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A new approach of Business Model Innovation: Piggyback strategy in Digital Payment

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...A mio Nonno e a mia madre
A cui devo tutto…

INDEX

Introduction

Nowadays it is common to hear saying from many points of view that 2016 is considered as the year of Digital Payment, the year in which technology revolution is touching every area of our lives. Developments in electronic payment technologies have completely revolutionized and updated the way we deal with money, manage our finances and pay: no need of receipts, cash, change, checks or credit cards. We are in the middle of another period of considerable growth marked by the rise of digital age, which entails a significant change in how we pay.

I read an article from Forbes Magazine a few months ago that particularly caught my attention dealing with four factors of new forms of digital payment. (In which four factors of new forms of payment have been predicted).

The first factor regarded the further growth of tech giants like Apple, Google and Sumsung. As these technological powerhouses set progressively higher standards they also create and implement huge expectations on retailers and consumers about the value and the ease of use of digital payment practices (and especially mobile payment).

The second factor concerned the supply of services by traders, such as good discounts or coupons to be included within the mobile wallet users. It is a way to increase the consumers' involvement and their experience expectations.

The third sector looked upon technology-based attitude and approach toward new forms of payment, such as NFC technology. The adoption of these systems by retailers will constitute an important element that will change the most consolidated consumer behavior.

Lastly, the fourth factor examined the intensive commitment shown by technology providers and financial institutions to enhance customers' security and confidence. This topic is what my paper is going to focus and dig into.

When it comes to doing business transactions with merchants, financial institutions or large telephone companies, consumers are less likely to share their personal data. This implies the need to find effective solutions, so that security perceived by users increases and the adoption of digital payments will not stop.

My analysis aims to highlight the security solutions already adopted in the market, but most of all to find new solutions (and in particular one), aiming to offer higher security and reliability.

My study begins by considering the concept of Business Model and it is structured as follows: in Chapter 1 I explain and discuss the term and meaning of Business Model, and in particular the importance of his innovation.

In Chapter 2, I examine the concept of eBusiness Model in all its aspects, highlighting, finally, its asymmetric nature. It will also be considered "a new business model" approach: Piggyback. It will be also explained the most important features and the main applications of this strategy.

In Chapter 3, I will explore the world of Digital Payments more thoroughly, paying more attention to the Mobile payment system: after a general overview and a brief explanation of the most significant trends, I will discuss and show the advantages and disadvantages in the use of the system as well. Focusing on the lack of security in digital transactions, it will be proposed an innovative solution to the main problem: a redefinition of the business model and in particular a Piggyback strategy implementation.

Finally, in Chapter 4 my paper will focus on a benchmarking analysis: 69 companies, working in the digital payment system, will be taken into consideration and examined. Overall, the purpose of my analysis is leading to important conclusions.

CHAPTER 1 – BUSINESS MODEL AND BUSINESS MODEL INNOVATION

Foreword

The Business Model is a business management tool, used by small, medium and large company, which helps to develop the strategic planning of products / services "traditional" and / or innovative. It is useful to create value and for that reason it is necessary to underline this concept in each situation considered.
What does “create value” mean? A company creates value for its customers when it helps them to:

- Carry out an important “task”;
- Satisfy a wish;
- Solve a problem.

The success or failure of any business depends on the company's ability to create this value for its customers. The first activity to be undertaken to rethink, strengthen or improve a company, to launch a new product / service, or to start a startup high-value, is to create your own Business Model. So you can establish precisely what to do, how it must be done, and for what specific customers the company wants to create value.
For this reason, the typical Business Model of a company must always be the subject of innovation, to meet the increasingly important change affecting the market that you consider. Any change faces resistance and these are all the more strong as rooted is the mechanism that you wish to innovate. In this case, it is considered the structure of operation of the company, the stratification of years of customs and beliefs that have determined successes and gains. Get your hands on the business model is a complex and dangerous operation but, in many cases, necessary to avoid being crushed by the flexibility and dynamism of the new entrants, or even of those who created new markets in our industry.
The first change is cultural factor that must involve them at all levels, enhancing the skills to make the most receptive organization, connected with the ecosystem of

innovation in which it is and capable of evaluating the possible lines of development on based on detailed and structured information. Depth knowledge of the Business Model, then, becomes the starting point to develop new strategies. Innovate the Business Model may mean finding customer segments to which no one had addressed first and adapt to them the value proposition. Other times it can mean a radical change in the forms of income, promoting solutions or transforming a product in a recurring service. A phenomenon which is increasing talk is the sharing economy that impacts strongly on business models characterized by digital technologies and sociability, recording of payments, channels and relationship management. In yet other situations, then, you may be faced with the choice whether to continue to rely exclusively on internal resources or specialize in certain activities and make use of partners to enhance the appeal of its offer. The street is difficult to innovate but often effective is to limit the superfluous.

Some research has shown that the growth rates and the remuneration of the capital invested in companies that innovate the Business Model are much higher than companies that innovate other relevant characteristics, such as products or operations. But even without these numerical evidence is the story teaches us that, in dynamic and interrelated contexts, companies that are not able to react quickly to changes are designed to diminish, if not disappear. That's why the Business Model and innovation of it must be considered not only from a start up, but anyone doing business.

1.1. The origins of Business Model

Before examining the origins, definitions, and usages of the expression Business Model, it is necessary to outline and reflect on its semantics.

The terms business and model alike, by themselves have specific meanings; in combination these meanings represent many of the possible applications of the business model concept. Therefore, it is possible to interpret the word “Model” as:

> "*a simplified description and representation of a complex entity or process*".

Representation implies conceptualization, which can be described as “the objects, concepts and other entities that are assumed to exist in some area of interest and their inter-relationship (Genesereth and Nilsson 1987).

Similarly, it is possible to interpret the word “Business” as:

> "*the activity of providing goods and services involving financial, commercial and industrial aspects*".

By putting these two elements together, the concept of Business Model can evolve in the following direction:

> *“A business model is a conceptual tool containing a set of objects, concepts and their relationships with the objective to express the business logic of a specific firm. Therefore we must consider which concepts and relationships allow a simplified description and representation of what value is provided to customers, how this is done and with which financial consequences.”*

The abovementioned definition by Osterwalder, Pigneur, & Tucci (2005) is rather conform to describe the Business Model in different domains, such as e-business, computer science, strategy, or management.

Consequently, the term Business Model is used to emphasize the model aspect or to refer to the way a company does business. These two meanings differ since the former (previous) refers to a conceptualization of the way a company does business in order to reduce complexity to understandable level, while the latter (last) simply refers to the way a company does business.

Considering these two concepts, it is possible to perceive a Business Model as a mixture of elements and relationships, which describe the business a company does. Thus, the Business Model can be understood as a view of a particular aspect of a specific company.

In order to study the origins and particularly the surge of the Business Model discussion and how it developed, it is useful to employ a method which was once used and originally created by Abrahamson (Abrahamson and Fairchild 1999), which consisted in monitoring a specific management term in a huge number of journals to study the evolution of the "Business Model".

Unexpectedly, the research shows that the term at issue is a young phenomenon.

The first time it appeared was in academic article in 1957 (Bellman, Clark et al. 1957) and in a title and abstract of a paper in 1960 (Jones, 1960). However, the studies and research on this topic are quite recent.

It is necessary to wait for the 1990s to see a focus on Business Model, with the Internet revolution and its subsequent development (spreading) in the business world.

So, it is possible to identify the relationship between technology and Business Models, though it is not so clear. Maybe, the relationship was due to (caused by) transaction cost economics (TCE). Indeed, cheap information technology and communication opportunities made it easier for companies to work in so called value webs precisely because of the significant shrinkage of transaction costs. The business design choices for managers increased substantially based on cheap and available information technology and this allowed business model concept to replace the industry as a unit of analysis.

iTunes Software/Website of Apple Computer is a successful music downloading service whose aim is not only to sell music, but to improve the company's sales of iPods. For this reason therefore, in terms of industry sectors, this website includes the software, online, hardware, and music industries. In terms of business models this website forms a total set of business design choices intended to strengthen one another.

1.1.1. Business Model Vs Value Chain by Porter

The Business Model is focused on creating value. Thus, it is possible to think about the value chain, popularized by Michael Porter (1985), as the starting point from where the concept of business model has developed and evolved over the years. In this model, the company is represented by a process of unbundling and decomposed into nine processes

or activities, which contribute collectively to create value for the end customer, from where the company can hold a margin. These activities can be both classified generally as primary or support activities that all businesses must undertake in some form.
According to Porter, the primary activities are:

1) *Inbound Logistics;*
2) *Operations;*
3) *Outbound Logistics;*
4) *Marketing and Sales;*
5) *Service.*

Secondary activities supporting the main activities, which do not create value directly, are:

1) *Procurement;*
2) *Human Resource management;*
3) *Technological Development;*
4) *Infrastructure.*

This representation makes it possible to explain the backbone that allows a firm to operate correctly, highlighting in particular which activities contribute to the value's creation. The logic of a Business Model consists in breaking the company in its core activities and identifying the relationships and connections, which create value for an end customer and for the company itself.

1.2. The most important definitions

To better understand the concept of Business Model, it is essential to review some definitions from the main studies in literature.

Timmers (1998)

The first author who focused his studies on Business Model was Paul Timmers (1998). He defines it as:

> *"architecture for product, service and information flows, including a description of the various business actors and their roles; and a description of the potential benefits for various business actors; and a description of the sources of revenue."*

According to Timmers's opinion business model itself does not provide understanding of how it will contribute to understand the business mission of any companies. It needs critical to know the company's marketing strategy in order to assess the commercial viability. Therefore it is useful to identify business models as well as "marketing models".

Hamel (2000)

Another author who focused his studies on Business Model was Hamel in 2000. According to his idea, "*[A]* ***business model*** *is simply a business concept that has been put into practice"*. The author also identifies four main components related to his business idea, which are:

- The Core Strategy has to define the firm's mission and goals and, in particular, the elements of products differentiation;
- Strategic Resources relate to skills, assets, and processes;
- The Value Network consists of all those external relations (with partners, suppliers and any alliances), which help to give value to the enterprise products.
- The Client Interface is designed to manage relationships with customers, providing information and support, and to define the pricing structure, thereby allowing the company to realize the value produce.

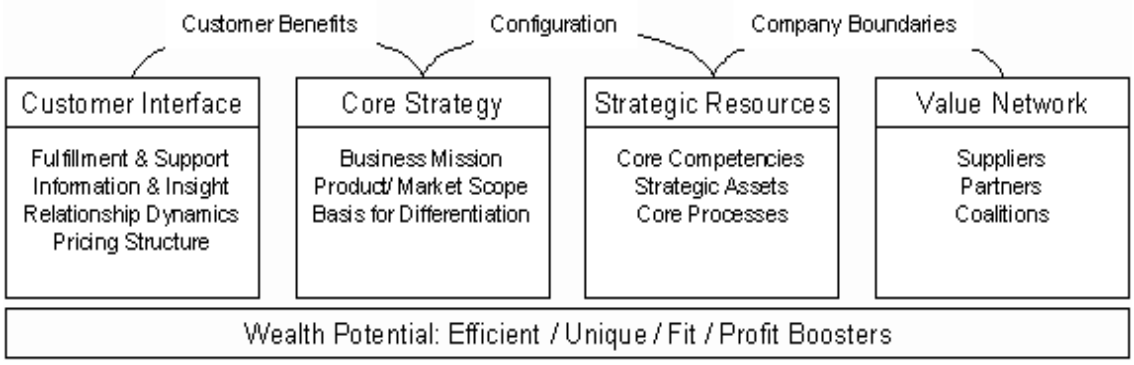

Figure 1: Components of a Business Model (Hamel, 2000)

As the graph shows, it is possible to identify three "special" elements that can be considered as linking points among the main components. These are:

- Customer Benefits actually being offered to the customer;
- Configuration is the element that refers to the unique way in which competencies, assets, and processes are combined in a particular strategy;
- Company Boundaries that refer to the decisions that have been made about what the firm does and what it contracts out to the value network.

Amit and Zott (2001)

According to Amit and Zott, "*A Business Model is the architectural configuration of the components of transactions designed to exploit business opportunities*".
By reading carefully this definition, it is possible to single out three important elements. The first one is represented by the **transaction content**: it refers to the specific information, service, or product that is being exchanged and the parties taken part into the exchange. The second one is the **transaction structure** that depicts and characterizes the linkages among the components of transactions and describes their sequencing. The last one is the **transaction governance** that relates to the control system on the flows of goods, information and resources and incentives, which are due to various actors.

Magretta (2002)

"*The word "model" conjures up images of white boards covered with arcane mathematical formulas. Business models, though, are anything but arcane. They are, at heart, stories—stories that explain how enterprises work. A good business model answers Peter Drucker's age-old questions: Who is the customer? And what does the customer value? It also answers the fundamental questions every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?*"

These stories come from a value chain already used in others markets, which represent the purpose of many innovations. Furthermore, every Business Model has to pass two critical "testing", to be considered right: the narrative test and the numbers test. The narrative test must tell a good story and explain how the business works, who is the customer, what do they value and how a company can deliver value to the customer. The numbers test means your profit and loss assumptions must add up. If the model doesn't work, it means one of the two testing has failed.

Chesbrough and Rosenbloom (2002)

In their paper, *The Role of Business Model in Capturing Value from Innovation* (2002), Chesbrough and Rosenbloom present a basic framework to describe the main elements of a Business Model. They suggest that the business model of a company is the construct that mediates the value creation process between the technical and economic elements.

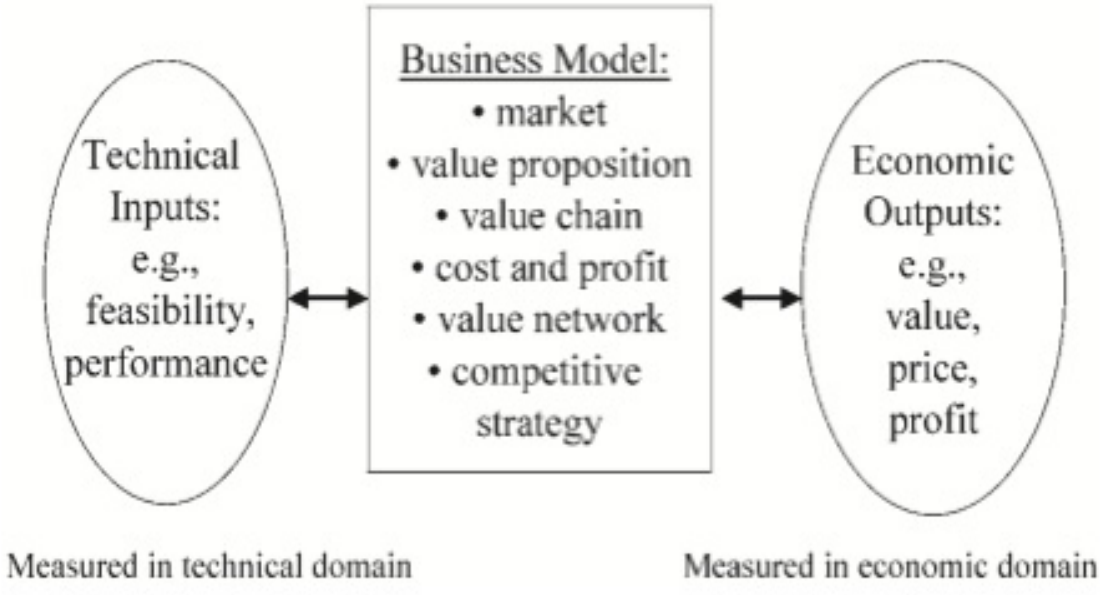

Figure 2: The alignment of strategy, business organization and technology (Chesbrough and Rosenbloom, 2002)

The authors also suggest six functions of the Business Model, which will be analyzed hereafter.

Shafer, Smith and Linder (2005)

By creating a good definition of Business Model, the authors take advantages of some contributes from several actors analyzed. They identified forty-two elements that can constitute a Business Model: they chose some of them, then divided in four categories: *Strategic Choices, Value Network, Create Value, Capture Value.*

The definition given by Shafer, Smith and Linder (2005) is as follows: *"[The business model is] a representation of the underlying logic and the underlying strategic decisions of a company for the creation and appropriation the value within a value network ".*

Concerns about Business Models can be traced to four common problems associated with their creation and use. These problems, which follow directly from the key terms in our definition, are listed hereafter:

- *Flawed assumptions underlying the core logic.*

- *Limitations in the strategic choices considered.*
- *Misunderstandings about value creation and value capture.*
- *Flawed assumptions about the value network.*

Finally Shafer, Smith and Linder point out the conceptual difference between strategy and Business Model: the former is understood by the authors as the set of choices made by a company, the latter reflects the resulting operational implications and allows analysis and verification of the cause and effect relationships that result.

Morris, Schindehutte and Allen (2005)

Their research is based on the analysis of thirty definitions of Business Model: they categorized them in three different classes of definitions, which correspond to the same number of decision variables, the complexity and importance gradually increasing. As a result, they propose an integrative definition:" *A business mode is a concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture, and economics are addressed to create sustainable competitive advantage in defined markets."*
They propose an analysis framework for every Business Models, based on three levels:

1. Foundation Level (delineates decisions regarding what the business is and is not and ensure that such decisions are internally consistent);
2. Proprietary Level (enables development of unique combinations among decision variables that result in marketplace advantage);
3. Rules Level (delineates guiding principles governing execution of decisions made at levels one and two).

For each of the three levels, the authors propose six key questions that a business model should answer. They are:

- *How will the firm create value?*
- *For whom will the firm create value?*
- *What is the firm's internal source of advantage?*
- *How wills the firm position itself in the marketplace?*
- *How will the firm make money?*
- *What are the entrepreneur's time, scope, and size ambitions?*

Osterwalder, Pigneur and Tucci (2005)

Also in this case Osterwalder, Pigneur and Tucci (2005) describe the structure of the business model by resorting to previous contributions and identifying some "building block" that put together in four "pillars".
The definition that they propose is: *"A business model is a conceptual tool containing a set of objects, concepts and their relationships with the objective to express the business logic of a specific firm. Therefore we must consider which concepts and relationships allow a simplified description and representation of what value is provided to customers, how this is done and with which financial consequences."*
The authors insert the business model in the middle of what they call the "*Business Triangle*", composed of strategy, organization and information systems of an enterprise, with the aim of support its planning and realization.
In addition to the three components of the triangle of the external forces act (social environment, rules and regulations, competitive forces, market demand and technological developments) that can make necessary changes in the business model in order to maintain its effectiveness.

Johnson, Christensen and Kagermann (2008)

According to Johnson, Christensen and Kagermann (2008) "*a business model [...] consists of four interconnected elements that, taken together, create and distribute value*". The four elements are:

- *Costumer Value Proposition* that the solution proposed by the company to one or more problems that customers are facing. Customer satisfaction is directly related to the importance of the problem and possible improvements regard to potentially previously existing solutions in the market;
- *Profit Formula,* how the company is able to create value itself, by creating value for the customer; (the value a company creates itself by creating value for the customer)
- *Key Resources,* (products, structures, distribution channels, brand, technology, information systems, facilities, human resources) which take the role to realize the value proposition and deliver it to customers, then getting value for the firm itself;
- *Key Processes,* which have characteristics of replicability and scalability and, as key resources, they are fundamental to the creation and value appropriation.

Teece (2010)

Another contribution is to Teece (2010), which "*the business model articulates the logic, data and other evidence to support the value proposition for the customer, and a viable management structure of revenues and costs for the company delivering this value* ".
The author also points out that the task of the company's strategy should be to defend the possible competitive advantage established by the business model applied by the company, creating the conditions to make it difficult to imitate.

Doz and Kosonen (2010)

The last contribution under analysis is the one proposed by Doz and Kosonen (2010) which distinguishes between objective definition, that is *"[...] set of structured and interrelated operational relationships between the company and its customers, suppliers, partners and other stakeholders, and among its internal units and the various departments"* and subjective definition *" for the management of a company, the*

business model also works as a subjective representation of these mechanisms, defining their beliefs about how the company relates to their environment ".

1.3. Functions of Business Model

Every firm considered as a Business Model, whether they articulate it or not. A Business Model presents two different functions: value creation and value capture. Firstly, it delineates some activities, which will allow a new product or service in such a way that there is a net value created. Secondly, a Business Model captures value from those activities for the company developing and operating it.
According to Henry Chesbrough, it is possible to underline six of the main functions that a business model should preside:

- *Articulate the value proposition*, that is the value created for users by the offering;
- *Identify a market segment*, that is the users to whom the offering and its purpose are useful;
- *Define a structure of the value chain*, required by the firm to create and distribute the offering, and determine the complementary assets needed to support the firm's position in this chain;
- *Specify the revenue generation mechanism(s)* for the firm, and estimate the cost structure and profit potential of producing the offering, given the value proposition and value-chain structure chosen;
- *Describe the position of the firm within the value network*, linking suppliers and customers, including identification of potential complementors and competitors;
- *Formulate the competitive strategy* by which the innovating firm will gain and hold an advantage over rivals.

It is possible to note as these functions are usually lines-guide for the company to manage their business model and innovate it.
For example, **Ryanair**, a European discount airline, innovated its Business Model following two directions: firstly, it considered a different *Target Market* as an alternative of usual business travelers. Secondly, Ryanair innovated its *Value Network*, underutilizing regional airports, through new arrangements.

However, this is not the only perspective that has allowed identifying the most important aspects of a Business Model. In particular, Osterwalder, Pigneur and Tucci (2005) identified five categories of the business model functions:

- Understanding and sharing,
- Analyzing,
- Managing,
- Prospects and
- Patenting of business models

According to the authors, the first function is fundamentally important because within an organization individuals do not always use to share mental models to play the surrounding reality. Furthermore, the ability to process complex information is limited and thus organizations tend to simplify. Therefore, it is evident the need to formalize and clarify the business model in order to better *understand* and enable communication and *sharing* with any external parties.

The business model can also be a valuable tool to *analyze* the business logic of a company. First of all, it makes some aspects of the business measurable, in order to control their evolution over time and its consistency with the corporate strategy implementation. (Using for example a *Balanced Scorecard approach* with its financial, customer, internal business, and innovation perspectives [Kaplan and Norton 1992]). Once the Business Model is defined, it is important the possibility to compare it with that of competitors or even those that are operating in completely different sectors, both as benchmarking seen as a source of innovative input.

In addition, the Business Model also helps to manage the business logic of the company.

Specifically, designing a consistent business model with each part of it is mutually strengthener and optimized, without neglecting seemingly minor elements, is challenging. In this sense, the conceptualization of the business model highlighting the fundamental relationships between the various elements may facilitate the management activities.

Moreover, editing operations are facilitated if the starting point is defined, because it is possible to understand, describe and highlight exactly which elements will have an impact of any changes. The concept of Business Model also allows stimulating and encouraging an innovative perspective, which can be obtained by reconsidering and recombining the relationships between the various components. Moreover, the role of the strategy is to choose the Business Model suitable for each competitive context where the enterprise is called to operate; it follows that it is crucial for the organization to process a plurality of different Business Models, from where management can draw upon promptly in times of need.

In addition, the simulation of various Business Models, (though never be able to predict the future), conducts experiments with low risk rate and assumes different scenarios, without endangering an organization.

Ultimately, defining the business model can be necessary in order to request the *patent*, possibly also just a part of it. But the risk is to face legal battles. One of the most famous is the case of the online retailer Amazon and the online division of Barnes & Noble (B&N). Amazon, which received the patent for the ordering system "one-click," attacked B&N for patent infringement, apparently caused by checkout "express lane" system on the website of B&N.

1.4. Classifications

Analyzing the definitions of the Business Model stated on the previous pages, it is possible to underline some classifications of several Business Models used by organizations. But, these classifications always follow different points of view and several arguments.
The aim of this work is to identify and focus on two of them: *Activity system perspective and Dynamic perspective* and *Amit, Zott and la Massa's approach.*

The first approach arises from the consideration of two different visions of the concept of business model: the static approach, described by Activity system perspective, which defines the business model as a set of activities (Zott, Amit, 2010; Amit, Zott, 2001) and the dynamic approach, overcome by Dynamic perspective, which reflects the idea of continuous change of the business model. In this perspective, the transformation is caused by the same business model, that is defined as a tool, that brings change and innovation (Demil, Lecoq, 2010). Both can be individually considered brilliant, but together represent an efficient and comprehensive view of the business model. Their combination is designed to reinforce their strengths and to smooth their weaknesses, thus providing a tool for a depth and complete understanding of a business model.

