy revolves around.</p>
<p><b>Nokia.</b> The open network of relationships to develop innovations is regarded as a central resource for the company.</p>

**Vodafone.** The ability to adapt to the changes determined by an increasingly open environment is a dynamic capability the company explicitly nurtures in its Smart Pipe strategy.

**Wind.** The adoption of NTT DoCoMo’s iMode open ecosystem was meant to outperform rivals in the content and service market: however criticalities in the high number of third parties to be managed and interoperability issues determined both value creation and value capture problems, which eventually led to the failure of the open ecosystem.

**Zero9.** Creativity and innovation are nurtured through leveraging the company’s ability to orchestrate open relationships with developers. Open relationships orchestration hence becomes a core competence.

#### 4.7. Key managerial issues in the OI-Strategy nexus

The firm-specific examples provided made it possible to highlight the six cross-themes the OI-Strategy nexus develops along. The broader qualitative discussion with the informants also underscored key managerial issues perceived as the most compelling when undertaking an OI project and relating it to Strategy. The high-priority issues managers reported to be coping with refer to: i) designing an open business model; ii) achieving competitive advantage through value capture; and iii) nurturing OI as a dynamic capability.

**4.7.1. Designing an Open Business Model.** While the research on OI has been developing alongside the concept of business model [1] [2] [15] [34], the practical design and implementation of an “open” business model was considered a “tricky task” (Case 3). This happened mainly because, on the one hand, opening up the business and its building blocks offered the chance to: explore new strategic spaces and alternatives (Cases 1-3-7); extend the company’s reach (Cases 5-6-10-11); leverage external sources of innovation and value to renew or reinvent the company’s value proposition (Cases 4-12-13-15); and extend the product/service line (Cases 2-6-8-9). On the other hand, the implementation of an open business model introduced a number of operational problems, including: the extent to which each business model parameter had to be “opened” to those third parties involved in the agreements (ranging from an heavy reliance on external partners to co-design the value proposition experienced in Cases 4-8-12-13-14, to the sharing of only few assets such as open developing platforms and software development kits in Cases 2-3-15); the integration of the open business model with

the preexisting “closed” models (Cases 4-5-12-13); and the naive – or sometimes inexistent – relationship between the process of business model design and the overall business strategy planned by the companies (Cases 2-6-9-14) – which could lead to the drawbacks underscored in Section 1.

The business model in the OI paradigm was considered as “*an asset through which companies can create a competitive advantage*” (Case 13), being the way to operationally commercialize ideas (Case 3). Several informants (Cases 2-5-6-7-8-12-13-14-15) agreed that a shift of the business model’s meaning was occurring: the focus was no longer placed on finding the best configuration for internal processes, but on the management of the relationships with external partners and the quest for opportunities to source ideas generated externally.

However, the open business model suffered from a difficult implementation, a complex integration between the new model and the existing ones and a limited connection with the overall strategic planning process the companies were used to perform.

**4.7.2. Achieving Competitive Advantage through Value Capture.** Closely related to the theme of business model design is that of competitive advantage and value capture. Indeed, competitive advantage is achieved through the establishment of a business model whose value capture mechanisms are superior to those of competitors. While OI fosters value generation in several ways, it poses significant issues when addressing value capture. The strategies of several analyzed companies explicitly looked at OI as a means to affect competitive advantage, in terms of: opening up and extending the value chain to involve external entities (Cases 1-5-8-11-13); reshaping the company’s key activities and key assets or resources; increasing service differentiation thanks to effectiveness-related innovation (2-3-5-8-10-12-13); obtaining cost reduction and efficiency-related innovation (Cases 3-6-9); and finding alternative intangible sources of advantage like change culture, customers/users/developers communities and external partners orchestration (Cases 1-4-7-13-14-15).

Notwithstanding these positive elements, “*reaping a share of the value generated is not easy at all*” (Case 13). According to the informants from Cases 2, 3, 4, 5, 6, 7, 8, 12, 13, 14 and 15 a Strategy leveraging OI contributed to the creation of value for customers and partners, but disputes with the customers themselves and the external parties – or both – emerged, which to some extent decreased the companies’ ability to turn OI performance into actual margins. Though sensitive figures on performances were not disclosed, the informants argued that the main barriers to value

capture led back to: intellectual property management and protection costs, to prevent opportunistic behaviors from third parties (Cases 2-4-5-7-13); transaction cost higher sometimes than transaction value (Cases 8-12); co-opetition orchestration costs (Cases 3-4-6); and need to set up incentivizing revenue sharing agreements (Cases 12-13-14-15).

More specifically, the need to orchestrate an extended network in a two-sided market made of partners – e.g. developers – on the one hand and customers on the other, coupled with the co-opetition dynamics that could arise within such network, puzzled managers in their attempt to plan a strategy for the Mobile Value Services industry. This was due to the recurring criticalities of: wrong partner selection; lack of communication and managerial commitment; poor relationship management; inadequate internal culture of change; loss of control over knowledge and core resources; and “not invented here” syndrome.