The second approach takes the classification exposed by Massa, Amit and Zott, in their most recent work (Zott, Amit, Massa, 2011), which splits the Business Model and defines the features, starting from the consideration that they have mainly been used to explain three distinct phenomena:

- E-business and the use of information technologies in organizations;
- Strategic issues, such as value creation, competitive advantage, and firm performance;
- Innovation and technology management.

The term *e-business* means, "*doing business electronically*". It surrounds e-commerce, e-markets and Internet-based business and it refers to firms acting as commercial transactions over the Internet. The large use of Internet allows the development of new

ways to create and deliver value: it opened new horizons for the design of the Business Model by permitting firms to change the way of the economic exchanges organization.

The Business Model has received increasing attention from business strategists interested in *explaining* firms' value creation, performance and competitive advantage.
The first point, which is the use of business models in the explanation of the formation of corporate value, has gained particular importance over the years of the digital economy, which provided new mechanisms of value creation. The company is no longer considered in its singularity, but it is a part of a network of actors. In this context, the business models are used to decompose the process of creating value in its individual steps, making clearer the path of his formation. The value creation mechanism goes beyond corporate boundaries; therefore, a Business Model, which refers to the individual firm, cannot understand and capture the value creation process. So, four potential sources of value creation must highlight: *novelty, lock in, complementarities, efficiency.*
The concept of Business Model plays a key role in explaining the company's performance. There have been several studies that have shown that the design of the business model is influential on the results of the company.
The third area in which the concept of Business Model has found extensive use concerns the strategy of a company focused on the creation of competitive advantage. The business model can be a major source of differentiation. Heterogeneous firms that appeal to the same market demand with the aim of meeting the same needs by offering similar products can gain competitive advantage through the implementation of a unique and innovative business model.

The third and final area where the business model has received wide attention regards its link with innovation. To proceed to the analysis, you need to bifurcate the relationship "business-model innovation" in two different concepts:

- *The idea of Business Model as the subject of innovation*, or how the structure from which spring innovations and through which they are proposed to the target market;
- *The idea of Business Model as an object of innovation*.

In the first case, the Business Model is the source and vehicle of innovation. Its role is to "*unleash the potential value embedded in new technologies and convert it into market results*." The value inherent in an innovation remains latent until it is not commercialized, and this happens through the use of a business model that, therefore, plays a very important function. It can happen, for example, that winning an innovation not to impose the desired or fails due to the use of an inappropriate business model. The Business Model is defined as a construct that is capable of transforming inputs that the enterprise put in the market, or the undertaking innovations, in economic results, thus highlighting the value of the innovations.

The innovation of the business model is increasingly considered a key point for obtaining a good corporate performance. For many years a growing number of authors retained it is as an essential means for the renewal and transformation of the enterprise as a whole and for the implementation of a recovery arising from solid roots.
By virtue of the changes in this period, the ways in which a company can build its business model to achieve their objectives and create value have increased, presenting more and more opportunities to businesses.
The new business model must be drawn through the Entrepreneurial Management that is the company's desire to create new opportunities for development and through the strategic management, which focuses largely on maintenance over time of the advantages created by the new opportunities.
For managers, therefore, it becomes very important to be able to understand whether its business model is suitable to grasp and create new opportunities or whether, in contrast, as a result of significant changes you need to re-invent it.

1.5. Why is it necessary to innovate a BM?

Innovation in a Business Model is more than the mere product, service or technological innovation. Innovation becomes Business Model Innovation when two or more elements of a business model are reinvented to deliver value in a new way. The Business Model become, also, to execute and to imitate.

This was demonstrated by Apple, that is widely considered as the first innovative company in the world, because the company's innovation strategy involves, at the same time, new products and innovative business models. Apple's innovative business models were based on new synergistic ways to create, deliver, and capture value. For instance, iPod and iPhone would not have had nearly as much impact if they hadn't been matched with iTunes and the App Store respectively: systemic innovation integration is at the heart of Apple's success.

Apple works across traditional industry boundaries to create a successful innovation-friendly ecosystem. The company is in hardware, software, entertainment, and logistics, and has mastered parts of all those industries. The App Store, for instance, the world's largest collection of mobile applications, offers hundreds of thousands ways to make iPhone even better. iTunes, an innovative software with a powerful business model, shows that people would pay for music if the price is right and the interface is simple enough.

These and other key strategies demonstrate that, thanks to an innovation in Business Model, the success is assured. Thus to innovate the business model becomes more and more a strategy that even the most important companies take into consideration to definitely achieve success.

Innovating a Business Model is particularly important in times of instability. In particular, when the firm has to break loose a strong competition, and its products and services are easily imitated, it can carry out a BMI and sustain advantage. It can help address disruptions that demand fundamentally new competitive approaches.

Innovating a Business Model can also help address downturn-specific opportunities, enabling companies, for example, to lower prices or reduce the risks and costs of ownership for customers. Moreover, during times of crisis, companies often find it easier to gain consensus around the bold moves required to reconfigure an existing Business Model.

To innovate a Business Model is, of course, more challenging than innovate a product or a service, but if the innovation in the Business Model is correct, it, also, offers superior returns. The Boston Consulting Group (BCG) and BusinessWeek recently conducted their annual survey to identify the most innovative companies. They analyzed their database of innovators, segmenting them into business model innovators and product or process innovators. Their analysis showed that while both types of innovators achieved a premium over the average total shareholder return for their industries, business model innovators earned an average premium that was more than four times greater than the one enjoyed by product or process innovators. Furthermore, an innovation in Business Model delivered returns that were more sustainable; even after ten years, business model innovators continued to outperform competitors and product and process innovators.

Many companies innovate their Business Model, also, to defend themselves against aggressive competitors or protect their dying core business. But the best role for suchlike innovation is to use it to explore new opportunities in new markets.

1.6. Business Model Innovation (BMI)

From the need to innovate the Business Model to gain advantage and tear up completion in the market, it led the Business Model Innovation phenomenon.
Linking Business Model and Innovation, it is possible to propose that BMI may refer to:

- *The design of novel BMs for newly formed organizations, or*
- *The reconfiguration of existing BMs*.

The first phenomenon can be indicated with the expression of *business model design (BMD)*, which is used to employ the entrepreneurial activity of creating, implementing and validating a Business Model for a new organization. It is correct to use *business model reconfiguration (BMC)* to indicate the second phenomenon that is the shift of an existing Business Model through an organizational resources' reconfiguration.

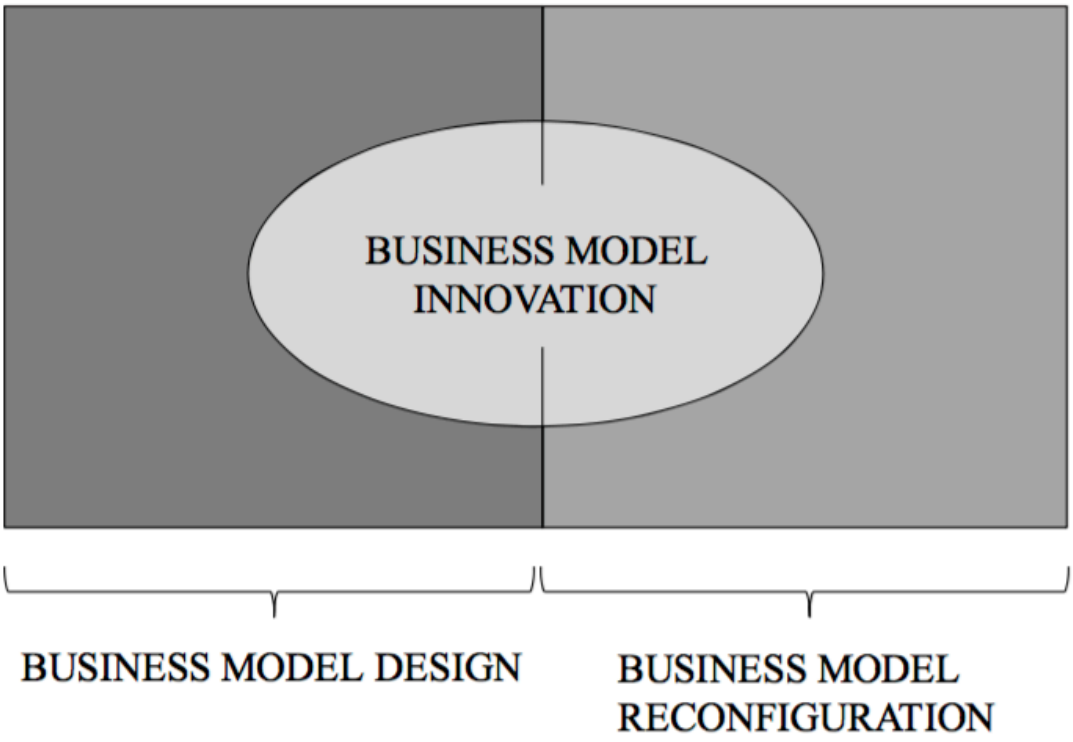

Figure 3: Business Model Innovation as a subset of business model design and reconfiguration (Massa, Tucci 2008)

While sharing the potential for the same outcome (namely BMI), reconfiguration and design are two distinct phenomena, which imply substantial differences. For example, because reconfiguration assumes the existence of a BM, it involves facing challenges that are idiosyncratic to existing organizations, such as organizational inertia, management processes, modes of organizational learning, modes of change, and path dependent constraints in general, which may not be an issue in new firms. On the other hand a new organization may face other important problems, such as uncertainty, lack of legitimacy or lack of resources

For that reason, the two activities have to be treated in different moments.

1.6.1. Business Model Design

BMD is refers to entrepreneurial activity. Its process is an entrepreneurial venture creation including the design of content, structure and governance of transactions "*that a firm performs in cooperation with a network of exchange partners so as to create and capture value"* (Amit and Zott, 2001). These are externally and internally activities, linked with the market and the design of boundary spanning organizational arrangements. This element looks really important to clarify how a company is linked to external stakeholders and how it implements all exchanges with its partners. Consequently, BDM includes all the choices that permit to link an offering to a realized output market.

The new BMs may be uncertain for two reasons: firstly, because it is difficult to predict customers' response to the offering and future market conditions; secondly, because it is possible to underline a dynamic complexity associated with BM planning and design. This complexity depends on the huge numbers of elements that could be part of a BM and this could reduce thanks to trend and right predictions.

The uncertainty described alters BMD and every task associated. For that reason it is necessary that BMs take shape through a discovery-driven process; this process places a significant premium on experimentation and prototyping. For example, in a first moment some companies have a BM that doesn't work: in this case they need a plan B and to 'find' the right business model, managers and entrepreneurs should engage in experimentation and challenge their initial assumptions. Considering a huge number of

'what if' questions may be a useful strategy. The discovery-driven nature of BMs also changes the effectiveness of different design and planning approaches. *Financial tools that make sense in an experimental world (e.g. real- options reasoning) may be more appropriate than more deterministic ones (e.g. projected economic value added and net present value) in supporting BMD (McGrath, 2010).*

Companies are always interested to find new ways to do business, so entrepreneurs work on new models, able to disrupt the competition.

According to McGrath (2010), BM disruption may occur following Christensen's model of disruptive innovation. At the beginning, these new models are more like experiments than proven business ideas and may not attract the scrutiny of incumbent firms. Newly formed ventures employing novel BMs often operate in market niches, serve customers that incumbents do not serve, and at price points they would consider unattractive, and rely on novel resources that are not necessarily under the control of incumbents. The latter may ignore the threats coming from innovative BMs3. And entrants could progressively experiment with their businesses and find disruptive channels.

1.6.2. Business Model Reconfiguration

The other way forward simultaneously to the BMD is the BMR. Indeed, once the BM puts the aspects, organizations should maintain continuous reconfiguration of that. If nothing else to suit the environment in which dynamic all have to operate. And not only. The opportunities for value creation are a lot; companies must be able to identify, and continually adapt their BM to the situation.

BMR may well represent an extension of what Henderson and Clark (1990) initially conceived as 'architectural' innovation, i.e. complex innovations that require a systemic reconfiguration of existing organizational and technological capabilities. Indeed, BMR is a complex art. As Teece (2007) notes, it requires 'creativity, insight and a good deal of customer-competitor and supplier information and intelligence'.

BMR, in substance, can be considered as the individual component of a business model which is combined in such a way that departs from established ways of competing. Four elements to take into consideration are:

- *The target (who)* - who is the target of the company;
- *The offering (what)* - what is the company providing the intended target with;
- *The chain of processes involved (how)*, both inside and outside the company, that are generating the offering in question;
- *The profit model* - how a company is extracting value from the target customers in a profitable manner.

Once the basic elements underlying the reconfiguration of the BM are identified, it should bring four examples of BMI, companies using the reconfiguration of old business had great success, becoming an industry leader.

These examples are Ikea (the Swedish firm that revolutionized the furniture industry worldwide), Ryanair (the low-cost airline that adopted the strategy pioneered by Southwest in the US market achieving a vast growth in Europe), Technogym (the Italian firm that transformed the fitness / wellness industry with its products and approach to market), and Apple (the US firm whose iPod and iTunes developments have represented a major success since the early 2000s). It is important now to aim at recalling the most relevant traits of the innovation carried out by each of these companies, in order to better grasp the notion of BMR.

	Who (target)	What (offering)	How (chain)	Profit Model
Ikea	Customers with lower willingness to pay; customers looking for one-stop shop and fun; customers willing to self-assemble	Broad offering of low-cost items, some self-assembled, in large stores spread within chain	Longer agreements with suppliers; self-service for customers	Similar to fast-moving goods; aim at greater share of customer wallet through wider shopping basket revolving around furniture items
Ryanair	Un-tackled segments of customers looking for basic air transportation	"Stripped" and standard product	Focus on standardization, scale and learning	Low costs coupled with high elasticity of demand; high frequency + high load factor
Technogym	Home users and customers looking for ease-of-use, greater interaction, emotional involvement and overall well-being	Easier-to-use and to install technologically advanced machines providing high functionality plus interaction, also for home use	Extensive use of information technology and ergonomics competences; scale and learning economies	Extracting higher willingness-to-pay and generating large sales volumes exploiting worldwide market
Apple	Customers willing to pay extra for design; customers looking for new user interfaces; customers valuing ability to customize music libraries;	Multi-function music player with innovative user interface, fashionable and minimalist design; unique coupling with software and music sales channel	Lego-like model of production and short time-to-market; focus on product & software design and marketing and outsourcing of production and assembly	Gaining from both premium price and volume effects; player margins plus music store margins

Figure 4: Some examples of innovation in Business Model

Conclusions

In sum, BMI is vitally important, and yet very difficult to realize it.

The barriers to change the Business Model are real, and the tools are helpful, but not enough. Organizational processes must also change. Companies must choose an effectual attitude toward Business Model experimentation. Some experiments will fail, but so long as failure informs new approaches and understanding within the constraints of affordable loss, this is to be expected - even encouraged. With the discovery driven planning, companies can model the uncertainties, and update their financial projections as their experiments create new data. Effectuation creates actions based on the initial results of experiments, generating new data, which may point towards previously latent opportunity.

And organizations will need to identify internal leaders for Business Model change, in order to manage the results of these processes and deliver a new, better BM for the company. The discretion and judgment of middle managers must be subjected to empirical data if local objectives are to be subordinated to those of the overall organization. At the same time, the organization's culture must find ways to comprise the new model, while maintaining the effectiveness of the current Business Model until the new one is ready to take over completely. Only in this way BMI can help companies escape the 'trap' of their earlier business models, and renew their growth and profits.

CHAPTER 2 – E-BUSINESS MODEL AND PIGGYBACK

Foreword

The innovation of the Business Model is not, however, uniform for all sectors which can be considered. For this reason, my study focuses on the digital world, which nowadays represents one of the most significant media in the life of each and every one of us from many points of view. The social era we live in is bringing about new changes in business practices and models and is raising new questions. In changing business practices, it is necessary to be aware of the preferences of your customers. Outlining the specific objectives of the business should be your first priority. It suffices to say and do not do the business actions to ensure effective management. Now, since even arise technological devices, it is important always to abreast of the latest trend of technology. If left behind, the business will never be achieved success.

The Business Model concept has become one of the most important domains in the field of Information Systems (IS), thanks to recent rapid advances in Information and Communication Technologies (ICTs) (Haaker et al., 2006). Unlike the previous traditional world of business which is characterized by stability and low levels of competition, the emerging world of digital business is complex, dynamic and enjoys high levels of uncertainty and competition. For instance, designing a business model for a Cellular Network and Telecommunication Operator (CNTO), as a part of a value network, is a complex undertaking and requires multiple actors to balance the varied and often conflicting requirements (Haaker et al., 2006). Moreover, rules that governed the traditional world of business are questioned in this emerging world of digital business. For example, a huge investment was needed to establish a traditional business. Traditionally, this investment was considered a strategic barrier to entry. However, Internet and mobile technologies have offered new ways of doing business, such as e-commerce and m-commerce, which do not have such a high barrier to entry. It is easy to understand, in fact, as this sector is characterized by a few sources of competitive advantage and as such lack derives precisely from a drop of entry barriers. The need for physical assets, to give just one example, is far less evident. Traditional business managers are more experienced in translating the business strategy directly into

business processes. In the more complex and sometimes unique digital business, the Business Model needs to be explicit and a BM and a consequent innovation of that, which offers a new layer of appropriate information and knowledge to support digital business managers, has become a necessity.

This explains why BM research has risen to prominence since the end of 1990s with the advent of IT-centered businesses (Osterwalder et al., 2005). Nevertheless, a definition for the business model is “murky” at best (Porter, 2001).

Researchers in this area have depicted the digital BM concept from different perspectives and this is for two reasons:

- Digital market is a market that continues to change rapidly, since it is not to be "saturated";
- There is no a dominant standard yet, which can be taken into consideration by companies or start-ups (that are, working within the same market).

My study aims to be a thorough research, considering the present literature on the subject, capturing the various differences and similarities in the proposals of the most important authors considered. As well as tracking the key points that, in my vision, a business model needs to meet the various needs of the market and the companies operating inside it.

2.1. E-Business Model

As we enter the twenty-first century, business conducted over the Internet (which we refer to as 'e-business'), with its dynamic, rapidly growing, and highly competitive characteristics, promises new avenues for the creation of wealth. Established firms are creating new online businesses, while new ventures are exploiting the opportunities the Internet provides (Amit, Zott, 2001).

E-business has the potential of generating tremendous new assets, generally through entrepreneurial start-ups and corporate ventures. It is also transforming the rules of competition for established businesses in unprecedented ways. One would thus expect e-Business to have attracted the attention of scholars in the fields of entrepreneurship and strategic management. Indeed, the advent of e-business presents a strong case for the confluence of the entrepreneurship and strategy research streams, as advocated by Hitt and Ireland (2000) and by McGrath and MacMillan (2000). The literature to date has neither articulated the central issues related to this new phenomenon, nor has it developed theory that captures the unique features of virtual markets (Amit, Zott, 2001).

Attention in e-Business will need organizations to revise their strategies and goals to meet market rules of demand and supply. Conversion of ordinary business into e-business has forced organizations to be redesigned and changed the structure. E-business is a combination of economic, technology and market forces that reinvented strategies of traditional business. The business process is counted to use the power of computers and communication networks (Internet). This can allow organizations to stay competitive and more efficient.

E-Business is tricky business. Management can begin to respond by asking the right questions. E-Business is re-teaching an old lesson. Changing the competitive question means to change the rules of the game. By focusing on the right transition, companies can alter the nature of competition. Traditional market channels are giving way to new; production-centric processes are yielding to customer-centric processes. Old Business Models are morphing to new; information is replacing inventory; and digital products are replacing physical goods. Before you jump into the deep end of e-Business change and begin shifting your operation toward the future, it's important to consider the emerging structural patterns that characterize the new economy. These include: e-

channels, click-and-brick patterns, e-portals, e-market makers, and pure “e” and mobile portals.

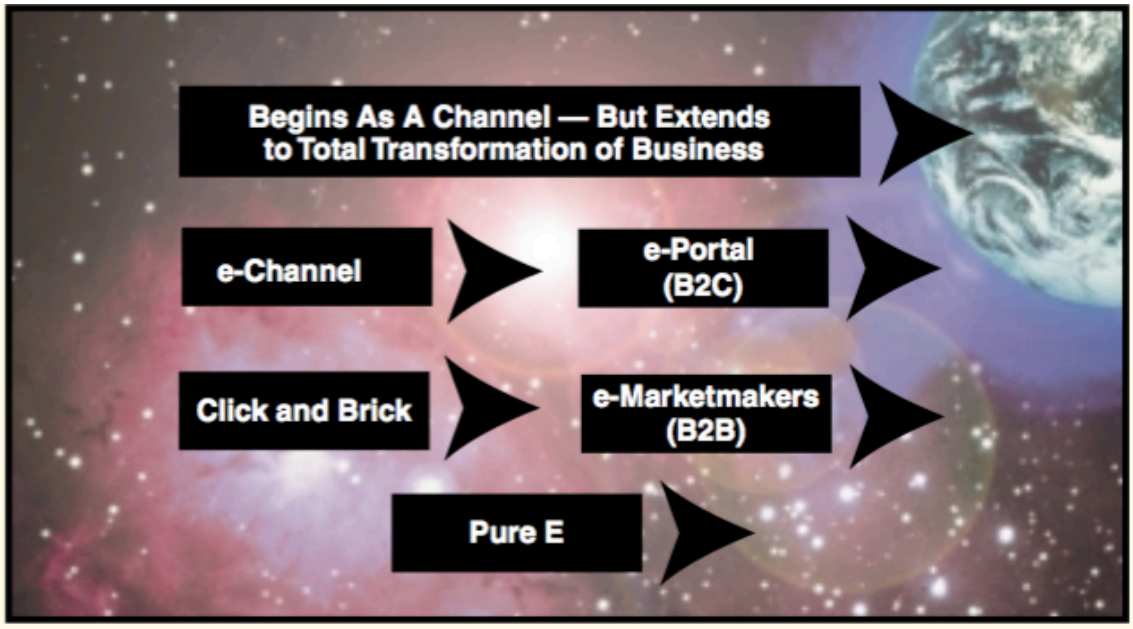

Figure 1: Different e-Business Partners (Kalakota, Robinson, 2000)

e-Channels, or extension models of large companies, have evolved considerably. The first phase involved developing a stand-alone channel, or spin-off.com, independent of the parent company (e.g., Proctor and Gamble spin-off venture Reflect.com); the second was a stand- alone channel with some connection to the mother ship (e.g., Wal-Mart.com). The new phase, channel synchronization, is a tightly integrated click-and-brick strategy, like CVS.com, that serves customers seamlessly no matter their entry point.

e-Portals, or business-to-consumer (B2C) models, have evolved in three phases. The first was developing appropriate traffic (e.g., Yahoo!); the second was fighting for transactions (e.g., Amazon). In the third phase, companies are beginning to battle for margins. Click-and-brick partnerships (e.g., Amazon.com and Toys ’R’ Us) represent the new phase.

2.1.1. Value chain

To better understand what a Digital Business Model needs, it is so crucial to consider more the Digital Value Chain. Indeed, at the beginning of work, it has repeatedly been pointed as any Business Model has its roots in the Value Chain. Hence it is essential to analyze how this chain is built into the digital world and from here then build up an appropriate Business Model.

A systemic approach to identify architectures for Business Models can be based on value chain deconstruction and reconstruction, that is identifying value chain elements, and identifying possible ways of integrating information along the chain (Timmers, 1998).

It is possible to resume the scheme as follows:

- *Value chain deconstruction,* means identifying the elements of the value chain, for example as in Porter (1985) who distinguishes nine value chain elements;
- *Interaction patterns*, which can be 1-to-1, 1-to-many, many-to-many;
- *Value chain reconstruction*, that is integration of information processing across a number of steps of the value chain.

Possible architectures for Business Models are then constructed by combining interaction patterns with value chain integration.

"The supply chain should be able to reform to a Web structure aligning with the traditional contracting relationship for achieving competitive strength. The new structure benefits the involved parties with enhanced relationship and cooperation. It promotes the contribution of one's own resources to the inter-firm network, not restricted to tasks information but including one's own competency that the others lack. For this inter-organizational sharing of resources and competencies to occur, communication and co-ordination must be improved. This pushes the network structure to incorporate an e-business model. This entails the need for new transmission and communication tools. Since organizations are poor at perceiving their weaknesses and are reluctant to accept that they are in need of change, the model highlights the importance of organizations in adapting to the new folklore of the construction supply chain management. This e-business model not only benefits the construction supply

chain, but also may be applied to other types of business-to-business e-commerce when a close relationship between business partners has to be established to attain competitive advantage." (Eddie W.L., ChengHeng LiPeter E.D. LoveZahir Irani, (2001)).

In summary, individual organizations should prepare themselves to change the mindsets to accept the new challenges, and should anticipate the equal importance of people management and technology management. This would lead them to become the learning organizations of the twenty-first century (Cheng, Li, Irani, 2001).

2.2. Digital Business Model: a new way to operate on the market

The change that the business world has experienced from the traditional way of doing business for the new way of digital business has a high level of complexity. This new world of digital business has created a gap between the business strategy and business processes. Translating corporate strategy into business process has become much more of a challenge. Accordingly, the Business Model has risen to prominence as a conceptual tool of alignment to fill the gap that has been created in this world of digital business.

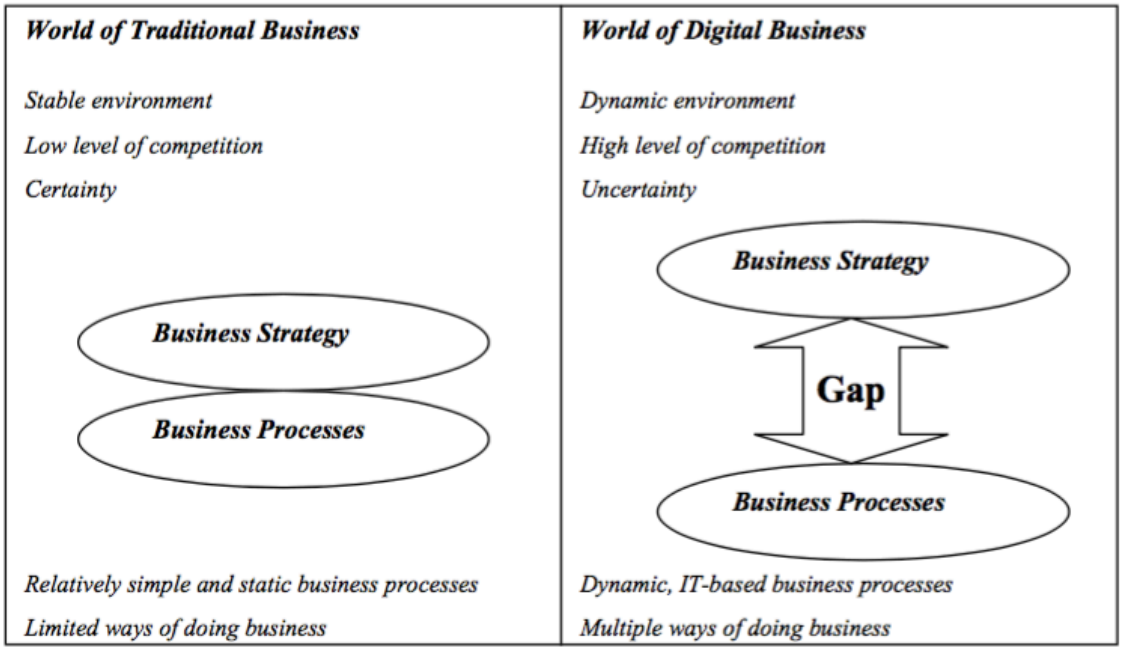

Figure 2: Comparison between the World of Traditional and Digital Business (Avison, 2008)

Using the Business Model facilitates the fit between business strategy and business processes since it represents an interface or an intermediate theoretical layer between them. Furthermore, the business model enhances digital business managers' control over their business, and enables them to compete better due to the appropriate and necessary level of information that the business model provides. This level of information also extends digital business managers' knowledge of how the business organization will adapt their strategy, Business Model, and business processes to cope

with the complex, uncertain, and rapidly changing digitalized environment. Thus, there are improvements in the organizations' abilities in achieving their strategic goals and objectives. This is because the information that the business model offers is neither highly aggregated, which it is in the case of business strategy, nor highly detailed, which it is in the case of the operational business process model.

The Business Model is by no means independent; it intersects with the business strategy as well as the business processes. Thus, it creates a unique strategic operational mix (as it is possible to see in the next figure). These intersections represent two crucial transitional points to be followed by business organizations in this new world of digital business (Al-Debei, El-Haddadeh, Avison, 2008).

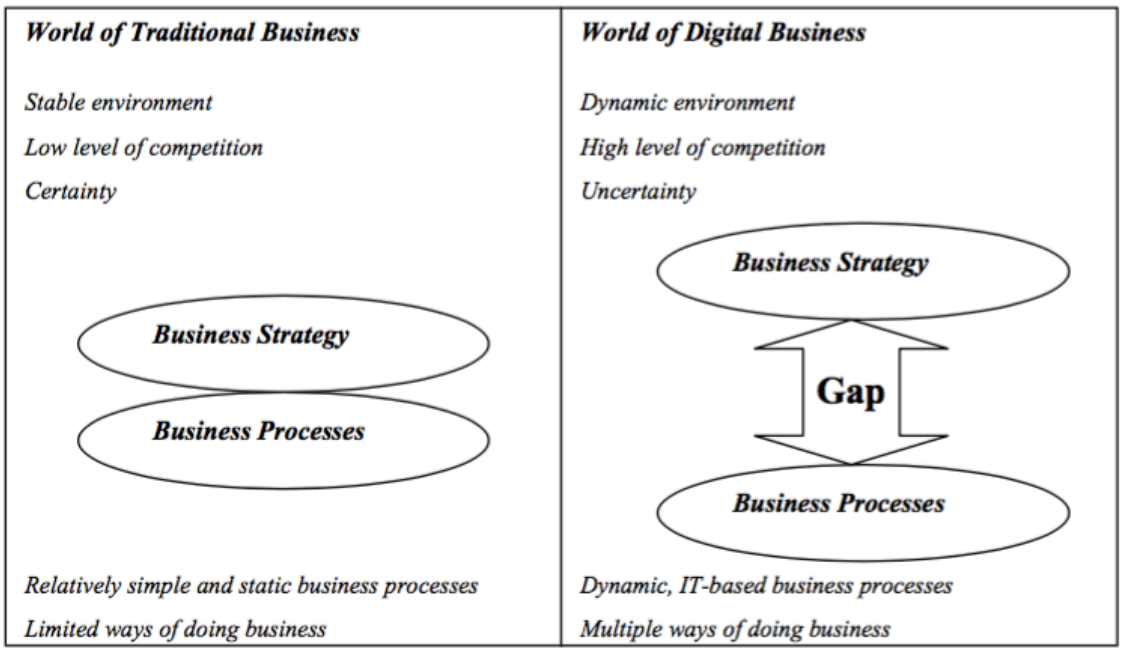

Figure 3: Business Model Intersection Points (Avison 2008)

1- ***Business strategy to business model***: this is the first transitional stage. According to Porter (1980), business strategy is a way by which a business organization positions itself within its industry through adopting one of the generic strategies. However, at this stage the business organization translates its broad strategy into more specific business architectural arrangements needed in order to achieve the strategic goals. Moreover, the business model in the first intersection point is dependent on the business strategy.

2- ***Business model to business process model***: this is the second transitional stage. At this stage, the business model acts as the base system from which the detailed operational business process model should be derived.

For businesses to survive and to succeed in this new world of digital business, the business strategy, Business Model, and business processes should be recognized and treated as a harmonized package. Furthermore, this package should be reviewed continually to ensure its consistency with the external environment.

2.3. From Asymmetric Model to Piggyback

Actually, the Business Model Innovation, as we have repeatedly pointed out, has become the key element of the company success. Several studies have led me to focus on a Business Model reconfiguration as an asymmetric model, used mostly in e-commerce and mobile. This sectors now more "hip" to require a specific configuration to be successful and to counter the competition which today is markedly perceived.
Everything concerning the electronic market requires more attention from entrepreneurs who want to ensure the creation of value to their companies. Here, because it is appropriate to further define your target market and make around it a proper innovation strategy of business.
Electronic commerce can be defined loosely as "*doing business electronically*" (European Commission 1997). It includes *electronic trading* of physical goods and of intangibles, such as information. (And this comprehends all the trading steps, such as online marketing, ordering, payment, and support for delivery); the *electronic prevision of services*, such as after-sales support or online legal advice; and the *electronic support for collaborations* between companies (Paul Timmers, 2006).
Electronic commerce is a new way to do business, and for that reason it needs new forms of business model. In general, an e-Business Model structure can be divided into four parts (Dubsson, Osterwalder, Pigneur, 2001):

- The *products and services* that a firm offers, representing a value to a target customer (*value proposition*);
- The *relationship capital* that the firm creates with the costumers, in order to satisfy them and to generate revenues;
- The *infrastructure* and the *network of partners* to create value and keep an adequate relationship with customers;
- The *financial aspects*.

It is possible to note that this kind of Business Model is very similar to a general Business Model, described in previous pages: indeed there are similar goals in a different scenario. This is the key point of the speech: e-Business model requires an

innovative approach, advanced, that can be adapted to an evolving scenario, but at the same time be able to capture the best opportunities on the marketplace. Indeed, it is necessary to consider an *asymmetric approach*.

E-commerce players are not part of the advertising market. Advertising companies don't sell consumer electronics. Consumer electronics players are not known for their Internet services. Online retail, advertising, gadgets and Internet service - they are all different markets.

To better understand, **Amazon** is an e-commerce company, **Google** makes its money from ads, **Apple** found success in sales of hardware devices and **Xiaomi** is an online services company.

Markets are "non-natural" creations created to make sense of the business world and directly compare similar products and companies. Managers use the concept to benchmark themselves against the competition. But when it comes to make strategic decisions, the digital leaders have proven that there is no reason to be sure by this artificial framing of markets. The study of markets worked well for industrial. But in the digital era, companies can get a wrongful competitive advantage by breaking industry boundaries. That is, by competing across multiple markets at the same time.

Apple created an unfair advantage by competing in both consumer electronics and digital content markets. Google created an unfair advantage by competing in both online advertising and mobile markets. Amazon created an unfair advantage by competing in both e-commerce and tablet markets. Their direct competitors (Nokia, Yahoo, eBay) didn't stand a chance as the mobile revolution unfolded.

"The idea of competing in multiple markets is not new. Just think about conglomerates like GE, Panasonic, Unilever, Virgin, Dassault or Comcast. They all benefit from the branding, cross-selling, technology, expertise and infrastructure (economies of scale). These benefits can be shared between the products and services in each company's portfolio. These benefits create efficiencies that are largely internal to their business and that primarily lead to cost advantages." (Schuermans, Constantinou, Vakulenko, 2014, pag. 5).

Companies like Apple, Google, Amazon, Tencent and Xiaomi select markets in other way. The markets they choose are *complementary* in the minds of their customers. Namely, the purpose to compete in multiple markets is about integrating across and

improving customer experience, instead than about the effectiveness of the company operations.

Additionally, these multiple markets are chosen so that customer traction in one market also improves the demand in the other market. "*Think how the availability of gas stations (or electric charging stations) and gas prices affects the popularity of cars. Think how smartphones get more attractive depending on how many apps and services are available on them. In economic jargon, these markets represent complementary goods"* (Schuermans, Constantinou, Vakulenko, 2014, pag.6).

Figure 4: Core product vs Complement and their dependency

From the *asymmetric* Business Model is coming out a new strategy, called Piggyback, a new vision of the business that has found application in various fields.

2.4. Piggyback: a new approach of Business Model

"Piggybacking" is an old word used to describe a form of marketing collaboration between two firms. In the most basic sense, a piggybacking relationship is a form of marketing collaboration where firms aspire to acquire a goal allying with partners that complement their strengths and weaknesses (Terpstra and Yu 1990). After all, different from of collaboration practices such as joint ventures or mergers, Piggybacking is a non-equity relationship where the partners maintain their independence. This means that for such a relationship to hold, both partners need to perceive themselves better off by the agreement than the alternative; ending the relationship (Telser, 1980 as cited in Terpstra and Yu 1990). Piggybacking is actually an early form of strategic alliance.

According to Terpstra and Yu (1990), Piggybacking consists of both a *carrier* and a *rider*, where the carrier markets the rider's products. Such a loose description of the term does not put heavy limitations on the practice, meaning that Piggybacking can occur in different forms. Depending on the characteristics of the rider and its products, it may use the carrier to establish in a new market or simply use the carrier to distribute a new product.

"Piggybacking indicates someone riding on someone else's back, implying that there are differences in strength and size between the allies" (Vidar Horne, John Kåre Solem, 2012). For a carrier to take on the marketing activities of the rider's products, the carrier must be in possession of some attributes that the rider is missing. Echeverri-Carroll et al. (1998) recognizes that firms in high-technology sectors are vertically disintegrating, conducting to larger firms specializing in their core functions and subcontracting other functions to the smaller firms. These networks are characterized by *asymmetry*. The rider will be more dependent on the carrier than the opposite, often because a higher proportion of their total sales depend on the success of the Piggybacking relative to the carrier. "*Terpstra and Yu (1990) point to the fact that the input needed by the carrier is a specific product that can be marketed through an already existing marketing system. If the relationship is ended, the carrier's loss is limited to the loss of the rider's product. The rider's loss is however greater, as it loses the whole marketing system the carrier provides"* (Vidar Horne, John Kåre Solem, 2012, pag. 9).

Even if Piggybacking has several advantages, such an arrangement is seen as a transitional strategy with a finite life (Terpstra and Yu 1990). The rider enters such

relationships to adjust for deficiency of resources and competencies within its own firm. However, as the firm acquires experience through such relationships, the benefits will decrease to a point where another way of operation will be preferred. This was indicated by Chapman et al. (2004) "*who claim that piggybacking will subsequently lead to independent expansion when the piggybacking relationship has made the rider able to retain strategic control over their operations"* (Vidar Horne, John Kåre Solem, 2012).

2.5. The main features

It was pointed out that the Piggyback is a form of business collaboration agreement where a company (*rider*) willing to move in a new market uses another company's (*carrier's*) distribution network already established there in exchange for a commission. The Piggyback cannot be said to be a simple strategy to implement. Also because it is an effective formula that favors both the actors involved. That's because it is necessary to point out some of its most interesting features.

Firstly, the companies involved in this innovative form of collaboration must share the same distribution channel. So, it is necessary to find the right attachment points, so that the alliance can produce the intended results. Secondly, it is frequently used to sell supplementary products within hard-to-access markets (as an asymmetric business model has to do). And, at least, they are usually formed by exclusive distribution agreements.

These characteristics guarantee advantages for both sides, which can be summarized as follows:

- The Piggyback ensure a low cost access to a distribution network already working and well established;
- Companies take advantage of an existing commercial network;
- Companies can take advantage of the carrier's corporate image and trade mark, its expertise and knowledge;
- Companies can save time regarding the knowledge of the market evolution.

On the other hand, it is necessary to underline, in particular, two disadvantages that a Piggyback strategy could cause to firms. The main one is related to the partial loss, or total loss in some cases, of control over the product or service that is offering. In such a narrow collaboration it is almost inevitable loss of control for both inquiries concerning the product or service in its essence, both as regards all that can be associated to the same. And then such a Piggyback strategy, it may be associated also a total impossibility of appropriability of profits derived from the product in question.

It is right to emphasize that the Piggyback phenomenon is usually devoted to highly innovative products, especially technology. But not only. Indeed, the phenomenon is also used by companies that produce niche products for their clients. Niche products are associated with expertise and skills and firms are thereby considered high-reputation specialists in their field. Being perceived as experts and experienced is considered a principal asset for a firm that wan to facilitate a new market entry.

These kind of market are characterized by uncertainty arises due to doubts about the functionality of the technology. Also, the rate of change in the market is high as the competitor basis is constantly changing. High-tech industries are, in other words, characterized by a high degree of perceived risk by the participants. In these situations, expertise and experience become the most important competitive advantage to reduce the inherent risk for customers. Thus, highly specialized firms that offer niche products, signal expertise and skills via their products and thereby facilitate new market entry.

Piggyback phenomenon may help reduce the risk of uncertainty, but at the same time help to emphasize skills and competencies of those companies.

2.6. The most important applications

The characteristics of the phenomenon described in the preceding pages show the reason why it is so much used in various fields. It is possible, at first, to illustrate the main one: how Piggybacking is essential to *internationalize*, to enter in new foreign market so easily. After that, it is possible to continue showing a plenty number of marketing applications.

2.6.1. Piggyback: an Internationalization form

It has already said that the Piggyback is a distribution agreement between the two subjects, respectively named *rider*, one who (in this particular case) sells its products in a foreign market, and *carrier*, who provides his own sales and distribution organization. In fact, a company can entrust the sale of its products in a foreign market to another company, which is already present in this market with adequate commercial structure for their distribution. An essential condition is that the products of the two companies are mutually complementary and not in competition. One of the key elements to ensure non-competitiveness is the maintenance of their respective brands. The typical example of this agreement can be found in the liquor industry: a manufacturer of liquor may entrust the distribution of its products to a foreign manufacturer, which produces various liquors with different brand. For the foreign manufacturer to have more types of liquor and brand portfolio becomes an element of advantage because in the relationship with the distribution, its bargaining power increases.

The rider and the carrier each have own reasons for Piggybacking. The rider relies on Piggybacking to take advantage of the carrier's knowledge of the host country or the carrier's distribution system in the host country. At the same time the carrier needs the rider's products to expand its product line. Thus, the alternative to Piggybacking for both parties is to develop that product (service) or meet that need internally. In forming a Piggybacking relationship, therefore, each party receives some personal gain by working together as compared with going it alone (Terpstra and Yu 1990).

In this case, the phenomenon is not understood in only one direction, but it is possible to consider different approaches to Piggybacking that support internationalization.

The first one to consider is the *market coverage* of a Piggyback arrangement that can vary from one-country to global markets. Many arrangements tend to be a one country Piggyback agreement. That is probable when there is a large market that is particularly attractive for the rider firm, and it does not have any marketing organization of its own to reach that market. It is also probable when the market has high entry barriers. For example, Whirlpool used Sony only in Japan; Perrier marketed the Swiss chocolate Lindt only in the US; Breck shampoo used Schick only in Germany (Terpstra and Yu 1990).

Other Piggyback arrangements may have *multi-country coverage*, either regional or global. The carrier firm may have good marketing coverage in many countries of a region that is attractive to the supplier firm, which again may lack the marketing organization or resources or face high entry barriers. For example, Fujitsu used Siemens to cover Western European countries in computers. In other cases the rider firm may wish to cover all or most foreign markets by piggybacking with a well-established global marketer around the world. Some multinational firms have such extensive global market coverage and industry expertise that they provide a most desirable carrier firm partner. Kyocera took advantage of Philips' worldwide marketing in telecommunications equipment.

The second form of piggybacking studied is the *reciprocal piggybacking*. Manufacturers with good market coverage in their own country may look for a counterpart in a major foreign market or region of interest to them. This is most likely in the triad countries — Europe, Japan and the US — where the markets are very attractive but have rather high entry barriers. An American auto component producer offers US market coverage to a European producer of a complementary component. The European firm reciprocates by offering Western European markets to the American firm. These reciprocal ties can strengthen the relations between the Piggyback partners as they are doubly tied together. (Terpstra and Yu 1990).

The *Product coverage* is another variable in piggybacking. A rider firm may choose to "piggyback" one or a few of its products or its whole product line. Of course, the desire of the carrier will also affect the product choice. A firm may have just one or a few products with foreign market potential or it may have a product that requires a different marketing approach from the rest of its line. American Cyanamid is a chemical

company, but one of its products, Breck shampoo, is a consumer product. In the German market Breck Piggybacked with Schick, a consumer marketer.

Other firms in different situations may "Piggyback" all or a large part of their product line. Firms, which engage in reciprocal Piggybacking, are likely to carry as many complementary, non-competing products from their partner as have an opening in their market. Smaller firms with narrow product lines and limited resources are likely to "Piggyback" as many of their products as the carrier will take. For example, WYKO offers all its precision optical test instruments to Matsushita (Panasonic) for the Japanese market, and Uniflow does the same with its full line of ice making and beverage-cooling equipment.

It has repeatedly stated that the Piggyback is an effective formula that favors both the actors involved. The rider, in particular, can quickly enter into a foreign market, although the distribution is particularly complex and for which it should be a force very articulated sale.

From the carrier point of view, the Piggyback has three main advantages:

- Extension of the range;
- Best use of distribution capacity;
- Opportunity to attack more effectively their competitors.

Piggybacking poses a very useful and effective way for firms from developing countries to break into foreign markets, especially those in developed countries. These firms, usually with limited resources and international marketing experience, have to face strong competition and high entry barriers in foreign markets. Researchers have suggested that a tie-in with a major multinational firm would be an effective way for such firms to overcome these problems (Ayal, 1981). Piggybacking then becomes a viable strategic alternative for these firms to enter the international arena. (Terpstra and Yu 1990).

2.6.2. Social network application

Another application of the Piggyback phenomenon affects social networks, like **Facebook**, **WhatsApp**, **Instagram**, the young **Snapchat** and many others, which took part in the lives of millions and millions of users around the world. It is possible to find a strong simultaneous increase of them, thanks to the creation of a strong (marketing) network. All this has been possible through the binding of each platform to an existing network. Facebook and **Bebo** grew on top of the network embedded in our email. Many networks, including Instagram, grew on top of Facebook itself. For a while, **Airbnb** grew on top of Craigslist, while Snapchat and WhatsApp have leveraged the mobile phone's organic network, the phone book, to create networks native to mobile. This phenomenon is called *"growth hacking"* that relies on testing of cause-and-effect and optimization of funnel conversions. But in the early days of a network or a marketplace, startups are faced with a radically different problem. "*Why will users come on board when there's no one else there? Why will producers set up shop in a marketplace that is not yet frequented by consumers and vice versa?"* (Sangeet Paul Choudary, 2014)

To answer to these important questions, it is necessary to grow a network, getting enough users on board to create network effects. So, Piggyback seems to be the best strategy to create value for each considered.

Piggybacking on increasing network works as long as the platform is complementary to that network and delivers additional value to the users there.

For example, **Paypal** got almost all its traction by Piggybacking on eBay and offering a much superior payment method than the painful check-over-mail. It solved the pain points around payment on eBay providing instant payments without the difficulty of credit cards and assuming much of the risk of online fraud. Soon enough, Paypal was the predominant mode of payments on eBay and rode its growth to become synonymous with online payments.

But not all Piggybacking stories end happily ever after. Apps that have leveraged Facebook to grow aggressively, have found their business jeopardized with a change in Facebook's news feed algorithm. Startups that tried to emulate Airbnb and siphon users away from Craigslist were sent cease and desist letters. Even Paypal was banned on eBay for a while before the marketplace had to accede to the wishes of the users (Sangeet Paul Choudary, 2014).