**4.7.3. Nurturing OI as a Dynamic Capability.** OI-Strategy interplay has significant effects also at the internal resources level. Several interviewed managers (Cases 2-3-5-7-8-10-11-12-13-14) underscored the need to internalize openness and OI as a continuous business practice to be leveraged by the company’s overall strategy. Such approach comes from the recognition that “*in a growingly open market, exchanging core resources, especially intangibles, is almost as important as owning them*” (Case 12); companies need to continuously change their Strategy, configuration and relationships with the external environment, according to the innovation type and phase, as well as the changing needs of customers (Cases 2-3-7-8-10-12-14).

Absorptive capacity and the integration of the acquired external knowledge are essential: the main objective of the R&D function hence becomes developing this capacity (Cases 5-10-11).

Several statements taken from the interviews reinforce this finding on the strategic role of OI as a dynamic capability: “*we are including OI in our practices and routines concerning new service development*” (Case 12); “*the R&D department has been reorganized and rearranged in an open perspective, to enable better collaboration with third parties and facilitate the outside-in stream of innovation*” (Case 5); “*our business strategy is an open business strategy: all managers’ and employees’ actions should be directed by this overarching thought*” (Case 2); and “*OI is not only a practice, it is a forma mentis that should drive a firm’s activity in the turbulent Mobile environment*” (Case 13).

Interiorizing OI as a dynamic capability should allow the achievement of resilient business advantages.



However, managers argue that establishing OI as a strategic and organizational process requires to address the following issues (Cases 2-7-11-12-13-14): which are the costs – both tangibles and intangibles – to bear in order to modify the strategic approach and the organizational design according to OI tenets; how OI as a process can affect the core status of existing resources and their contribution to competitive advantage; and how to sustain competitive advantage based on OI as a capability.

## 5. Conclusions

Strategic Management and Innovation Management have been developing along two distinct though intertwined paths for decades, with mutual benefits: Strategy has been looking at Innovation to renew the sources of competitive advantage and sustain performance; in parallel, Innovation has been depending on the objectives, the resources, the constraints and the plans set by Strategy, thus ensuring firm-wise consistency of the projects undertaken.

The literature review and the empirical analysis performed allow to infer that Open Innovation is currently lagging behind in the process of convergence with Strategy because of a number of aspects: i) the relative infancy of the research stream; ii) the multifaceted nature of OI, which makes it difficult to frame and organize its findings; and iii) the close dependency of OI on Business Model design [1] [5] [19], whose research currently fails to be properly included in the mainstream of Strategic theories [15] [33] [34] [35] [36] [37] [38].

The empirical findings of this study confirm the preliminary outcomes of the literature review: OI-Strategy relationship does exist, and more specifically, it revolves around the six cross-themes of: 1) Competitive Advantage; 2) Strategic Positioning; 3) Business Model; 4) Networks 5) Co-opetition; and 6) Resilient Business Advantage.

These themes highlight where OI meets Strategy, thus confirming and systematizing an intuitive (though fuzzy) connection.

The data-driven analysis taken in this study (which elaborates its findings from a qualitative research on the Mobile Value Services Industry) comes with several advantages. Indeed, it provides recent, real-world evidences to investigate and validate the OI-Strategy relationship. Gathering outcomes from managers allows highlighting those issues that the informants perceive as the most compelling when undertaking an open innovation project, with reference to the design of an open business model, the achievement of competitive advantage and value capture and the inclusion of OI among the portfolio of

dynamic capabilities to interiorize (see Section 4.7). This analysis creates a “future investments” and “future research” agenda that both practitioners and academics should take into great consideration.

These arguments allow contending that the study generates both an Industry-specific value for Mobile strategic decision-makers, and a contribution to the general field of Strategy an Innovation Management.

Despite the width and rigor of the analysis, this study comes with some limitations, mainly related to the inductive approach selected, as well as to the qualitative methodology applied. In fact, industry selection and sample selection might have determined biases, since the analyzed firms operating in the significant (though not all-embracing) Mobile Industry could have a limited perspective on the potential of Open Innovation and its relationship with Strategy, thus leaving other issues or items uncovered. The qualitative methodology adopted could have added additional errors, commonly known as “observer biases” [27]: however, the rigorous methodology employed (e.g. transcription of interviews and validation from respondents) attenuates this limitation.

Future research on the relationship between OI and Strategy should investigate the rise of new cross paths with reference to uncovered research streams in Strategic Management, and analyze how these new paths mutually relate to the other paths originally proposed in this study. Also, the paths’ significance should be validated through different firm samples in difference contexts. Eventually, the abovementioned areas of improvement identified through the empirical research on practitioners should become future research avenues for Strategy and Strategic Management of Technology.

## 7. References

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