The success of the Piggyback in this area, however, is much more marked than in those stories ended badly. Facebook needed greater engagement among users and **Spotify** needed listeners, even though the implementation of frictionless sharing has much that can be improved. Earlier, **Zynga**, **Slide** and **RockYou** benefited from a similar relationship with Facebook, Piggybacking on Facebook for growth by providing value to Facebook users, while improving user engagement and retention on Facebook.
And more, **YouTube** gained early traction by Piggybacking on **MySpace**. Engagement on MySpace was built around musicians who needed a way to showcase their talent. At the time, online video was broken. YouTube fixed that with its flash- based one-click video experience and MySpace users finally had an answer to their problems.
As this last example demonstrated, these relationships start without an explicit partnership. The Guest makes a conscious decision to make its functionality and content embeddable in the Host network. If such embedding solves a key user pain point, the users start embedding Guest functionality into the Host network, driving adoption (Sangeet Paul Choudary, 2014).
In general, it is possible to note some factors that determine success with Piggybacking:

- Being the *first to the party* helps to get users deeply engaged before they get sophisticated and start ignoring messages from other services that follow.
- Building for *backward compatibility*, to add value to the underlying platform.
- Being the *first to reverse-engineer* before the host wises up.

2.6.3. Piggybacking in Television Advertising

The Piggyback technique is becoming more important in television advertising. It was a new approach to maximize product exposure for each dollar spent by using smaller blocks of time (Thomson, Martilla). In the last few years, Piggyback strategy has increased markedly. "*For example, in June, 1962, an average of 50 piggyback commercials appeared each week on network television. By January 1965, this figure had increased to over 350 a week and showed no sign of leveling off. In 1964, it was estimated that from 20 to 25 percent of all spot commercials were piggybacks*" (Thomson, Martilla, 1966, pag.1).

A piggyback is a commercial in which two or more products are advertised back to back in a single 60-second time slot and in which the National Association of Broadcasters (NAB) Code requirements for integration are not met. An integrated commercial, according to the Code, is one in which:

- The products or services are connected in character, purpose, or use;
- The products or services are so considered in audio and video throughout the announcement that they appear to the viewer as a single announcement;
- The announcement is so constructed that it cannot be divided into two or more separate announcements.

Both the use of Piggyback by advertisers and their regulation by the NAB Code derive from certain assumptions about the effect of Piggyback on viewers.

The most frequent users of Piggyback are consumer goods manufacturers selling broad lines of high-volume, low unit-value products. These are nearly all the large television advertisers: Proctor and Gamble, Bristol-Myers, General Foods, Colgate-Palmolive, Lever Brothers, etc. From a managerial standpoint, an advertiser's decision about single vs. Piggyback commercials has the following dimensions: given his budgetary appropriation, the size of his product line, and the rate structure of the various media, the advertiser must work out some balance between the number of times each product is advertised and the length of the individual messages. Under these circumstances, increasing the frequency of the product's exposure means decreasing the average length of the messages, and vice versa. The growth in the popularity of Piggyback suggests that, with time, the balance is shifting in favor of increasing exposure frequency.

In addiction, Piggybacking offers advertisers practical advantages that do not directly relate to the learning process. Even though integrated commercials may be produced that allow one to advertise a great many products, and, in effect, get around the NAB Code provisions, in the process the flexibility of the piggyback is lost. Compared with integrated commercials, Piggyback permit far greater geographical, seasonal, and product-line variation. Cost is also a factor. Six 30-second commercials may be arranged in 15 different Piggyback combinations for about the same cost as the

production of three to five integrated multi-product commercials, and Piggyback allows the advertiser greater flexibility in their use (Thomson, Martilla).

A major objection to Piggyback is that the multi- product commercial seems to the viewer to be longer than the conventional one-minute, single-product commercial. While both last 60 seconds, some argue that the increased number of stimuli, and the abrupt transition from one commercial to the other distort the viewer's perception of the length of the multi-product commercial. This is consistent with the finding, reported in The People Look at Television, that over 60 percent of the viewers think commercials are too long.

2.6.4. Piggybacking: a new approach in Logistic

Another important application of the phenomenon is in Logistic. It seems inconsistent with the speech that I am facing, but it seems to me indispensable to insert this application, because, thanks to it, I understand the concept of Piggybacking.

In this field, Piggyback can be defined as "*the movement of goods in one and the same loading unit or road vehicle, using successively two or more modes of transport without handling the goods themselves in changing modes*" (ECMT/UN, 2012). Its more common usage is the truck and rail industries.

The need for Piggyback came about in the 1950s when the costs of international trade increased exponentially. The high costs of ocean shipping reduced the amount of goods that the U.S. imported and exported. But soon people began to realize the benefit of using more standardized metal containers to ship goods, similar to the ones used by the U.S. Military during WWII. These metal containers could be loaded and unloaded much faster – decreasing on labor costs – and were much more secure, which helped reduce damage and theft. By using metal containers to cut costs, companies were able to ship goods across the world at much cheaper rates. It affected the truck and rail industries as well. The metal containers could be unloaded from the ship and directly loaded onto trucks or trains and then transported to their final destination.

The introduction of the metal container for use in transportation had a huge impact on the transportation industry. It helped reduce uncertainty and the time that it took to deliver a good. Also, because of all the benefits of using metal shipping containers,

people began investing more in ocean, truck, and rail companies. This helped to improve the technology, but also the size of the ocean shippers, which in turn helped drive the integration of land transportation.

By using a Piggyback system, companies were able to deliver goods more precisely and at a lower cost. Ocean carriers and railroads can only reach so many places, but with the new metal containers, people could take advantage of the efficiencies of railroads to transport their goods to a major city and then load the container onto a truck and deliver the goods to a more precise location (it is possible to talk about the *door-to-door delivery*).

It is necessary to insert some examples that illustrate the Piggyback mechanism.

The first one to consider is the rail. Rail transport is often the intermediary between water and truck transport. The two types of transport are trailer on flatcar (TOFC) and container on flatcar (COFC). TOFC refers to actually placing a truck, or semi-trailers directly onto the bed of railcar. This is often used when it would be difficult to transfer the contents of the truck or when the truck needs to travel large distances and it is more cost effective to piggyback the truck. COFC refers to a metal container being directly loaded onto the bed of the rail car. This is commonly used when a container is loaded directly onto the rail from a water carrier and when the containers need to load directly onto a flatbed truck from the rail.

[1]

Figure 5: Rail transport (SCM wiki)

Piggyback can also be utilized to carry boats on larger ships. If a small ship needs to travel long distances but does not have the capabilities to do so, this form of transportation will be used or if the smaller boats were just manufactured and need to be transported to another location to be sold.

At least, the same argument can be faced by air. Some planes need to be transported by another plane because it would not be cost effective to move the plane under its own power. For example, when the Space Shuttle Atlantis was built, it needed to be "Piggybacked" by a Boeing 747.

[2]

Figure 6: Piggyback in the air (SCM wiki)

Conclusions

In today's environment, managers of "old economy" companies increasingly need the right tools to improve their effectiveness when making strategic moves, allocating scarce resources, and managing risk. So they're realizing the e-business threat and have started to seek more efficient digital strategies that improve customer service, integrate the value chain, and accelerate information flow.

Choosing a strategy is complex. As the focus shifts from physical to digital assets, managers should monitor macro-economic and customer trends as they pursue new e-Business structural designs. Such analysis represents the next generation of corporate strategic planning.

For this reason, is necessary to consider a Business Model that must be continually revised to meet the demanding of a very dynamic environment and processed. An asymmetric view, as seen in the preceding pages, could be a right approach and in particular, considering the Piggyback strategy, it can get a solid foundation for future success: it is a strategy that guarantees an entry (which surely will be easier) in a "complex" digital market, reducing the risks and costs that could soon lead a company to success.

CHAPTER 3 – PAYMENTS SYSTEMS IN PROGRESS: E-PAYMENT AND M-PAYMENT

Foreword

The aim of my paper, at this point of the analysis, is to focus on the digital world, in particular on on-line payment systems, which of course are the basis of E-Commerce. The idea is basically to analyze the whole online payment system, which today is the most widely used method in the world to carry out transactions and understand, through benchmarking (in the following chapter), how to develop a Business Model, to ensure the security of information to users and that user data is kept secure, and especially which company in the market is able to develop it. Of course, this world is much broader than it appears. So, I will try to embrace every aspect, which is, in my view, essential, and to reach practical conclusions.

The topic of Digital Payments (Electronic Payment) is integral to the field of E-Commerce and includes a number of types of electronic funds transfers, from online credit and debit card use to electronic checks and electronic money. Market data shows that the popularity of each type of mobile payment varies by region and the type of device used for purchasing. For example, the eBay-owned PayPal, one of the most popular online payment service providers, has seen a steady increase in payment volume over the last several years.

As the use of Digital Payment increases, the security of these online transactions also grows in importance, as is evidenced by the multiple measures taken by users to secure their information. Many people abstain from using any mobile payment methods due to, among other security concerns, fears of data misuse or interception.

Despite these reservations, the convenience of Digital Payments for online orders of physical goods as well as paid digital content is rather alluring, as is indicated by the growing number of mobile payment users worldwide.

3.1. E-Payment system: the main part of E-Commerce

Internet technology offers huge ranges of services such as electronic mails or file transfers. But one of the most popular services offered on the Internet is "Electronic Commerce" (or E-Commerce).

E-Commerce is becoming a bigger technological wave that has been changing the way by which business is being conducted. It is a tool of modern business, which addresses the need of business organizations, vendors and customers to reduce cost and improve the quality of goods and services while increasing the delivery of speed.

E-Commerce refers to paperless exchange of business information using following ways:

- Electronic Data Exchange (EDI)
- Electronic Mail (e-mail)
- Electronic Bulletin Boards
- Electronic Fund Transfer (EFT)
- Other Network-based technologies.

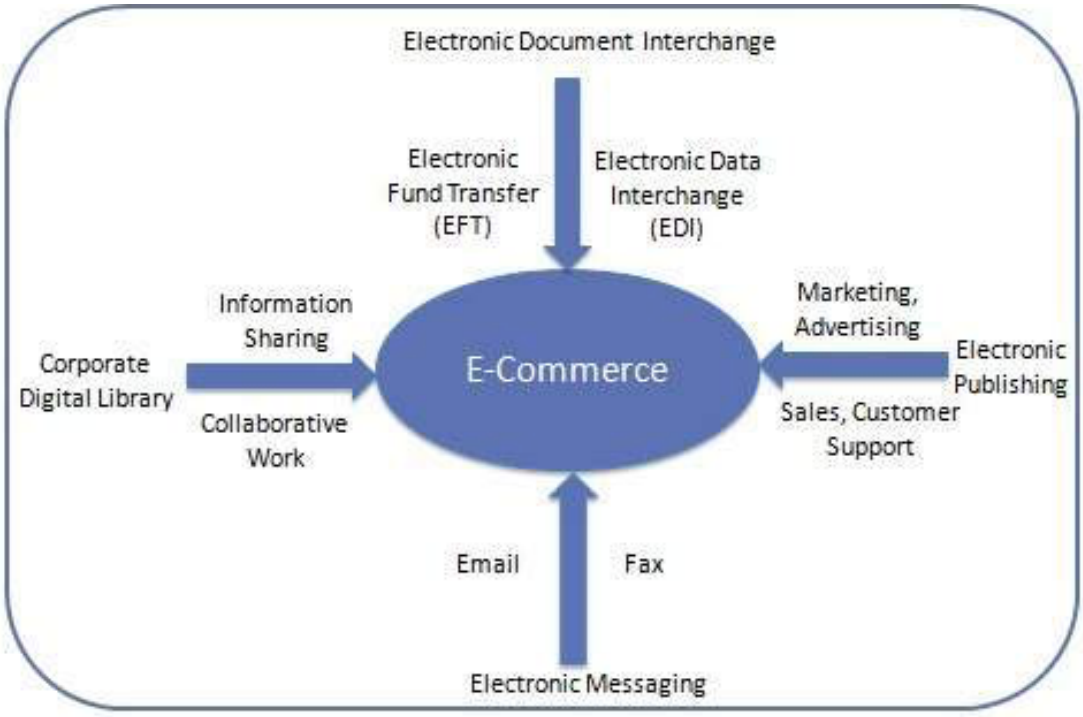

Figure 1: A representation of the components of E-Commerce (tutorialpoint.com)

To better understand the importance of E-Commerce, it is necessary to underline the main features. They are listed as following:

- **Non-Cash Payment**: E-Commerce allows use of credit cards, debit cards, smart cards, electronic fund transfer via bank's website and other methods of electronics payment.
- **24x7 Service availability**: E-commerce automates business of enterprises and services provided by them to customers are available anytime, anywhere. From here 24x7 refers to 24 hours of each seven days of a week.
- **Advertising / Marketing**: E-commerce increases the power of advertising of products and services. In other words, it helps marketing management of products and services.
- **Improved Sales**: Considering E-Commerce, orders for the products can be generated any time, anywhere without any extra intervention. By this way, dependencies to buy a product reduce at large and sales increases.
- **Support**: E-Commerce provides various ways to supply pre sales and post sales assistance to provide better services to customers.
- **Inventory Management**: Using E-Commerce, inventory management of products becomes automated. So, product inventory management becomes very efficient and easy to maintain.
- **Communication improvement**: E-Commerce provides ways for faster, efficient, reliable communication with customers and partners.

It is also possible to identify some benefits for businesses, for consumers and for society in general, which lead E-Commerce to be preferred to the “traditional commerce”.
Using E-Commerce, organizations can expand their market to national and international markets with minimum capital investment. An organization can easily locate more customers, best suppliers and suitable business partners across the world. E-Commerce helps organization to reduce the cost to create process, distribute, retrieve and manage the paper-based information by digitizing the information. It improves the brand image of the company and helps organization to provide better customer services. Furthermore, E-Commerce helps to simplify the business processes and make them

faster and efficient and increased the productivity of the organization (http://reborntek.com/e-commerce-website).

Thanks to E-Commerce, customer can do transactions for the product or enquiry about any product or services provided by a company any time, anywhere, from any location.

E-Commerce application provides user more options and quicker delivery of products and provides user more options to compare and select the cheaper and better option. A customer can write review comments about a product and can see what others are buying or see the review comments of other customers before making a final buy and see the relevant detailed information within seconds rather than waiting for days or weeks (http://reborntek.com/e-commerce-website).

In the end, E-Commerce helps reducing cost of products so less affluent people can also afford the products, has enabled access to services and products to rural areas as well which are otherwise not available to them and helps government to deliver public services like health care, education, social services at reduced cost and in improved way (http://reborntek.com/e-commerce-website).

Two main areas in which E-Commerce grew significantly in recent years are *Internet Banking* and conducting *business on the Internet*. With Internet Banking, the way customers make use of banking services has changed. Even if the customers cannot get physical cash in their hands, they are able to transfer money to electronic cards and bring them to purchase goods or services at stores. Moreover, the customers are able to pay bills or schedule monthly bill payments by using the Internet banking services.

According to business transactions, many E-Commerce websites enable their customers to browse for goods and services offered in their virtual stores remotely from the customers' personal computers. Not only physical goods, such as books or laptop computers are offered, but also electronic goods, such as music, digital images, video clips, or electronic novels, are also available. Customers simply select desired products or services and pay for them by credit cards or electronic cash cards. More importantly, these virtual stores are open 24 hours a day, 7 days a week (Supakorn Kungpisdan, 2005).

An integral part of E-Commerce system is the online payment system: in other words, E-Payment is one of the crucial parts of an E-Commerce transaction in that the E-Commerce transaction cannot complete without it (Singh Sumanjeet, 2009). Electronic payment has revolutionized the business processing by reducing paper work, transaction costs, labor cost. Being user friendly and less time consuming than manual processing, it helps business organization to expand its market. Some of the methods of electronic payments are following (Singh Sumanjeet, 2009):

- Credit Card;
- Debit Card;
- Smart Card;
- E-Money;
- Electronic Fund Transfer (EFT).

Electronic payment plays an important role in E-Commerce in that it is relevant to fund transfer among engaging parties after having an agreement to purchase or sell products or services. It must be performed in a secure manner. Moreover, the security of electronic payment system is also one of the most important concerns for customers to make online payment with online stores (Supakorn Kungpisdan, 2005).
Indeed, customers will lose their faith in E-Business if their security is compromised. For that reason, I found some essential requirements for safe E-Payment:

- *Confidential*: Information should not be accessible to unauthorized person and it should not be intercepted during transmission.
- *Integrity*: Information should not be altered during its transmission over the network.
- *Availability*: Information should be available wherever and whenever requirement within time limit specified.
- *Authenticity*: There should be a mechanism to authenticate user before giving him/her access to required information.
- *Encryption*: Information should be encrypted and decrypted only by authorized user.

- *Auditability*: Data should be recorded in such a way that it can be audited for integrity requirements.

To meet these requirements, it has been created various safety systems to conduct online transactions. The main ones are those that follow:

- *Encryption*: It is a very effective and practical way to safeguard the data being transmitted over the network. Sender of the information encrypt the data using a secret code and specified receiver only can decrypt the data using the same or different secret code.
- *Digital Signature*: It ensures the authenticity of the information. A digital signature is an e-signature authentic authenticated through encryption and password.
- *Security Certificates*: it is unique digital id used to verify identity of an individual website or user.

The boom in online payments was created from the desire to meet the customers' needs with simple and safe solutions without losing sight of even those of the merchant. The strength of the innovative payment systems is that they succeed where traditional payment methods are obsolete.
The digital payment methods are practical and generally safe. Their ease of use encourages the customer to buy in an immediate way and on a global scale, thus favoring, for example, the cross-border E-Commerce. To take one example, in recent years the online sales of Italian companies is in fact rearing not only thanks to domestic sales, but also due to the purchases made by customers abroad, favored by recognized payment methods and also used outside Italy. Of course, by taking advantage of these opportunities given by an international market, banks must be able to offer payment instruments adapted to the needs of all customers; however banks are not always able to do, as they are today often characterized by a strict method of operation, more tradition-oriented than change-oriented.

3.2. M-Payment system

The rapid rise of mobile technology throughout the world is a phenomenon that has been particularly remarkable among poor people, largely because of the prepaid model. As a result, all classes of society now have access to financial services as people become increasingly familiar with a mobile-money system (Diniz, Porto de Albuquerque, Cernev, 2011). In fact, mobile technology, viewed as a payment or banking channel, has the potential to allow two important questions to be addressed at the same time: on the demand side, it represents an opportunity to financial inclusion among a population that is underserved by traditional banking services. On the supply side, it opens up possibilities for financial institutions to deliver a great diversity of services at low cost to a large clientele of the poorest sections of society and people living in remote areas (Diniz, Porto de Albuquerque, Cernev, 2011).

Although there are more than 120 mobile money projects being undertaken in about 70 emerging markets (Beshouri et al. 2010), mobile payment has only become a normal practice in a few countries, despite its huge potential. The lack of worldwide dissemination of a service with such a huge potential shows that successful cases are not clearly understood, and as a consequence, are not being easily replicated. Furthermore, I suspect that the obstacles to its adoption in most countries are not being investigated deeply enough to allow implementation strategies to be employed on the basis of reliable business models. If these issues can be clarified, the potential social and economic impacts of mobile money can be more effectively measured and this can persuade policy-makers to create favorable regulatory environments for fostering the practice of digital payments (Diniz, Porto de Albuquerque, Cernev, 2011).

The term “Mobile Payment” is defined as interactions among engaging parties in a payment system regarding a payment transaction where at least one engaging party is a mobile user. M-Payments is a form of payment where the mobile phone is used as a payment method, not just as an alternative channel to send the payment instruction, and the payment information flow takes place in real-time. Such payments occur primarily across four applications (World Payment Report, 2013, Capgemini):

- *Peer-to-peer (P2P)*: As domestic money transfers or international remittances.
- *Consumer-to-business (C2B)*: As retail payments at stores, mobile online payments such as those made on eBay or to purchase ringtones. It should be noted that these payments are not made using the browser on the mobile, but by using the payment application built for the mobile.
- *Business-to-business (B2B)*: To replace cash in the supply chain.
- *Business/Government-to-Consumer (B2C/G2C)*: For salary disbursements and pensions.

The delivering of an M-Payment system is an example of an ecosystem (a business ecosystem represents the interplay between multiple industries (Chesbrough and Appleyard, 2007)), as there are several stakeholders from multiple industries: consumers, merchants, mobile network operators (MNO), financial institutions, mobile device manufacturers, software and technology providers and regulators (Boer and de Boer, 2009; Contini et al., 2011; Dahlberg et al., 2007; FINsights, 2008; Karnouskos and Fokus, 2004; Lu et al., 2011; Pandy, 2014). Worth noting is that mobile device manufacturers, software providers and technology providers were categorized as "*integration partners*" as these partners are usually required in an M-Payment initiative, irrespective of the business model adopted (Dennehy, Sammon, 2015).

There are currently 4 types of business models in use within the context of M-Payments: *Bank-centric Model*, *Collaboration Model*, *Operator-centric Model* and *Peer-to-peer Model* (Chaix and Torre, 2010).

In the first one, banks play the central role in this model and feature in the majority of the execution stages of the whole process. Starting with the deployment of POS at the merchants' location and mobile payment applications at the users' instruments, banks complete the transaction process by transferring the amount to the merchants' accounts (Portio Research, Mobile Payments, 2010-2014).

Banks provide merchants with contactless points of sales (POS) and users with mobile payment applications. Users avail these applications to make purchases at merchants' shops by simply displaying their NFC-enabled handset against the POS installed in the shop. After the purchase is made, the users' banks deduct the transaction fee from the users' accounts. This transaction fee is either fixed as per the agreement between the

users and banks or is a specific percentage of the purchase made by the users. Post delivery of the product to users, merchants ask their banks to initiate the money transfer process to their accounts and banks charge their share based on the agreement between the two parties. Once the merchants' bank receives the transfer request from the merchants, the bank coordinates with the users' bank for the transfer. Finally, the amount is transferred to the merchants' account completing the transaction process (Portio Research, Mobile Payments, 2010-2014).

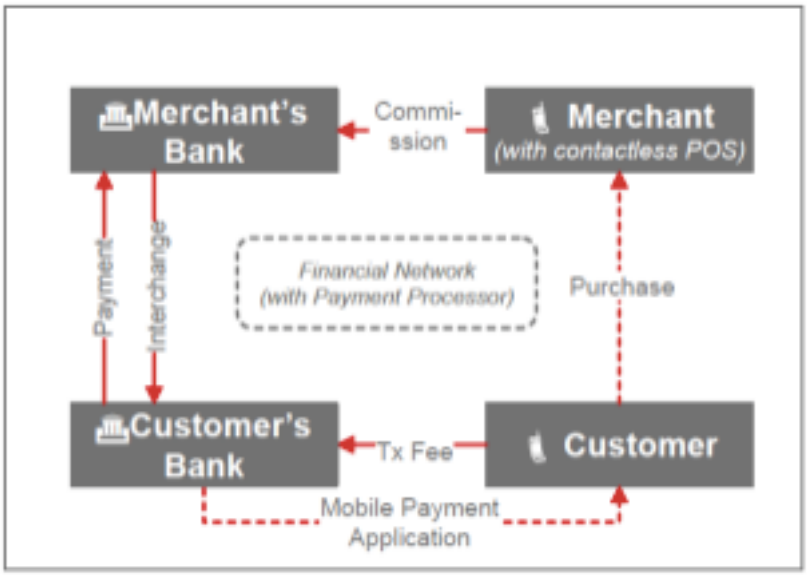

Figure 2: Bank-centric model (https://technomobs.wordpress.com)

In the second one, MNOs and banks join hands to provide mobile payment services to users. The service can be deployed through two different entities: either the stakeholders (MNO and banks) can agree upon an MNO providing the bank-specific mobile payment platform, or they can approach a third-party service provider to deliver the service on their behalf (Portio Research, Mobile Payments, 2010-2014).

In this model, banks and MNOs come together to offer mobile payment services and the deployment of a mobile payment application is done by either the MNO or a Third-party service provider selected by the MNO and bank; the deploying entity gets a fixed amount or specific percentage of total transactions being handled by its platform. Users avail these applications to make purchases at the merchants' shops by simply displaying their NFC-enabled handset against POS installed in the shops. After the purchase is

made, the users' banks deduct transaction fees from users' accounts and the MNOs can either add their fee to the monthly mobile bill or deduct it from the users' prepaid balance in case of a prepaid connection. This transaction fee is either fixed as per the agreement between the users and the MNOs or is a percentage of the total purchase made by users. Post delivery of the product to the users, merchants asks their banks to initiate the money transfer process to their accounts; banks charge their share based on the agreement between the two parties. Once the merchants' banks receive the transfer request from merchants, the banks coordinate with the users' banks for the transfer. Finally, the amount is transferred to the merchants' accounts, completing the transaction process (Portio Research, Mobile Payments, 2010-2014).

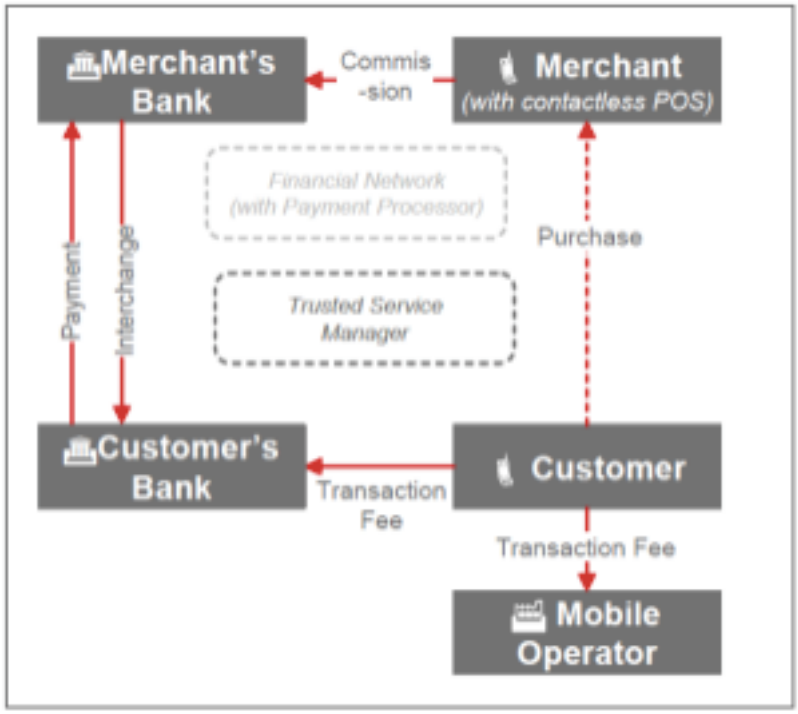

Figure 3: Collaborative Model (https://technomobs.wordpress.com)

In the Operator-centric Model, the mobile network operator is responsible for the deployment of the mobile payment service and performing the transaction process. The MNO installs the application on the users' NFC-enabled mobile handsets and provides merchants with POS. Post deployment the MNO handles payment processes as well, thus assuming the role played in other business models by banks or independent electronic firms (Portio Research, Mobile Payments, 2010-2014).

The MNO installs the mobile payment application on users' NFC-enabled mobile Handsets and deploys points of sale at merchants' locations. Users avail these applications to make purchases at merchants' shops by simply displaying their NFC-enabled handset against the POS installed in the shop. In addition, users can buy the MNO's content as well. MNOs charge users either by deducting the purchase amount and the transaction fee amount from the users' prepaid balance or by adding the amount to their monthly bill. Post the purchasing process, merchants share the amount information with the MNO through the installed POS, after which the amount is paid to the merchant by the MNO (Portio Research, Mobile Payments, 2010-2014).

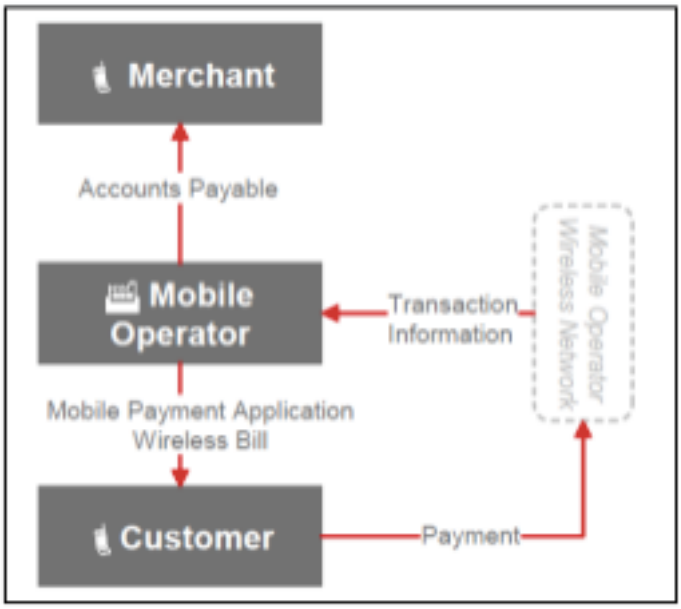

Figure 4: Operator-centric Model (https://technomobs.wordpress.com)

At least, Peer-to-Peer mobile payment service providers sit at the center of the process handling the majority of the activities, and thus reducing the role of banks and MNOs in the mobile payments value chain. Peer-to-Peer service providers install payment services on users' NFC-enabled devices and deploy POS at merchants' locations. Furthermore, the service providers coordinate with the issuer banks to transfer the amount to the merchants' account (Portio Research, Mobile Payments, 2010-2014).

Peer-to-Peer payment service providers install the mobile payment service on users' handsets and deploy POS at merchants' locations, after which both users and merchants

are required to open their accounts on the service providers' portal to process the transactions. Once these accounts are functional, users can make purchases either from the POS installed at merchants' locations or through the service providers' online portal and initiate the transfer request. After receiving purchase details from the users, service providers contact users' banks for further processing of the transaction. The banks initiate the verification process and once it is complete, transfer money after deducting their processing fee. After receiving money from the bank, service providers transfer this amount to the merchants' account after deducting their own commissions (Portio Research, Mobile Payments, 2010-2014).

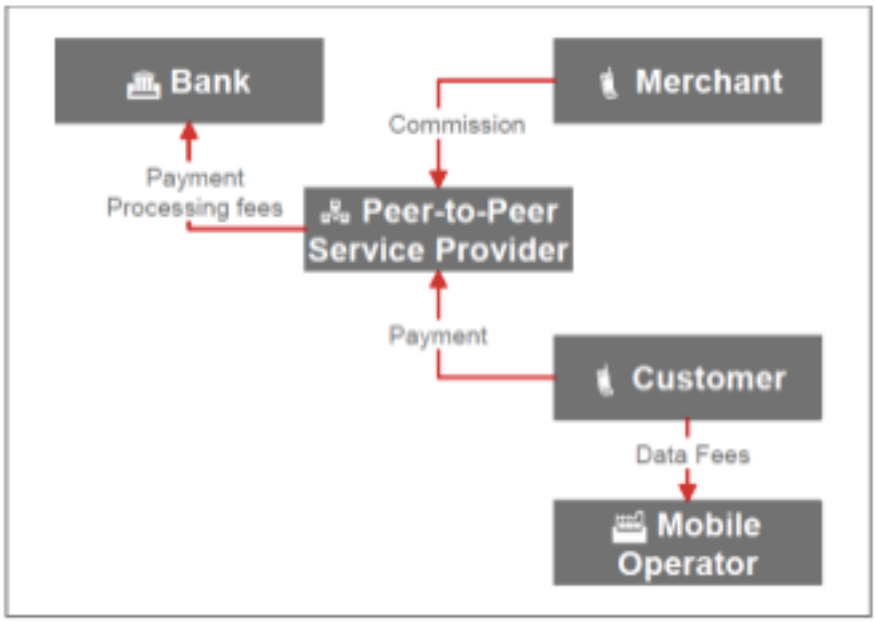

Figure 5: Peer-to-Peer Model (https://technomobs.wordpress.com)

Although there are advantages and disadvantages with each type of Business Model, it is widely accepted that delivering a compelling value proposition to all stakeholders is an influential factor when designing a sustainable M-Payment business model (Boer and de Boer, 2009; de Bel and Gâza, 2011; Hedman and Kalling, 2003). M-Payments are attractive to the key stakeholders identified above for various reasons (Boer and de Boer, 2009, de Bel and Gâza 2011; Deloitte, 2009) and are listed below.

Stakeholder	Potential Attractions
Financial Institutions	M-payments offer financial institutions the opportunity to protect the current account and associated loan products and to avoid further disintermediation from the consumer by third parties in the online payment space. M-payments also offer financial institutions the opportunity to reduce the use of cash and its associated costs, as well as the opportunity to service unbanked and under-banked communities in a cost-effective way.
Mobile Network Operators	M-payments provide MNOs with the opportunity to recoup the cost and return on investment made in infrastructure over the past decade through increased air time and data usage by consumers. M-payments also provide MNOs with the opportunity to create new revenue streams by diversifying into new areas of business based on evolving consumer needs and behaviours.
Integration Partners	As a new technology, m-payments offer technology providers with the opportunity to act as a trusted intermediary between banks and MNOs. For mobile device manufacturers, m-payments can result in increased sales to new or existing customers.
Merchants	The benefits of m-payments for the merchant include: higher throughput at the point-of-sale (POS); the ability to send real-time messaging to consumers; and the reduction of service costs through unmanned or remote POS locations. M-payments using NFC technology can also enable merchants to create deeper customer relationship and richer individualised shopping experiences by offering value added services such as digitised loyalty cards and coupons.
Consumers	M-payments could allow consumers to make payments 'anytime, anywhere', becoming less dependent on the need to carry cash which in turn could reduce the risk of theft.
Regulators	Regulation can provide secure and efficient payments systems to delivery of value to the markets. This in turn can provide governments with the opportunity to enhance financial services, particularly for the unbanked and under-banked populations.

Figure 6: Attractiveness of M-Payments to the various stakeholders (Dennehy, Sammon, 2015)

There is no standard and perfect Business Model that everyone could use: this is the assumption of the *Contingency Theory* that was, many times, used to analyze the structure of M-Payments. The contingency theory of technology adoption emphasizes the importance of environmental influences such as cultural, social and economic factors, which in turn impact consumer and merchant adoption. For that reason, the

contingency theory is useful for the classification of m-payment research as M-Payment services differ in each country due to differences in payment technology infrastructure, regulation, laws, or habits (Dehlerg, Mallat, Ondrus, Zmijewska, 2008).
As we shall see, the lack of a standard and innovative business model leads to lack of the mobile payment security, which flows into preference of the consumer paper payments.

Also the value chain of mobile payments is quite complex. It involves MNOs, banks, retailers, merchants and consumers at various stages. Since the services are offered through different business models in different markets, the practical value chain differs from region to region; however, fundamentally it remains the same worldwide. In the figure below, the value chain of mobile payments is explained in a basic and simplified manner, defining the role of each stakeholder across the value chain (Portio Research, Mobile Payments, 2010-2014).

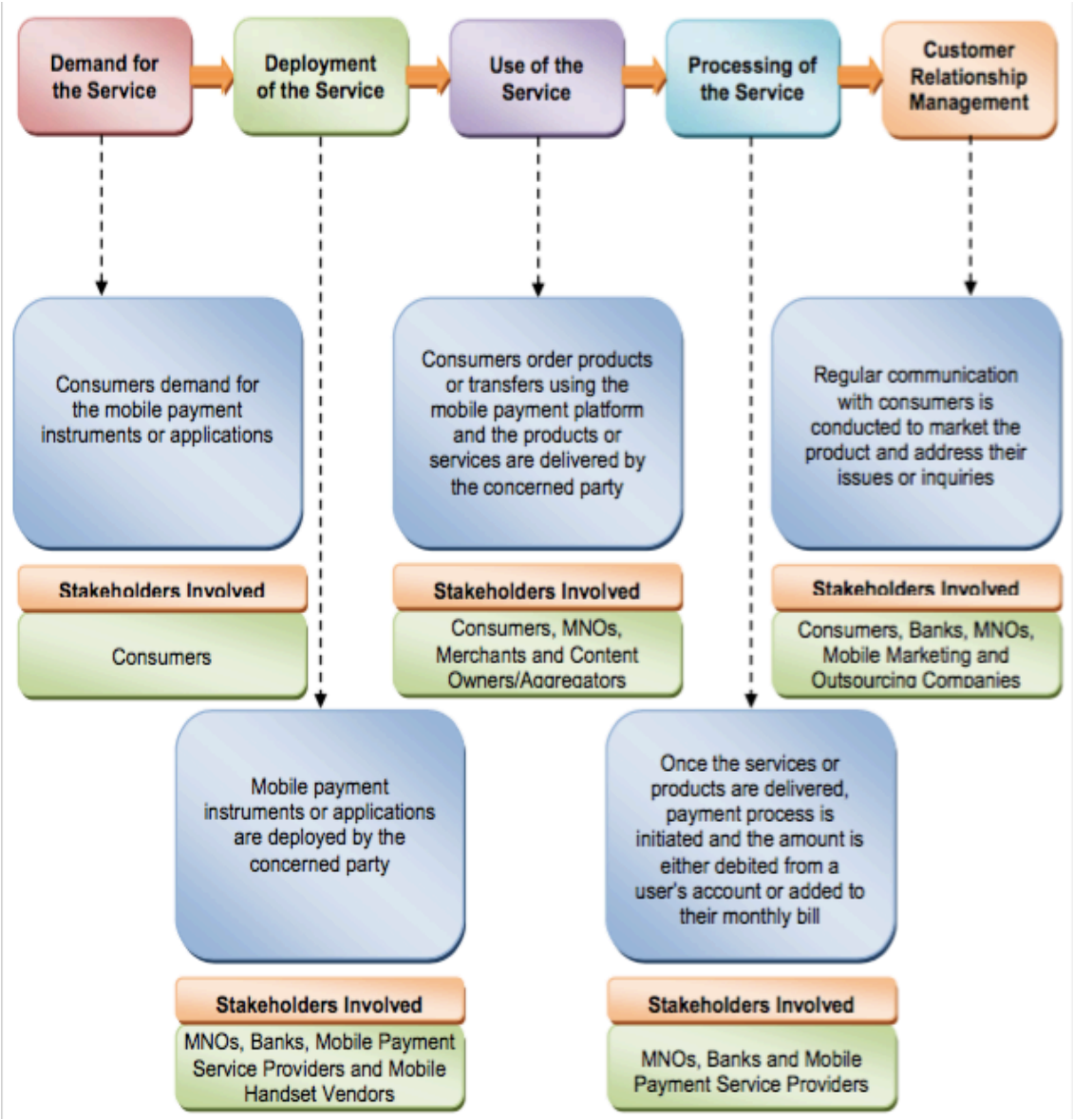

Figure 7: Basic Value Chain of Mobile Payments (Portio Research, Mobile Payments, 2010-2014)

Through the demand for the service, consumers can approach any of the mobile payment service providers, including MNOs, banks, independent service providers, handset vendors, etc., for a service that best suits their needs (Portio Research, Mobile Payments, 2010-2014).

Considering the deployment of the service, a mobile payment service may include a mobile payment application or the instrument or both, which can be deployed by any of the below mentioned players in the value chain. These entities may assume different roles in the deployment process of mobile payment services. Several responsibilities

undertaken by an entity in this stage include: providing the required hardware/instrument or the application for the use of a mobile payment service. After the provision of hardware, the provider has to activate the service in order to enable users to avail this service. Once the service is activated, the concerned party takes care of all after sales activities, such as maintaining the product and developing the updates of the product

Once users have the required application and hardware to avail payment services, they use the service for making purchases and transactions. When users place orders with their mobile handsets, the content owner/aggregator is responsible for making the delivery. The content can be aggregated and delivered by the MNO or from independent merchants and content owners (ISACA, Mobile Payments: Risk, Security and Assurance Issues, 2011).

After a user avails this service, the transaction process is initiated and can be executed by the concerned parties. Transactions are processed in two different modes (postpaid and prepaid). Mobile payment service providers set up dedicated operations teams to market their applications and handle users' enquiries. Service providers can either establish these operations in-house or outsource them to other companies.

3.2.1. The main important trends of M-Payment

The importance that mobile payment systems are taking, leads to analyze some market trends that show us how people around the world are adopting these technologies.

The worldwide mobile market is witnessing tremendous growth. It was one of the least impacted industries during the recent economic downturn, and – with the now improving scenario – is expected to outpace other major industries in terms of growth. In 2009, the worldwide mobile subscriber base stood at nearly 4.6 billion and reached 6.3 billion by end-2014 (Portio Research, Mobile Payments, 2010-2014).

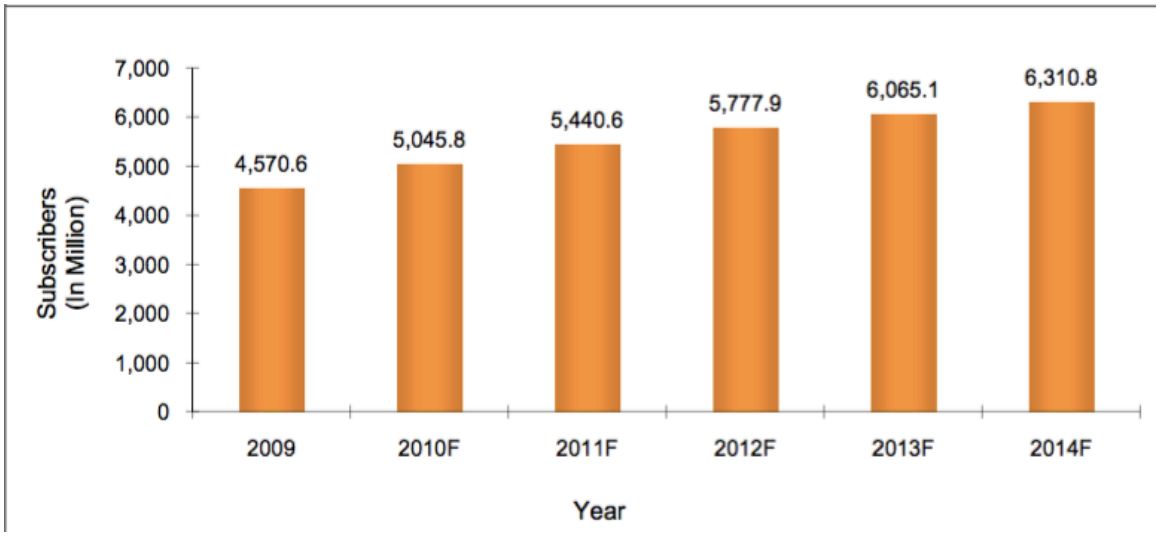

Figure 8: Mobile Subscribers – Worldwide (In Million, 2009 – 2014F) (Portio Research, Mobile Payments 2010-2014).

Mobile Payment Users

In 2009, there were 81.3 million mobile payment users worldwide; this number reached nearly 490 million by the end of 2014. Figure below highlights the number of mobile payment users worldwide and their penetration within the worldwide mobile subscriber base between 2009 and 2014 (Portio Research, Mobile Payments, 2010-2014).

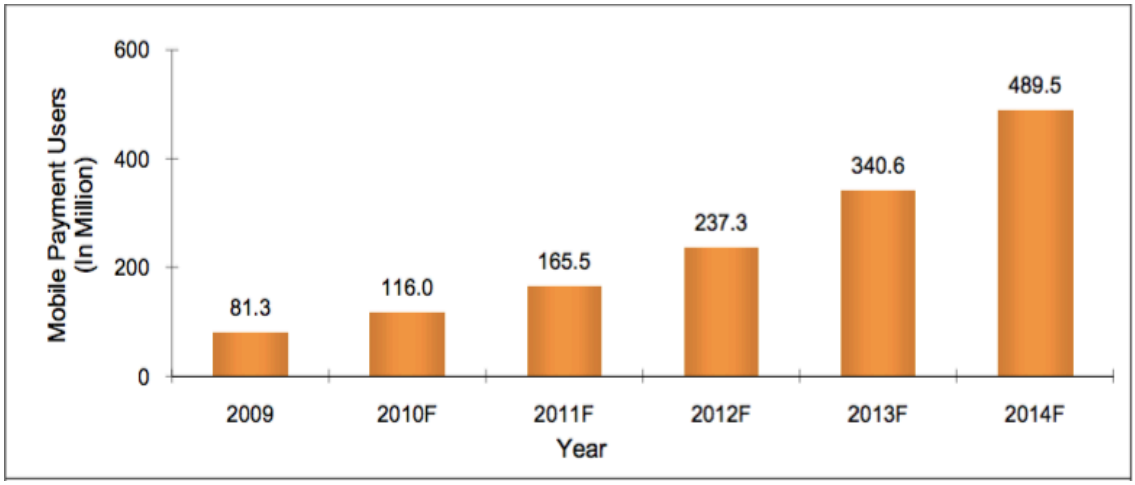

Figure 9: Mobile Payment Users, Worldwide (In Million, 2009 – 2014F) (Portio Research, Mobile Payments 2010-2014).

According to the figure above, the worldwide penetration of mobile payment users is increased from 1.8 percent in 2009 to nearly 8 percent at the end-2014.

In 2009, Asia Pacific accounted for the highest number of mobile payment users worldwide, followed by Europe and North America. By end-2014, Asia Pacific still leaded the market, accounting for over half of the mobile payment users worldwide. Between 2009 and 2014, both Europe and North America witnessed a decline in their share of the worldwide mobile payment user base, while Latin America's share was anticipated to increase during this period. Mobile payment services have the potential to significantly transform the money transactions industry, and thereby the economies in these developing markets (Portio Research, Mobile Payments, 2010-2014).

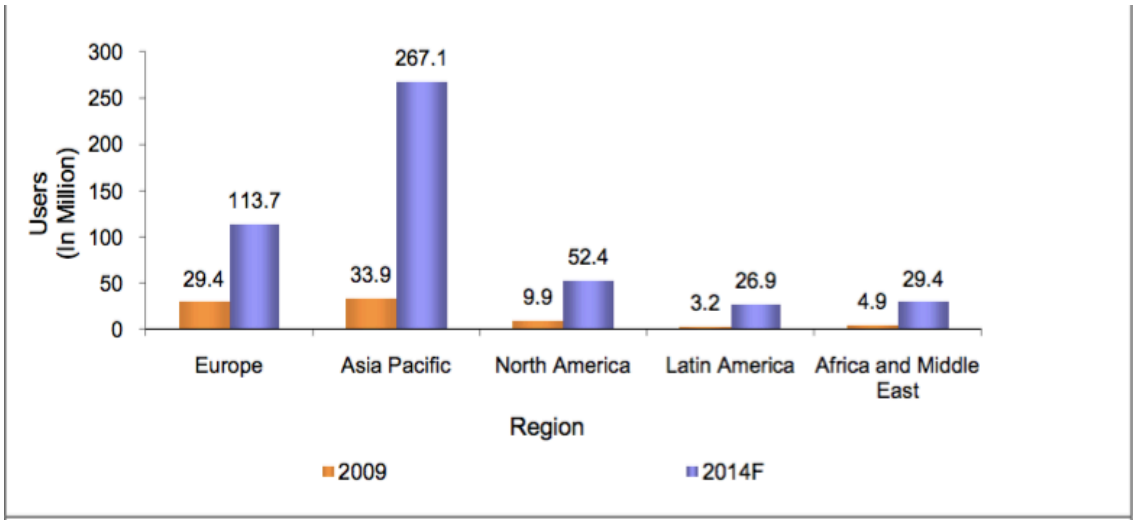

Figure 10: Mobile Payment Users – Regional (In Million, 2009 & 2014F) (Portio Research, Mobile Payments 2010-2014).

Mobile Payments Volume

Mobile payment volumes denote the face value of purchases and transactions through mobile handsets; whereas mobile payment revenue is a small percentage of this volume. This percentage varies across geographies because of the different business models employed.

For example, if a subscriber makes a payment of USD 100 through a mobile handset and the transaction cost is 6 percent, then USD 100 represents the mobile payment volume and USD 6 is the revenue opportunity for the stakeholders. This amount will be distributed among all stakeholders, according to the revenue sharing agreement.
Even regarding mobile payments volume growth was very impressive: there was a growth of 56% between 2009 and 2014. It is possible to see that in the table below (Portio Research, Mobile Payments, 2010-2014).

Market Size

Mobile payment volumes were USD 68.7 billion in 2009 and reached USD 633.4 billon at the end-2014. The figure below depicts the growth of mobile payment volumes between 2009 and 2014 (Portio Research, Mobile Payments, 2010-2014).

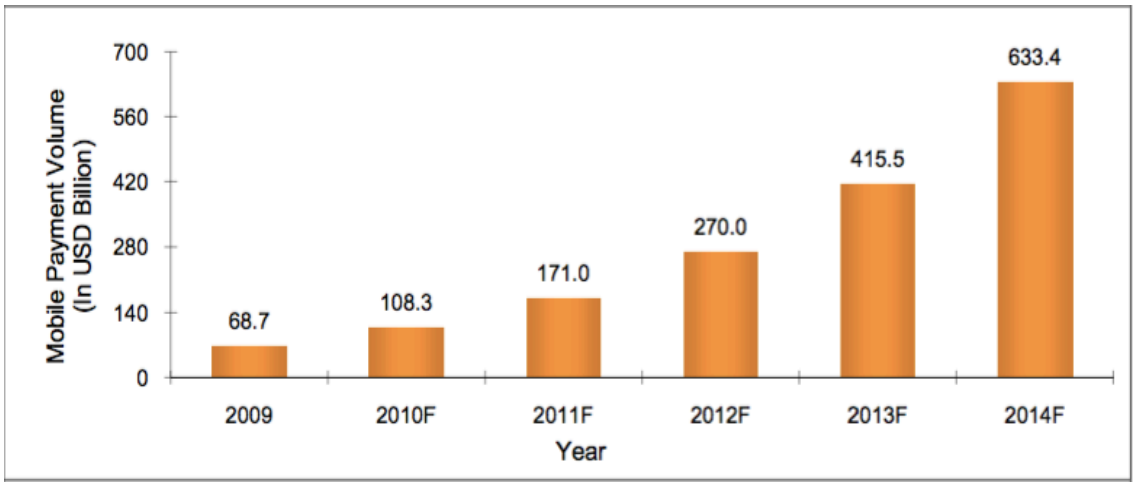

Figure 11: Mobile Payment Volume, Worldwide (In USD Billion, 2009 – 2014F) (Portio Research, Mobile Payments 2010-2014).

In 2009, Asia Pacific generated the highest mobile payment volumes, followed by Europe. In the same year, the difference between mobile payment volumes in Asia Pacific and Europe was nearly USD 4 billion; however, by end-2014 this difference increased to USD 198.5 billion. In the fallowing years, markets such as China, Japan, South Korea and India are expected to lead the growth of mobile payments in Asia Pacific (Portio Research, Mobile Payments, 2010-2014).

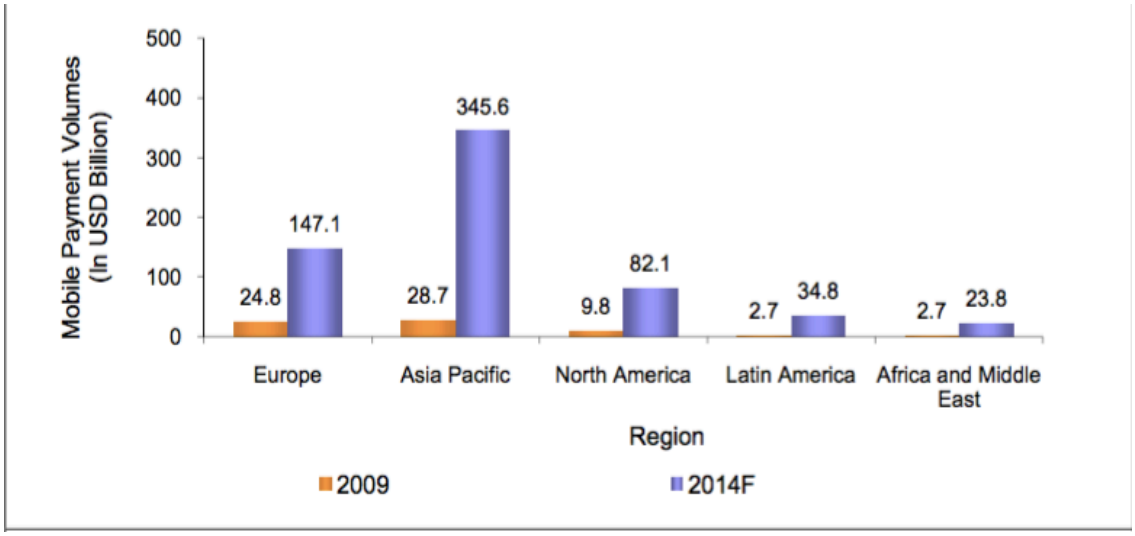

Figure 12: Mobile Payment Volumes – Regional (In USD Billion, 2009 & 2014F) (Portio Research, Mobile Payments 2010-2014).

Worldwide mobile payment volumes grew at a CAGR (Compound Annual Growth Rate) of 55.9 percent between 2009 and 2014. During this period, Latin America leaded other regions in terms of growth in mobile payment volumes with a CAGR of 66.7 percent, followed by Asia Pacific with a CAGR of 64.5 percent. Europe was expected to experience the least growth in mobile payment volumes with a CAGR of 42.7 percent (Portio Research, Mobile Payments, 2010-2014).

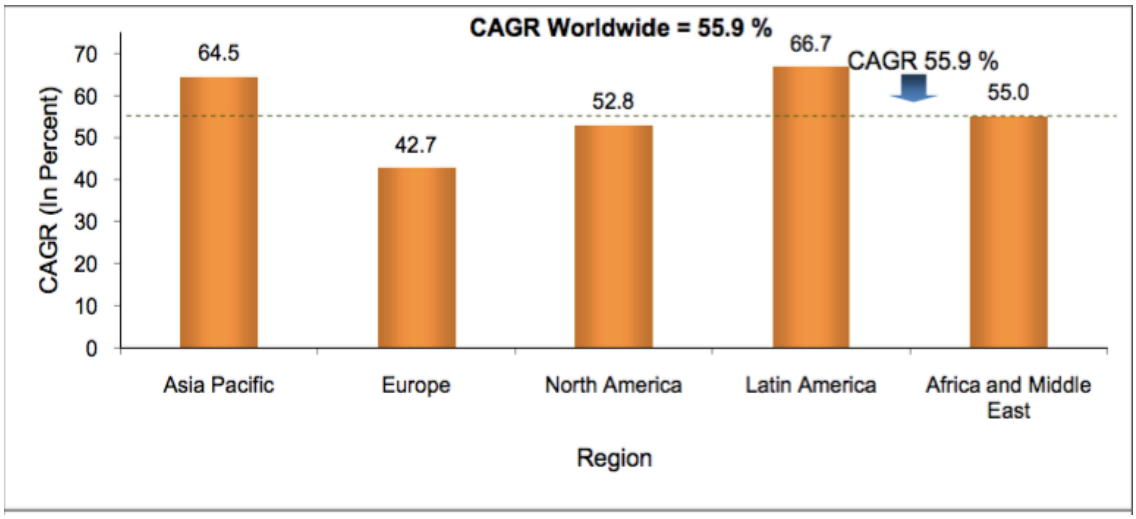

Figure 13: Mobile Payment Volumes – Growth by Region (In Percent, 2009 – 2014F) (Portio Research, Mobile Payments 2010-2014).

3.3. Vantages of M-Payments

The Mobile Payment is a convenient payment method, because it speeds transactions, reduces or even annuls the waiting time (no more lines) and is easy to use. Being able to make payments through an object (mobile phone / smartphone) that is good news, especially considering that, with the addition of payment, this device concentrates in itself all the functions (telephone, agenda, texts, etc.) useful to manage the daily life (all in one). The Mobile Payment, in particular in Proximity mode (technologies which operate at short range and therefore require a device to bring the mobile phone), is also perceived as a kind of "electronic purse", which permits to be free from requirement to keep always cash for small purchases and keeps track of expenditure.
In particular, it is possible to underline some specific advantages of M-Payment, which have increased the use of this method in the world.

Convenience

When referring to the convenience of M-Payment methods, consumers may have different aspects of the attribute in mind. These aspects include *portability*, *flexibility*, *speed*, *ease of use*, and *ease of setting up*.
Mobile payments is likely really convenient in terms of *portability*. A mobile device eliminates the inconvenience of carrying multiple plastic cards in a physical wallet by enabling consumers to link mobile payments to those card accounts. Because of this enhanced portability, consumers may have access to more card accounts than is feasible with plastic cards. These card accounts could include general-purpose credit, debit, and prepaid cards. Finally, to the extent mobile payments can be used for small-money transactions, they eliminate the inconvenience to consumers of carrying coins and currency (Fumiko Hayashi, 2012).
Another convenience advantage of mobile payment methods is *flexibility*. In addition to various card accounts, a mobile device can carry other payment methods that allow the consumer to pay directly from a bank account through ACH. From the many payment instruments loaded on the mobile device, consumers can choose a payment instrument that best fits a type of payment. Many consumers may want to fund payments from a

debit card account or directly from a bank account for everyday, little-money purchases, or from a credit card account for occasional large-money purchases (Fumiko Hayashi, 2012).

A final convenience advantage of mobile payments to consumers is faster transaction *speed* for certain types of purchases. With contactless payment methods, including contactless cards and NFC-based mobile payments, the consumer need only tap or wave the contactless device in front of a reader to make a purchase. According to some estimates, this method of payment can be 15 seconds to 30 seconds faster than swiping a traditional card and signing the receipt or entering a PIN (Morea, Polasik and others). This small difference in transaction speed can be important in situations such as mass transit or highway toll gates where consumers need to move quickly through the checkout point (Fumiko Hayashi, 2012).

Security (a "positive" point of view)

Mobile payments have the potential to significantly reduce the likelihood of fraudulent POS transactions. One way is by facilitating dynamic authentication of the transaction at the point of sale. For card payments, for example, authentication has traditionally relied on static data, such as a card account number, expiration date, PIN, or signature. Such data does not change from transaction to transaction. If intercepted by a criminal, static data can be used to make fraudulent payments. In contrast, a chip embedded in a mobile device can enable dynamic authentication, in which data unique to each transaction is used to authenticate the payment device. Data of this type cannot be used to make fraudulent transactions, even if intercepted by a criminal (Smart Card Alliance).

A second way mobile payments could reduce the likelihood of fraudulent transactions is through password protection of the mobile phone and of the mobile payment application on the phone. Such password protection provides an extra layer of security that does not exist when consumers use plastic cards to make payments. Advances in mobile technology may also enable new forms of authentication, such as facial recognition. For example, the payments startup FaceCash created a mobile application that enabled participating merchants to view a photo of the consumer before approving a POS

purchase (Hernandez 2010). Other facial recognition software under development would provide greater protection of the phone itself by requiring the user to take a picture of him with the phone for verification (Etherington).

Ability to manage finances and control spending

Mobile payment methods have several advantages over traditional payment methods in managing finances and controlling spending. Mobile payment methods can enable consumers to check their account balances prior to making a purchase, even in a brick-and-mortar store and without access to a personal computer. Because many different payment instruments can be loaded on a mobile phone, consumers have greater flexibility to choose the payment instrument with the most favorable financial impact, for example, the instrument with the lowest fee, highest reward, or in the case of credit cards, most favorable terms for repayment. Finally, a mobile payment application could help consumers manage finances and control spending by enabling them to set purchase thresholds for different categories of spending (Fumiko Hayashi, 2012).

Ability to receive targeted advertisements and promotions

Mobile payments could greatly increase opportunities for consumers to receive targeted ads and promotions from merchants. Consumers almost always carry their mobile phones with them. As a result, they can receive ads and promotions on a mobile payment application while they are in or near the store, not just when they are going through the store checkout. Mobile payments could allow merchants to acquire more information about their actual and potential customers than is possible with traditional payment methods, increasing the scale and sophistication of their targeted marketing. For example, a mobile payment application might be able to determine the precise location of the consumer and transmit the information to nearby merchants, who could then send ads and promotions to the consumer's mobile device. Depending on the arrangement with the mobile payments provider, a mobile application might also provide the merchant with detailed information about consumers as they enter the store, including their purchase history. Armed with such information, the merchant could then target ads and promotions to consumers while they shopped (Fumiko Hayashi, 2012).

3.4. Disadvantages of M-Payments

Considering traditional payment system, it is important to underline some disadvantages that the using of mobile devices to make transactions causes.

Firstly, considering the physical nature of the system, it is possible to trace a hardware incompatibility. Many devices in the hands of users are still very old to fully carry out all possible transactions in the market (http://digital.guide/7-pros-cons-mobile-payments-must-know/17057/).

Secondly, it is necessary to consider the cost. In general, the cost of using a payment method includes two components: the fees paid to payments providers, banks, or merchants for using the method; and the costs of equipment and materials needed to use the method (Fumiko Hayashi, 2012). The cost of investing in equipment needed for mobile payments is likely to vary significantly across consumers, depending on the type of mobile phone the consumer has and which mobile technology is used. The consumer, in addition to having to be equipped with the right technologies, should also consider future upgrades, which may moreover require high costs. The ongoing costs to consumers of using mobile payments are likely to be the same as or lower than for traditional payment methods. One cost of using mobile payments is a data plan subscription fee to a mobile carrier. The amount of data communication used for mobile payments, however, is likely very small compared to that for other activities, such as accessing a social networking site or sending and receiving text messages, photos, and videos. Thus, most consumers may see no increase in the cost of their data plans when they start making mobile payments. Another ongoing cost consists of fees consumers are charged by banks, payment providers, or merchants for using the various payment instruments loaded on their mobile phones. The relevant cost for the consumer is the fee, net of any rewards or discounts for using the payment instrument (Fumiko Hayashi, 2012).

It is necessary to consider also device failures (for example, the case of battery drain) or the possibility that such devices can be stolen object, resulting in loss of data and personal information (http://digital.guide/7-pros-cons-mobile-payments-must-know/17057/).

3.4.1. The main one: the "lack of Security"

The issue of security has emerged as a major inhibitor of mobile payment acceptance and for that reason it represents one of the more discussed topic about m-Payment.
According to Kreyer, Pousttchi and Turowski (2002b) it is possible to distinguish the concept security between the two dimensions: *objective* and *subjective* security. Objective security is a concrete technical characteristic, given, when a certain technological solution responds to all of five security objectives: *confidentiality*, *authentication*, *integrity*, *authorization* and *non-repudiation* (Merz 2002).
As it is unlikely that the average customer is able to evaluate the objective security of a procedure (e.g. Egger & Abrazhevich 2001), the essential condition for M-Payment acceptance is the perception of security and it is possible to indicate this like subjective security. Subjective security is defined as the degree of the perceived sensation of the procedures' security from the viewpoint of the customer. Therefore, subjective security can be seen as the mirror image of risk affinity.
It is precisely the subjective security to be the cause of skepticism from the users to leave completely the traditional payment systems.
Thus a major challenge for the adoption of mobile payment technology and services is the perception of insecurity. In the survey conducted by the Federal Reserve, 48% of respondents cited their main reason for not using mobile payment was that they are concerned about the security of mobile banking. And this statistic represents a significant barrier to the use of mobile payment products and services ("Consumer and Mobile Financial Services", 2012).
When you analyze the security risks of the mobile space, many of these feelings are not necessarily irrational. The lack of maturity of the mobile payment space brings many risks in the areas of new technologies, new inexperienced entrants in the ecosystem and a complex supply chain with risks in secure integration of the complex ecosystem. Many of these new entrants are innovative and dynamic with minimal experience or attention to security as a discipline. These risks are most evident in the mobile application development and mobile hosting areas. New privacy risks are brought to light with personal data collected by the applications and information about the customer's physical location. Finally, customers are largely uneducated or have a high-

risk tolerance and unfortunately may opt into services that put their security and privacy in jeopardy.

Precisely for this reason, companies have the obligation to ensure to users security of transactions, using the tools that they have.

So now, it is important to see the two possible alternatives, which companies should consider.

3.5. How can companies guarantee security?

Regarding objective security, companies should innovate their technologies, which allow secure transactions. I refer to interfaces and to more technical mechanisms, which are the basis of mobile payment systems.
However, the goal of my study is digging into two options that, if properly combined, could be a high potential for companies in the "customer loyalty". Taking into consideration the subjective security, companies could guarantee it through:

- the application of all regulations about that, and, if necessary, the pressure on the authorities for the creation of new one which respond more appropriately to the main risks;
- the redefinition and innovation of their Business Model.

3.5.1. Regulation

The good news is that m-Payments do not have a specific set of regulations. The not so good news is that regulation is pervasive and deeply layered. In general, it is not standardized, because there is a different framework for each country that we can consider (Osservatorio Mobile&Payment, Politecnico di Milano, Ricerca 2013).

A step to standardize was achieved by the European Commission on July 23, 2013, when a new package of rules that have led innovation in mobile payment systems was created, particularly in terms of security.
It focused on:

- A draft regulation to limit the commission on payments made by debit or credit card;
- A proposal for revision of PSD, which it has had a significant impact on Mobile Payment.

The intervention areas covered a consolidation of user protection rules, as well as a strengthening of the rules on transparency. The aim of the Community legislator to accelerate the deployment of mobile payment instruments is supported by three levers:

- Competition between payment tools;
- Harmonizing legislation;
- Security.

The second and the third lever are employed to enhance and extend confidence in the use of a mobile payment instrument; we think that the emphasis placed on PSD2 "*costumer strong authentication*". Indeed, this procedure is used to validate the identification of a natural or a legal person through the use of two or more criteria and it is designed to protect the confidentiality of authentication data. It is simply a way to emphasize the security rules (Osservatorio Mobile&Payment, Politecnico di Milano, Ricerca 2013).
This mechanism, now obligatory all over Europe, can be considered as a starting point for strategic decisions that companies should take to implement the second solution to insecurity of m-payment, perceived by users.

3.5.2. Innovating the Business Model

The other solution that I will propose is an innovation of the Business Model. Indeed, companies have to understand how to structure the way to operate to guarantee security in mobile transactions. As already mentioned in the previous paragraph, the starting point is providing an authentication system, for each user who wants to make a mobile transaction. Order to do this the companies could use a Piggyback strategy. The mechanism of this strategy can be put in place by all companies providing goods and services, through an agreement with mobile operators and banks that together could ensure greater security in transactions.
As already explained in the previous chapter, Piggyback strategy is implemented by two main actors who, through an previous agreement, put in place a strategy of asymmetric business. These two main actors are *carrier* and *rider* that carry on their business

simultaneously. The fundamental condition to sign this agreement is that the businesses are complementary.

As regards to Mobile Payments, companies want to sell their products or their services via the mobile and to do so they use a carrier representing the rider. The role of the carrier is critical, because (in this specific case) may ensure greater security of mobile transactions. Mobile operators may be the most "appropriate" carrier: through an agreement with the mobile services providers, in the most absolute terms, it is possible to provide greater security to the user, in terms of the transaction, as well as in terms of data protection. The solution could be a creation of a mobile authentication system, which allows a secure login without disclosing personal data and without incurring any risk of fraud. Thus a mobile authentication system enables companies to loyalty consumer and in the same time it can allow the consumer to perceive greater security in payments he makes.

Conclusions

Mobile payment services have come a long way from simple SMS-based services to advanced and sophisticated bar-coded tickets and much more, to such a point of evolution that some industry experts now believe that the mobile handset could replace the wallet altogether, through cashless and card-less payment systems.

Mobile payment services have reached almost every market worldwide where penetration of mobile subscribers is substantial, and they continue to increase their presence. Today, mobile handsets are already being used for many payment related purposes such as transferring money to other accounts, and ordering tickets and discount coupons. Of course for the most part a mobile handset has to-date only been able to part-replicate the role of a consumer's wallet, but user and volume figures from this sector suggest cause for optimism.

However, it is necessary to focus on the research of good solutions to fix the main problems characterized Mobile Payments and at least it is necessary to understand which companies in this world can have a support like Piggyback strategy to get success in the marketplace and to respond to the need of security.

CHAPTER 4 - A BENCHMARKING: THE CONTEXT OF ELETRONIC AND MOBILE PAYMENTS. PIGGYBACK STRATEGY: AN ABSOLUTE INNOVATION?

Foreword

Here I come to the last part of my work. My intent in this chapter is a comprehensive analysis of the major players on the market of the Electronic and Mobile payments, to understand, basically, which of these would be able to implement a Piggyback strategy, described in the last paragraph of the previous chapter. Analyzing a broad mix of indicators, I will try to identify who, more easily, can reap the benefits of Piggyback. The starting point is the analysis of the Business Model that every company considered adopted, concluding, then, that each being can make an innovation that ensures more security to the user who uses it.

At the same time, I will try to explain the choice of each indicator and how each affects the implementation of the strategy which so much have been discussed.

I considered companies with an already established position in the industry, but also start-ups, thanks to their high potential, could be a real turning point for the market.

4.1. Methodology and Scope

In general, benchmarking is considered as a systematic tool that allow an organization to determine whether its performance of organizational processes and activities represent its best practices. E.g. the benchmarking differs from data sharing results. While data sharing do not focus on the process but only the end result, benchmarking focuses on the processes of the organizations. The benchmarking should answer:

- What are benchmark's partners doing that you are not doing?
- What can you do to achieve similar and still better results?

Realization of benchmarking is a very complex process that includes understanding of own organization and performance, and identifying and learning from best practices of other organizations in order to professionalize own organization, to create new standards in own organization, to improve particular areas and processes in own organization.
In this case, I use benchmarking to compare a certain amount of companies that shall put in place a Piggyback strategy, or (without assumption), could bring it into being.
There are different types of benchmarking that it is possible to use. Tuominen and Bogan & English identified these 3 major types:

- *Strategic Benchmarking:* Managers use this type of benchmarking to identify the best way to compete in the market. During the process, the companies identify the winning strategies (usually outside their own industry) that successful companies use and apply them to their own strategic process. It is also common to compare the strategic goals in order to spot new strategic choices.
- *Performance Benchmarking:* It is concerned with comparing company's products and services. According to Bogan & English, the tool mainly focuses on product and service quality, features, price, speed, reliability, design and customer satisfaction, but it can measure anything that has the measurable metrics, including processes. Performance benchmarking determines how strong our products and services are compared to our competition.

- *Process Benchmarking:* It requires to look at other companies that engage in similar activities and to identify the best practices that can be applied to your own processes in order to improve them. Process benchmarking is a separate type of benchmarking, but it usually derives from performance benchmarking. This is because companies first identify the weak competing points of their products or services and then focus on the key processes to eliminate those weaknesses.

Benchmarking that I implemented is a *Strategic* type. In fact, it aims to analyze the strategies of the companies considered, and which of these are closer to an agreement Piggyback.
In addition to the types, there are four ways you can do benchmarking. It is important to choose the optimal way because it improves the chances to find the 'best standards' you can rely on.

- *Internal benchmarking:* It is used in large organizations to compare the work of separate teams, units or divisions to identify the ones that are working better and share the knowledge throughout the company to other teams to achieve higher performance. It is usually employed by the companies that have recently expanded geographically, but haven't yet created proper knowledge sharing systems between divisions.
- *External or competitive benchmarking*: Competitive benchmarking refers to a process when a company compares itself with the competitors inside its industry. Whereas external benchmarking looks both inside and outside the industry to find the best practices, thus, including competitive benchmarking. Competitive benchmarking will only be used with performance benchmarking to compare your products and services. Strategic or process benchmarking won't be viable options, because it'll be very hard to find a competitor, who wants to share sensitive information. Besides, external benchmarking is a more beneficial approach to use due to higher possibilities of finding the best practices.
- *Functional benchmarking:* Managers of functional departments find it useful to analyze how well their functional area performs compared to functional areas of

other companies. It is quite easy to identify the best marketing, finance, human resource or operations departments, in other companies, that excel in what they do and to apply their practices to your own functional area. This way the companies can look at a wide range of organizations, even unrelated ones, and instead of improving separate processes, they can improve the whole functional areas.

- *Generic benchmarking*: According to Kulmala, it refers to comparisons, which "focus on excellent work processes rather than on the business practices of a particular organization".

Benchmarking of my thesis is being an external benchmarking, and sometimes a competitive one, because the analysis is aimed at different companies also in competition among themselves.

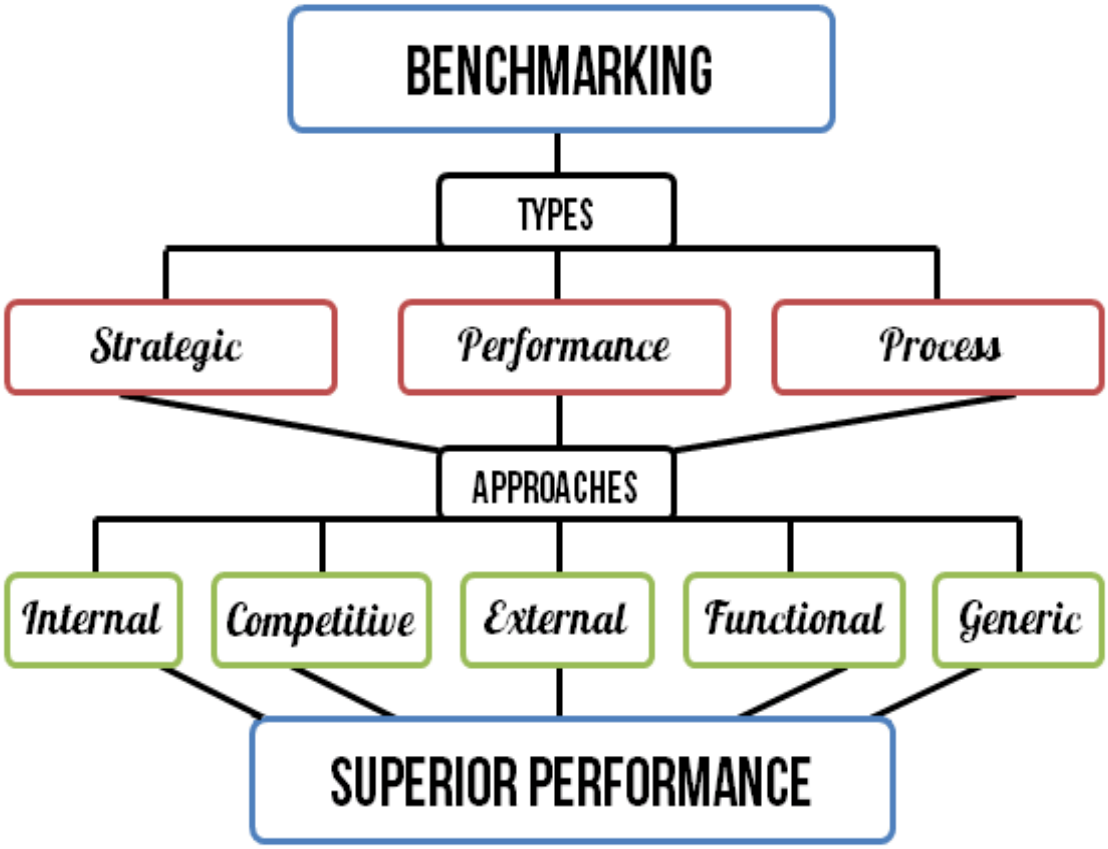

Figure 1: Types and Approaches to Benchmarking (https://www.strategicmanagementinsight.com/tools/benchmarking.html)

My analysis is based on the so-called Benchmarking wheel: it was introduced in the article "Benchmarking for Quality" (Shah, D. and Kleiner, B. H., 2011) and it is a 5-stage process that was created by observing blackberries than 20 other models.
As it is possible to see from the following picture, it comprises of following stages:

- *Plan:* This phase includes several preliminary activities and the definition of survey, object of the comparison, subjects of the comparison, methodology and analysis time;
- *Find:* This is the stage that, based on the objectives identified before, includes the research of the most appropriate, reliable, complete, reliable and consistent information and then the drafting of a data room;
- *Collect:* This is the phase where it is possible to conduct a primary investigation;
- *Analyze:* Based on finding data, this phase is based on the developing of the gap between companies considered.
- *Improve:* This is the most important stage because it is dedicated to the implementation of changes in products, processes and, above all, strategies.

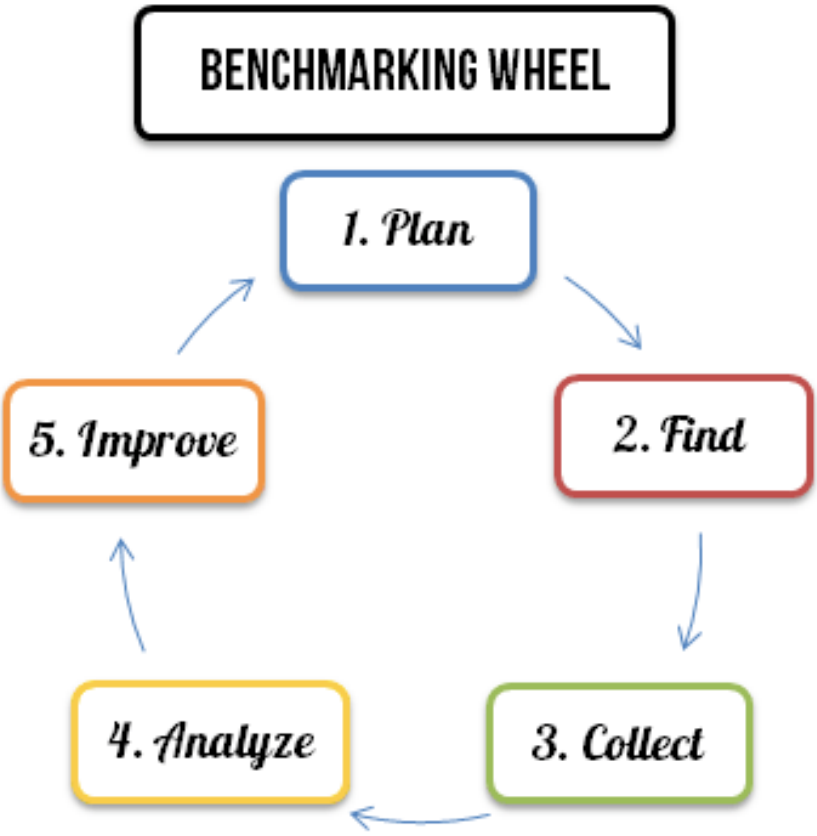

Figure 2: The Benchmarking Wheel (https://www.strategicmanagementinsight.com/tools/benchmarking.html)

4.2. Players

At this point, it turns out to be useful to know the companies that I have considered in the analysis. They are 69 Italian and international companies including banks, mobile operators and companies that supply products and services that individually have implemented a mobile payment system.

Company name	**Main information**
2Pay	(2014) It is a fintech company that has developed for mobile payment not tied to bank accounts (Italy).
Acceptmail	It is a secure electronic billing and payment solution utilizing the power and reach of e-mail.
Adyen	(2006) It is a global multichannel payment company offering businesses an outsourced payment solution, founded in Netherlands.
AfterPay	(2010) It makes post-payment an easy, secure and reliable option.
Airbnb	(2008) It is a website for people to list, find, and rent lodging, founded in San Francisco (Ca)
Alipay	(2004) It is a third-party online payment platform with no transaction fees, launched in China by Alibaba Group and its founder was Jack Ma.
Amazon	(1994) It is an American electronic commerce and cloud computing company with headquarters in Seattle, Washington.
American Express	(1850) It is an American multinational financial services corporation

	headquartered in Manhattan's Three World Financial Center in New York City, United States.
Android Pay	(2015) It is a digital wallet platform developed by Google to power in-app and tap-to-pay purchases on mobile devices. Enabling users to make payments with Android phones, tablets or watches.
Applepay	(2014) It is a mobile payment and digital wallet service by Apple Inc. that lets users make payments using all Apple devices. Apple Pay can work with existing contactless terminals.
AT&T	(1983) It is an American multinational telecommunications corporation, headquartered at Whitacre Tower in downtown Dallas, Texas.
Atom Bank	(2014) It is the first bank to use digital biometric parameters for user identification, instead of passwords. It was founded by Anthony Thomson, in England.
Bank of America	(1904) It is an American multinational banking and financial services corporation headquartered in Charlotte, North Carolina. It is the second largest bank holding company in the United States by assets.
BankMobile	(2015) It is the first US bank that offers deposit accounts with no fees, access to more than 55 thousand ATMs, even those without any surcharge. The technology

	available allows you to have all "a bank in your pocket".
Billeo	(2006) It is a leading provider of online shopping and bill pay services.
Boku	(2008) It is a global mobile payments network providing mobile-enhanced payments in e-commerce and at physical point-of-sale, founded in San Francisco.
Braintree	(2007) It is a company based in Chicago that specializes in mobile and web payment systems for ecommerce companies. It emphasizes its easy integrations, multiple payment method options, simple pricing, security, and support.
CashU	(2002) It is a safe payment method designed for and customized to suit, serve, and support online shoppers, founded in Middle East and North Africa.
Chase	(2000) It is a national bank that constitutes the consumer and commercial banking subsidiary of the multinational banking corporation JP Morgan Chase. The bank is headquartered in Chicago.
Clickandbuy	(1999) It is an e-commerce business that allows payments and money transfers to be made through the internet.
DBS Bank	(1968) It is a Singaporean multinational banking and financial services company.
Dwolla	(2010) It is a free web-based software platform allowing users to send, receive, and request funds from another user,

	founded in Iowa.
Fasterpayments	(2008) It is a payments-clearing scheme for electronic sterling payments in the UK. Most electronic payments sent through FPS. It was founded in UK.
Giropay	(2006) It is an Internet payment System in Germany, based on online banking. This payment method allows customers to buy securely on the Internet using direct online transfers from their bank account.
Give.it	A new and original way to offer a social gifting experience to your customers. Sign up for free today and find out what the buzz is all about.
GoBank	(2013) US Online service with which you can check your account, see the history of your transactions, transfer money through mobile. It is Green Dot properties, player in the industry of credit cards.
Google Wallet	(2011) It is a peer-to-peer payments service developed by Google that allows people to send and receive money from a mobile device or desktop computer at no cost to either sender or receiver.
Hipay	It offers next generation payment solutions with high added value for data, mobility and international development. It was launched by Hi-media.
iDeal	(2005) It is an e-commerce payment system used in the Netherlands, based on online banking. This payment method allows customers to buy on the Internet

	using direct online transfers from their bank account.
Idebit	It is a secure, online banking based payment method available to consumers in Canada.
Klarna	(2005) It is a Swedish e-commerce company that provides payment services for online storefronts. It allows users to pay with simply an email address, billing the customer later and paying the retailer in the meantime.
La Caixa	(1990) It is Europe's leading savings bank and Spain's third largest financial institution, with a network of over 5,800 branches.
Masterpass	(2013) It is a global, digital commerce platform that connects consumers and merchants all around the world, implemented by Master Card.
MCX (Current C)	(2012) MCX is a company created by a consortium of U.S. retail companies to develop a merchant-owned mobile payment system, which will be called "CurrentC".
Minitix	It is an online platform that helps people find the best places to stay and things to do with their families.
Mobile Banking Unicredit	(1998) It is an Italian global banking and financial services company that offers banking mobile services.
Mondo	(2015) It is an "Italian" app that provides banking services at lower costs compared

	to traditional ones. Users can access the app via the iPhone and get a prepaid debit card Master Card. They can load money on the card and make transactions in stores and withdraw money from an ATM.
Monese	(2013) It is a digital banking service that allows citizens to open a bank account in the UK in a few minutes even if they are foreigners and they are not nationals.
Move and Pay (Banca Intesa)	(1998) It is one of the leading Italian banking groups and one of the leaders on the European financial scenario. It offers its banking mobile service.
Moven	(2011) It is a US service that provides an app, a debit card, contactless payment, and advice on how to make financing real-time decisions wiser and save more, with updates on expenses and transactions.
MySi (CartaSi)	(2014) It is the new Italian App of CartaSi, which allows to shop – online at traditional retail outlets - with your smartphone without having credit card or debit card.
NAB (Mobile Banking)	(1982) It is one of the four largest financial institutions in Australia in terms of market capitalization and customers. It offers banking mobile services.
Orange	(1988) It s a French multinational telecommunications corporation.
Osper	(2012) It is a prepaid debit card and a mobile banking service dedicated especially to young people who want to manage money with more responsibility. It

	also offers an app with separate login for the boys and their parents.
Pay 4 later	(2008) It is the next generation solution that delivers an exceptional customer experience and transforms finance into a payment method - maximizing sales and increasing average order values (UK).
PayPal Credit	(2000) It is a proprietary payment method offered on the websites of many well-known merchants (US).
Paytipper	(2015) It is a Payment Institution that delivers innovative, safe and high level of customization to the needs of private payment, companies and networks (Italy).
Payza	It is an online payment platform that enables users to send and receive money, make online payments and get paid from anywhere.
PlainPay	It is a tool that enables to "read" any QR Code, secure access to home banking, withdraw cash without using a debit card, purchase and pay goods (Italy).
Poste ID	It is the online authentication tool for people who use PosteItaliane services (Italy).
Rite Aid	(1962) It is a drugstore chain in the United States and a Fortune 500 company headquartered in East Pennsboro Township, Cumberland County, Pennsylvania
Samsung Pay	(2015) It is a mobile payment and digital wallet service by Samsung that lets users

	make payments using compatible phones and other Samsung-produced devices (South Corea).
Satispay	(2014) It is an app for mobile payments to swap money with contacts and pay for purchases (Italy).
Simple	It is a payment system, independent of the traditional circuits, which allows to exchange money with other users and to pay in shops nearby, for free (Italy).
SlimPay	(2009) Pay online with your bank account: European leader of SEPA direct debit. It was founded in Paris.
Square	(2009) It is a financial services, merchant services aggregator and mobile payment company based in San Francisco, California. The company markets several software and hardware payments products
Starbucks	(1971) It is an American coffee company and coffeehouse chain. Starbucks was founded in Seattle, Washington. It implemented a mobile system to allow consumers to pay products.
Starling	(2014) It is the name of a new challenger bank being set up in London, United Kingdom by former Allied Irish Bank COO Anne Boden.
Tandem	(2013) It is the digital bank without branches that works on smartphones. The founder is Ricky Knox (UK).
TimWallet	(2014) It is an app that, thanks to NFC

	(Near Field Communication), allows to make purchases with your smartphone in a simple and fast (Italy).
Trustly	(2008) It is a Swedish fast and secure payment method that makes it possible to deposit and withdraw money directly from your online bank account.
Ubi Pay	(2007) It is an Italian banking group. It created an App that changed the way to pay.
Up Mobile (Banca Sella)	It is an Italian private bank belonging to Gruppo Banca Sella. It created an banking mobile service that allow to make transactions with smartphones and tablets.
Visa Checkout	(2014) It is the easy way to pay, created by Visa.
Vodafone Wallet	(2014) It is an app created by Vodafone that allow to combine all of your MasterCard and VISA cards to the smartphone and make purchases faster and easier.
Walmart Pay	(2015) It is a fast, easy and secure way for customers to pay with their smartphones in Walmart stores (USA).
Yapital	It is a payment solution provider that allows you to pay or receive payment online and in stores (Luxemburg)

Table 1: Brief description of players

4.3. Indicators used to Benchmark

Reached this point of the analysis, it seems appropriate to consider some indicators tracked in the previous pages. Only after giving a brief description, it will be possible to compare companies described, to trace the strategic gap that exist between them and extrapolate useful conclusions in relation to the Piggyback strategy.

Indicator	**Brief Description**
Service: • M-Payment (78,26%); • E-Payment (42,03%); • C-Less Payment (7,25%); • Peer-to-Peer Payment (5,80%).	It refers to the kind of service that the company offers to the market.
Business Model: • Collaboration Model (46,38%); • Operator-Centric Model (7,25%); • Bank-Centric Model (18,84%); • Peer-to-Peer Model (21,74%).	It refers to methods used by companies to the implementation of their activities. In particular, if they use a traditional or an innovative Business Model.
The main goal of company: • Carry out a task; • Satisfy a consumer wish; • Solve a problem.	In particular, it refers to what companies want to pursue, implementing their business.
Scale of business: • Core business (50,72%); • Diversified business (49,28%).	It refers to mobile payment service that company offers.
Kind of company: • Start-up (24,64%); • "Consolidated company" (75,36%).	
What the company does: • Primary activities;	According to Porter's Value Chain, it underlines which activities contribute to

• Secondary activities.	the Value Creation.
Potential benefits for: • Consumers; • Company itself; • Market.	It refers to the benefit that gives the service offered by the company.
Company core strategy	It refers to company's mission and general goals.
Value network	It refers to external relations with patterns, supplier or alliances.
Company position in the market: • Follower; • Leader.	
Company's competitors	
Symmetric or Asymmetric Model (100%)	
Technology improved by companies: • Mobile site (69,56%); • App (69,56%); • Q-Code (8,69%); • NFC (20,30%); • SMS/USSD (2,90%); • Phone line/Wi-Fi (1,45%); • POS/mPOS (2,90%).	It refers to the kind of technology that the firm offers in the market.
Complementary services of the company	It refers to the services that are essential to the core one.
Piggyback strategy	If the company has considered this kind of strategy, it refers to its role: carrier or rider.
Internationalization (53,62%): • Where? • Mode of entry;	It refers to the strategy that company could use to enter in a foreign market.

• Main differences between activities done in different countries.	
Complementary firms	It refers to the companies that result essential to improve the business.

Table 2: Indicators description

4.4. Comparisons

Starting from the thesis shown in the previous chapter, and after a careful data analysis that involved 69 companies listed in the table, some very interesting aspects have emerged. These will be illustrated through graphs and tables, which will then be briefly explained.

Firstly, my analysis included 52 Consolidates companies and 17 Start-ups. I wanted to include also these kinds of "firms", because they are a great technological potential for the market at issue.
An important aspect considered in the analysis is the internalization of the companies. The 53,62% of the companies analyzed have implemented a strategy of internationalization, carrying their services in foreign markets. Due to the nature of the industry, this process was crucial to make the services offered available in all international markets. To better understand what the analyzed companies the expansion of companies in the international scenario, it is necessary divide them into categories, depending on how they present themselves on the market. The categories are:

- Banks (13);
- Mobile Operators (4);
- Payment Service Providers that support online payment methods (13);
- Companies that offer directly online payment methods. About-Payments distinguishes 3 method categories: Cards, Alternatives and Wallets (31);
- Companies that provide services and good, selling on-line and mobile (General Companies) (5).

	AFRICA	LATIN AMERICA	NORTH AMERICA	ASIA	MIDDLE EAST	EUROPE	OCEANIA
BANKS	3	3	3	4	3	4	3
MOBILE OPERATORS	3	3	3	3	3	3	3
PROVIDERS	4	5	5	6	5	8	5
PAYMENT METHODS	13	11	13	12	13	18	12
GENERAL COMPANIES	3	3	4	3	3	3	3

Table 3: Type of company / Market

It can point out an interesting fact. As it is possible see from the table, the companies that offer directly to specific payment methods are present in more markets: this is because they have understood the needs of each country in which they are entered and then the consumer payment preferences. They have attracted new customers by offering the right payment options.

All companies analyzed (100%) make use of an Asymmetric Model: it is not possible to track down any differences between Symmetric and Asymmetric Model because of the nature of the nature of digital payment world. And not only! This kind of Model to operate is very useful to increase the main benefits for final customers, merchants and marketplace.

	PERCENTAGE OF COMPANIES
SECURITY	43,48%
SIMPLY	36,23%
CONVENIENCE	32,45%
SPEED	28,67%

Table 4: Percentage of main satisfied benefits

As it is possible to note from the table, the 43,48% of the analyzed companies guarantees to the final consumer the security of transactions and conservation of personal data. It is an important fact, when it is compared with the percentages of the other benefits that companies give to consumers. But in absolute terms, this percentage is still very low.

Specifically, what type of payment service do they offer?

	E-PAYMENT	M-PAYMENT	C-LESS PAYMENT	PEER-TO-PEER PAYMENT
BANKS	7	13	7	7
MOBILE OPERATORS	1	4	-	-
PROVIDERS	10	9	-	-
PAYMENT METHODS	15	23	3	2
GENERAL COMPANIES	2	4	-	-

Table 5: Type of company / Type of technology

As it is possible to see from the table above, the data are quite obvious: banks and companies, whose the core business is represented by digital payments, offer all kinds of payment services; mobile operators offer, of course, mobile services; general companies offers that services more useful to sell their products; and, at least, providers support electronic and mobile payments methods.

Certainly, this is not the main aspect of my analysis. It represents just the starting point. The argument may continue answering to an important question: how companies do

offer these services considered? Even better, what kind of business model do they implement to operate within the marketplace?

	COLLABORATION MODEL	OPERATOR-CENTRIC MODEL	BANK-CENTRIC MODEL	PEER-TO-PEER MODEL
BANKS	4	-	8	1
MOBILE OPERATORS	-	4	-	-
PROVIDERS	6	1	1	4
PAYMENT METHODS	18	-	4	9
GENERAL COMPANIES	4	-	-	1

Table 6: Type of company / Business Model adopted

The banks adopt for the majority, the business model developed for them: Bank-Centric Model. They deploy mobile payment or devices to customers and ensure merchants have the required point-of-sale (POS) acceptance capability.

However, four of the banks considered (Banca Intesa, Ubi Banca, Banca Sella, BNL) adopt the Collaboration Model: their choice is explained by the desire to establish partnerships with mobile operators, companies that provide high-tech instrumentation and, even more interesting for my study, companies that generate the specific security systems. The partnership can be seen as a Piggyback strategy implementation: the parties agree to serve together on the market, benefiting from their work and their position.

Mobile operators act independently, adopting the Business Model improved for them: Operator-Centric Model. The partnerships that implement are not intended to receive support (as in the case of banks), but they are carried out to support especially banks and companies that provide goods and services electronically or mobile and therefore they need that transactions are secure.

Companies that offer to the market “generic” goods and services have opted for a payment solution, created independently. Sturbuck, Alipay and Amazon have their own payment system that people can use when they wish to make use of their services (or products). The partnerships that they have implemented are not specific in the security of transactions: indeed, it is guaranteed by their payment system. Many of them have considered the Collaboration Model: it is implemented to improve the service and increase client base exponentially. Starbucks, for example, has signed agreements with Spotify and the New York Times to stimulate users and increase loyalty.

Most of the companies whose core business is the implementation of payment methods as alternatives to those traditional (credit and debit cards), adopt the Collaboration Model. They offer payment services at low fixed and transaction costs, ensuring fast and secure payments. For these characteristics, these companies help organizations that serve the market of goods and services of all kinds. For example, AfterPay is a famous startups considered in the analysis, which has implemented an electronic payment system: it supports Ikea and McGregor.

4.5. Results and conclusions of my analysis

The digital payment services are becoming increasingly important in the lives of the world's population, contributing to a real lifestyle revolution. In particular, Mobile Payment services have come a long way from simple SMS-based services to advanced and sophisticated bar-coded tickets and much more, to such a point of evolution that some industry experts now believe that the mobile handset could replace the wallet altogether, through cashless and card-less payment systems (Portio Research, 2010). "*Today, mobile handsets are already being used for many payment related purposes such as transferring money to other accounts, and ordering tickets and discount coupons. Of course for the most part a mobile handset has to-date only been able to part-replicate the role of a consumer's wallet, but user and volume figures from this sector suggest cause for optimism: the worldwide mobile payments volume stood at USD 68.7 billion in 2009, up from USD 45.6 billion in 2008; mobile payment users increased from 57.5 million in 2008 to 81.3 million by end-2009; by end- 2014, the respective figures for volume and users will have surged to USD 633.4 billion and 489.5 million*" (Portio Research, 2010). Markets such as North America, Europe and Asia have observed encouraging uptake of mobile payment services, largely attributable to them being technologically-advanced markets where users have a penchant for mobile data services. But it is necessary to emphasize the development of these technologies in markets like the Middle East and Latin America, that despite being technologically less advanced than those already mentioned, have an incredibly high number of mobile users.

Mobile payment services have gained traction in several markets worldwide. But, as noted frequently, the world of digital and mobile payments is still several obstacles preventing an exponential growth. "*Probably the biggest hurdles to the adoption of mobile payment services are the complex business models and absence of clear revenue sharing models. Each stakeholder realizes the potential of mobile payments in increasing their revenues and acquiring new users, yet none are willing to lead the way*" (Portio Research, 2010).

The primary reasons behind the reluctance of stakeholders to take initiatives to promote the services are the liability to set up the basic infrastructure and the high risks involved. Mobile payment services were launched more or less 18 years ago and yet they retain

the perception of being a new, largely unknown, untested medium fraught with uncertainties and with no discernible guarantees of success when they are launched in a new market. Mobile payment services do hold the potential to yield sustainable revenue streams for all stakeholders. However, in order to convert mobile payment services into a reliable source of revenue generation, all relevant parties have to unite to eliminate the biggest hurdles in the way of the growth of mobile payments. Unless these issues are addressed, mobile payment services will sadly never fulfill their huge potential (Portio Research, 2010).

The introduction of new technologies is in the setup of the market transformations that must be managed by each actor through an appropriate strategy to the changing business needs. Define the positioning in the value chain, identify the secure element which guarantees the reliability of transactions, competing alone or enter into partnerships, and then implement a Piggyback strategy are just some of the aspects to be considered in the context of the definition of the strategy. Given the diversity of the solutions adopted to date, which reflects the different interpretations of the new market, it is necessary to make an analysis of potential solutions, defining the processing required to reach new business goals, especially in light of the level of maturity of current operating model.
After my analysis, I can conclude that there are four solutions that it is possible to implement in this profitable but in the same time uncertain new world. These solutions could be the best options to let electronic and mobile payments work better and to guaranteed more security in transactions and users data protections. These are:

- *Go it alone: "We could create our own system independently, deeply evaluating the different models and scenarios. Perhaps starting with a pilot project "* (https://www.pwc.com/it/it/publications/assets/docs/mobile-payment.pdf);
- *Partnership with a mobile operator:* in this way, it is possible to guaranteed more security, thanks to Sim card system and others;
- *Looking for a carrier (or rider):* it is possible to join with other partners and they can be a bank or a mobile service provider;
- *Mix:* it is possible to establish partnerships, in particular Piggyback strategy, but experience something more personalized for our customer base.

At this point, it seems useful to build a matrix would summarize the conclusions I have reached. It is a matrix illustrating some strategic elements that companies considered could carry out through partnerships with other players. I tracked down the benefits in terms of security of transactions, but not exclusively: implementing a Piggyback strategy with the other players in the digital world payments could get benefits in terms of growth and success in the marketplace.

Payment Methods		Collaboration Model: to guarantee security reliability			
Mobile operators	Operator-Centric Model: increased security	Operator-Centric Model: more security and speed	Peer-to-Peer: control over revenues		
Providers	Collaboration Model: support of banking tracking	Peer-to-Peer Model: to accept more payment methods			Peer-to-Peer Model: to support Mobile Payment method
General Companies	Collaboration Model: new users acquisition			Collaboration Model: new revenues	Collaboration Model: to increase revenues
Banks		Collaboration Model: perception of better reliability	Peer-to-Peer Model: control over revenues	Peer-to-Peer Model: new users acquisition	
	Banks	**General Companies**	**Providers**	**Mobile Operators**	**Payment Methods**

Table 7: Matric of strategic solutions

Players on the horizontal axis represent the possible *riders*, while those on the vertical axis the possible *carriers*. The riders will need the carriers to achieve the objectives included in the matrix on a reported.

In my view, it is important to consider another option: the *wait*. Digital payment is a too new market for companies and for customers base. The scenario does not present a clear connotation in term of solutions and business models, restricting the spread of digital payments and curbing the socio-cultural revolution that national and international companies do not spare to announce more and more frequently. It is not yet clear which of the various technological standards, will allow the new ecosystem to work harmoniously, ensuring a high standard of user experience and security levels. Maybe, it is necessary to wait and see how it evolves.

Being protagonists in the context of digital payment means redefining a successful Business Model, re-evaluating strategic partnerships and adapting the existing structures in order to focus on the customer with a multi-channel approach. So, implementing a Piggyback strategy can point out an excellent solution for all actors involved in this fabulous world.
But to do it, it is necessary to answer to some key question, (which, after all, have represented the basis of my benchmarking):

- What are the players in the new competitive ecosystem?
- How can digitalization affect the current business model?
- What does strategy provide more value to businesses and customers?
- What elements is it necessary to consider implementing it?
- Considering a piggyback strategy, what are the right partners?
- Is it possible to guarantee the highest security of operations, responding to customer expectations?

It could be a journey that all the companies operating in this sector can take to improve their status, increase confidence by consumers and, at least, achieve success.

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Abstract

Nowadays, it is common to hear saying from many points of view that 2016 is considered as the year of Digital Payment, the year in which technology revolution is touching every area of our lives. Developments in electronic payment technologies have completely revolutionized and updated the way we deal with money, manage our finances and pay: no need of receipts, cash, change, checks or credit cards. We are in the middle of another period of considerable growth marked by the rise of digital age, which entails a significant change in how we pay.

I read an article from Forbes Magazine a few months ago that particularly caught my attention dealing with four factors of new forms of digital payment. (In which four factors of new forms of payment have been predicted).

The first factor regarded the further growth of tech giants like Apple, Google and Sumsung. As these technological powerhouses set progressively higher standards they also create and implement huge expectations on retailers and consumers about the value and the ease of use of digital payment practices (and especially mobile payment).

The second factor concerned the supply of services by traders, such as good discounts or coupons to be included within the mobile wallet users. It is a way to increase the consumers' involvement and their experience expectations.

The third sector looked upon technology-based attitude and approach toward new forms of payment, such as NFC technology. The adoption of these systems by retailers will constitute an important element that will change the most consolidated consumer behavior.

Lastly, the fourth factor examined the intensive commitment shown by technology providers and financial institutions to enhance customers' security and confidence. This topic is what my paper is going to focus and dig into.

When it comes to doing business transactions with merchants, financial institutions or large telephone companies, consumers are less likely to share their personal data. This implies the need to find effective solutions, so that security perceived by users increases and the adoption of digital payments will not stop.

My analysis aims to highlight the security solutions already adopted in the market, but most of all to find new solutions (and in particular one), aiming to offer higher security and reliability.

My study begins by considering the concept of Business Model. The Business Model is a business management tool, used by small, medium and large company, which helps to develop the strategic planning of products / services "traditional" and / or innovative. It is useful to create value and for that reason it is necessary to underline this concept in each situation considered.
What does “create value” mean? A company creates value for its customers when it helps them to:

- Carry out an important “task”;
- Satisfy a wish;
- Solve a problem.

The success or failure of any business depends on the company's ability to create this value for its customers. The first activity to be undertaken to rethink, strengthen or improve a company, to launch a new product / service, or to start a startup high-value, is to create your own Business Model. So you can establish precisely what to do, how it must be done, and for what specific customers the company wants to create value.
Before examining the origins, definitions, and usages of the expression Business Model, it is necessary to outline and reflect on its semantics. The concept of Business Model can evolve in the following direction:
“A business model is a conceptual tool containing a set of objects, concepts and their relationships with the objective to express the business logic of a specific firm. Therefore we must consider which concepts and relationships allow a simplified description and representation of what value is provided to customers, how this is done and with which financial consequences.”
The abovementioned definition by Osterwalder, Pigneur, & Tucci (2005) is rather conform to describe the Business Model in different domains, such as e-business, computer science, strategy, or management.

The first time Business Model appeared was in academic article in 1957 (Bellman, Clark et al. 1957) and in a title and abstract of a paper in 1960 (Jones, 1960). However, the studies and research on this topic are quite recent.

It is necessary to wait for the 1990s to see a focus on Business Model, with the Internet revolution and its subsequent development (spreading) in the business world.

So, it is possible to identify the relationship between technology and business models, though it is not so clear.

The Business Model is focused on creating value. Thus, it is possible to think about the value chain, popularized by Michael Porter (1985), as the starting point from where the concept of business model has developed and evolved over the years.

To better understand the concept of Business Model, it is essential to review some definitions from the main studies in literature: I took in consideration authors, such as Tinners, Amit and Zott, Magretta, Teece, Doz and Kosonen and many others that concentrated their studies on the concept of Business Model.

A Business Model presents two different functions: value creation and value capture. Firstly, it delineates some activities, which will allow a new product or service in such a way that there is a net value created. Secondly, a Business Model captures value from those activities for the company developing and operating it. And also in this case, I took in consideration many authors that illustrated the main function of a Business Model. For example, according to Henry Chesbrough, it is possible to underline six of the main functions that a business model should preside.

Analyzing the definitions of the Business Model, it is possible to underline some classifications of several Business Models used by organizations. But, these classifications always follow different points of view and several arguments. The aim of this work is to identify and focus on two of them: *Activity system perspective and Dynamic perspective* and *Amit, Zott and la Massa's approach.*

The first approach arises from the consideration of two different visions of the concept of business model: the static approach, described by Activity system perspective, which defines the business model as a set of activities (Zott, Amit, 2010; Amit, Zott, 2001) and the dynamic approach, overcome by Dynamic perspective, which reflects the idea of continuous change of the business model. In this perspective, the transformation is

caused by the same business model, that is defined as a tool, that brings change and innovation (Demil, Lecoq, 2010)

The second approach takes the classification exposed by Massa, Amit and Zott, in their most recent work (Zott, Amit, Massa, 2011), which splits the Business Model and defines the features, starting from the consideration that they have mainly been used to explain three distinct phenomena:

- E-business and the use of information technologies in organizations;
- Strategic issues, such as value creation, competitive advantage, and firm performance;
- Innovation and technology management.

Why is it necessary to innovate Business Model? Innovation in a Business Model is more than the mere product, service or technological innovation. Innovation becomes Business Model Innovation when two or more elements of a business model are reinvented to deliver value in a new way. The Business Model become, also, to execute and to imitate. Thanks to an innovation in Business Model, the success is assured. Thus to innovate the business model becomes more and more a strategy that even the most important companies take into consideration to definitely achieve success.

Innovating a Business Model is particularly important in times of instability; innovating a Business Model can also help address downturn-specific opportunities and offer superior returns. And, at least many companies innovate their Business Model, also, to defend themselves against aggressive competitors or protect their dying core business.

Linking Business Model and Innovation, it is possible to propose that BMI may refer to:

- *The design of novel BMs for newly formed organizations, or*
- *The reconfiguration of existing BMs*.

The first phenomenon can be indicated with the expression of *business model design (BMD)*, which is used to employ the entrepreneurial activity of creating, implementing and validating a Business Model for a new organization. It is correct to use *business*

model reconfiguration (BMC) to indicate the second phenomenon that is the shift of an existing Business Model through an organizational resources' reconfiguration.
In sum, BMI is vitally important, and yet very difficult to realize it. Organizations will need to identify internal leaders for Business Model change, in order to manage the results of these processes and deliver a new, better BM for the company. The discretion and judgment of middle managers must be subjected to empirical data if local objectives are to be subordinated to those of the overall organization. At the same time, the organization's culture must find ways to comprise the new model, while maintaining the effectiveness of the current Business Model until the new one is ready to take over completely. Only in this way BMI can help companies escape the 'trap' of their earlier business models, and renew their growth and profits.

My study continues focusing on the digital world, which nowadays represents one of the most significant media in the life of each and every one of us from many points of view. The social era we live in is bringing about new changes in business practices and models and is raising new questions. The emerging world of digital business is complex, dynamic and enjoys high levels of uncertainty and competition: Internet and mobile technologies have offered new ways of doing business. Researchers in this area have depicted the digital BM concept from different perspectives and this is for two reasons:

- Digital market is a market that continues to change rapidly, since it is not to be "saturated";
- There is no a dominant standard yet, which can be taken into consideration by companies or start-ups (that are, working within the same market).

The focus shifts towards e-Business model. The rules of the game change. To better understand what a Digital Business Model (e-Business) needs, it is so crucial to consider more the Digital Value Chain: it is essential to analyze how this chain is built into the digital world and from here then build up an appropriate Business Model. A systemic approach to identify architectures for Business Models can be based on value chain deconstruction and reconstruction, that is identifying value

chain elements, and identifying possible ways of integrating information along the chain (Timmers, 1998). In summary, individual organizations should prepare themselves to change the mindsets to accept the new challenges, and should anticipate the equal importance of people management and technology management.

The change that the business world has experienced from the traditional way of doing business for the new way of digital business has a high level of complexity. This new world of digital business has created a gap between the business strategy and business processes. Translating corporate strategy into business process has become much more of a challenge. Accordingly, the business model has risen to prominence as a conceptual tool of alignment to fill the gap that has been created in this world of digital business.

Using the Business Model facilitates the fit between business strategy and business processes since it represents an interface or an intermediate theoretical layer between them. Furthermore, the business model enhances digital business managers' control over their business, and enables them to compete better due to the appropriate and necessary level of information that the business model provides. This level of information also extends digital business managers' knowledge of how the business organization will adapt their strategy, business model, and business processes to cope with the complex, uncertain, and rapidly changing digitalized environment. Thus, there are improvements in the organizations' abilities in achieving their strategic goals and objectives. This is because the information that the business model offers is neither highly aggregated, which it is in the case of business strategy, nor highly detailed, which it is in the case of the operational business process model.

The Business Model is by no means independent; it intersects with the business strategy as well as the business processes. Thus, it creates a unique strategic operational mix (as it is possible to see in the next figure). These intersections represent two crucial transitional points to be followed by business organizations in this new world of digital business (Al-Debei, El-Haddadeh, Avison, 2008).

For businesses to survive and to succeed in this new world of digital business, the business strategy, Business Model, and business processes should be recognized and

treated as a harmonized package. Furthermore, this package should be reviewed continually to ensure its consistency with the external environment.

e-Business model requires an innovative approach, advanced, that can be adapted to an evolving scenario, but at the same time be able to capture the best opportunities on the marketplace. Indeed, it is necessary to consider an *asymmetric approach*. And from the *asymmetric* Business Model is coming out a new strategy, called Piggyback, a new vision of the business that has found application in various fields.

Piggybacking" is an old word used to describe a form of marketing collaboration between two firms. In the most basic sense, a piggybacking relationship is a form of marketing collaboration where firms aspire to acquire a goal allying with partners that complement their strengths and weaknesses (Terpstra and Yu 1990). After all, different from of collaboration practices such as joint ventures or mergers, Piggybacking is a non-equity relationship where the partners maintain their independence. This means that for such a relationship to hold, both partners need to perceive themselves better off by the agreement than the alternative; ending the relationship (Telser, 1980 as cited in Terpstra and Yu 1990). Piggybacking is actually an early form of strategic alliance.

According to Terpstra and Yu (1990), Piggybacking consists of both a *carrier* and a *rider*, where the carrier markets the rider's products. *"Piggybacking indicates someone riding on someone else's back, implying that there are differences in strength and size between the allies*" (Vidar Horne, John Kåre Solem, 2012). For a carrier to take on the marketing activities of the rider's products, the carrier must be in possession of some attributes that the rider is missing. Echeverri-Carroll et al. (1998) recognizes that firms in high-technology sectors are vertically disintegrating, conducting to larger firms specializing in their core functions and subcontracting other functions to the smaller firms. These networks are characterized by *asymmetry.*

Firstly, the companies involved in this innovative form of collaboration must share the same distribution channel. So, it is necessary to find the right attachment points, so that the alliance can produce the intended results. Secondly, it is frequently used to sell supplementary products within hard-to-access markets (as an asymmetric

business model has to do). And, at least, they are usually formed by exclusive distribution agreements.

These characteristics guarantee advantages for both sides, which can be summarized as follows:

- The Piggyback ensure a low cost access to a distribution network already working and well established;
- Companies take advantage of an existing commercial network;
- Companies can take advantage of the carrier's corporate image and trade mark, its expertise and knowledge;
- Companies can save time regarding the knowledge of the market evolution.

On the other hand, it is necessary to underline, in particular, two disadvantages that a Piggyback strategy could cause to firms. The main one is related to the partial loss, or total loss in some cases, of control over the product or service that is offering. In such a narrow collaboration it is almost inevitable loss of control for both inquiries concerning the product or service in its essence, both as regards all that can be associated to the same. And then such a Piggyback strategy, it may be associated also a total impossibility of appropriability of profits derived from the product in question.

The characteristics of the phenomenon described in the preceding pages show the reason why it is so much used in various fields. It is possible, at first, to illustrate the main one: how Piggybacking is essential to *internationalize*, to enter in new foreign market so easily. After that, it is possible to continue showing a plenty number of marketing applications:

- Social network application;
- Television advertising application;
- Logistic application.

The aim of my paper, at this point of the analysis, is to focus on the digital world, in particular on on-line payment systems, which of course are the basis of E-Commerce. It

is becoming a bigger technological wave that has been changing the way by which business is being conducted. It is a tool of modern business, which addresses the need of business organizations, vendors and customers to reduce cost and improve the quality of goods and services while increasing the delivery of speed. Using E-Commerce, organizations can expand their market to national and international markets with minimum capital investment. An organization can easily locate more customers, best suppliers and suitable business partners across the world. E-Commerce helps organization to reduce the cost to create process, distribute, retrieve and manage the paper-based information by digitizing the information. It improves the brand image of the company and helps organization to provide better customer services. Furthermore, E-Commerce helps to simplify the business processes and make them faster and efficient and increased the productivity of the organization. An integral part of E-Commerce system is the online payment system: in other words, E-Payment is one of the crucial parts of an E-Commerce transaction in that the E-Commerce transaction cannot complete without it (Singh Sumanjeet, 2009). Electronic payment has revolutionized the business processing by reducing paper work, transaction costs, labor cost. Being user friendly and less time consuming than manual processing, it helps business organization to expand its market. Some of the methods of electronic payments are following (Singh Sumanjeet, 2009):

- Credit Card;
- Debit Card;
- Smart Card;
- E-Money;
- Electronic Fund Transfer (EFT).

The boom in online payments was created from the desire to meet the customers' needs with simple and safe solutions without losing sight of even those of the merchant. The strength of the innovative payment systems is that they succeed where traditional payment methods are obsolete.

The digital payment methods are practical and generally safe. Their ease of use encourages the customer to buy in an immediate way and on a global scale, thus favoring, for example, the cross-border E-Commerce.

The rapid rise of mobile technology throughout the world is a phenomenon that has been particularly remarkable among poor people, largely because of the prepaid model. As a result, all classes of society now have access to financial services as people become increasingly familiar with a mobile-money system (Diniz, Porto de Albuquerque, Cernev, 2011).

The term "Mobile Payment" is defined as interactions among engaging parties in a payment system regarding a payment transaction where at least one engaging party is a mobile user. M-Payments is a form of payment where the mobile phone is used as a payment method, not just as an alternative channel to send the payment instruction, and the payment information flow takes place in real-time. Such payments occur primarily across four applications (World Payment Report, 2013, Capgemini):

- *Peer-to-peer (P2P)*: As domestic money transfers or international remittances.
- *Consumer-to-business (C2B)*: As retail payments at stores, mobile online payments such as those made on eBay or to purchase ringtones. It should be noted that these payments are not made using the browser on the mobile, but by using the payment application built for the mobile.
- *Business-to-business (B2B)*: To replace cash in the supply chain.
- *Business/Government-to-Consumer (B2C/G2C)*: For salary disbursements and pensions.

There are currently 4 types of business models in use within the context of M-Payments: *Bank-centric Model*, *Collaboration Model*, *Operator-centric Model* and *Peer-to-peer Model* (Chaix and Torre, 2010). There is no standard and perfect Business Model that everyone could use: this is the assumption of the *Contingency Theory* that was, many times, used to analyze the structure of M-Payments. The contingency theory of technology adoption emphasizes the importance of environmental influences such as cultural, social and economic factors, which in turn impact consumer and merchant adoption. For that reason, the contingency theory is useful for the classification of m-

payment research as M-Payment services differ in each country due to differences in payment technology infrastructure, regulation, laws, or habits (Dehlerg, Mallat, Ondrus, Zmijewska, 2008).

As we shall see, the lack of a standard and innovative business model leads to lack of the mobile payment security, which flows into preference of the consumer paper payments. Also the value chain of mobile payments is quite complex.

The importance that mobile payment systems are taking, leads to analyze some market trends that show us how people around the world are adopting these technologies. So, my work shows some important trends that support the grown of M-payment systems.

The Mobile Payment is a convenient payment method, because it speeds transactions, reduces or even annuls the waiting time (no more lines) and is easy to use. Being able to make payments through an object (mobile phone / smartphone) that is good news, especially considering that, with the addition of payment, this device concentrates in itself all the functions (telephone, agenda, texts, etc.) useful to manage the daily life (all in one). In particular, it is possible to underline some specific advantages of M-Payment, which have increased the use of this method in the world:

- Convenience;
- Security (a positive point of view);
- Ability to manage finances and control spending;
- Ability to receive targeted advertisements and promotions.

Considering traditional payment system, it is important to underline some disadvantages that the using of mobile devices to make transactions causes.

Firstly, considering the physical nature of the system, it is possible to trace a hardware incompatibility. Many devices in the hands of users are still very old to fully carry out all possible transactions in the market. Secondly, it is necessary to consider the cost. In general, the cost of using a payment method includes two components: the fees paid to payments providers, banks, or merchants for using the method; and the costs of equipment and materials needed to use the method (Fumiko Hayashi, 2012). It is necessary to consider also device failures (for example, the case of battery drain) or the

possibility that such devices can be stolen object, resulting in loss of data and personal information

It is possible to underline the main disadvantage of M-payment systems that is represented by the lack of Security. The issue of security has emerged as a major inhibitor of mobile payment acceptance and for that reason it represents one of the more discussed topic about m-Payment.

According to Kreyer, Pousttchi and Turowski (2002b) it is possible to distinguish the concept security between the two dimensions: *objective* and *subjective* security. Objective security is a concrete technical characteristic, given, when a certain technological solution responds to all of five security objectives: *confidentiality*, *authentication*, *integrity*, *authorization* and *non-repudiation* (Merz 2002). The essential condition for M-Payment acceptance is the perception of security and it is possible to indicate this like subjective security. Subjective security is defined as the degree of the perceived sensation of the procedures' security from the viewpoint of the customer. Therefore, subjective security can be seen as the mirror image of risk affinity.

Companies should consider some tools to ensure to users security of transactions. In particular, my analysis considers two tools:

- the application of all regulations about that, and, if necessary, the pressure on the authorities for the creation of new one which respond more appropriately to the main risks;
- the redefinition and innovation of their Business Model. In particular, it is important to consider the Piggyback strategy.

My thesis finishes with a comprehensive analysis of the major players on the market of the Electronic and Mobile payments, to understand, basically, which of these would be able to implement a Piggyback strategy (or who already implements it). Analyzing different indicators, it is possible underline that this kind of strategy can ensure more security, but in the same time it can take other advantages.

My analysis is a Benchmarking, that in general is a systematic tool that allow an organization to determine whether its performance of organizational processes and activities represent its best practices. In this case, I use benchmarking to compare a

certain amount of companies that shall put in place a Piggyback strategy, or (without assumption), could bring it into being.

There are different types of benchmarking that it is possible to use. Benchmarking that I implemented is a *Strategic* type. In fact, it aims to analyze the strategies of the companies considered, and which of these are closer to an agreement Piggyback. In addition to the types, there are four ways you can do benchmarking. It is important to choose the optimal way because it improves the chances to find the 'best standards' you can rely on.

Benchmarking of my thesis is being an external benchmarking, and sometimes a competitive one, because the analysis is aimed at different companies also in competition among themselves.

My work considers 69 companies (start-ups and consolidated companies). They are divided into four categories, depending on how they present themselves on the market. The categories are:

- Banks (13);
- Mobile Operators (4);
- Payment Service Providers that support online payment methods (13);
- Companies that offer directly online payment methods. About-Payments distinguishes 3 method categories: Cards, Alternatives and Wallets (31);
- Companies that provide services and good, selling on-line and mobile (General Companies) (5).

All companies analyzed (100%) make use of an Asymmetric Model.

The 43,48% of the analyzed companies guarantees to the final consumer the security of transactions and conservation of personal data. It is an important fact, when it is compared with the percentages of the other benefits that companies give to consumers. But in absolute terms, this percentage is still very low.

The argument may continue answering to an important question: how companies do offer these services considered? Even better, what kind of business model do they implement to operate within the marketplace? The banks adopt for the majority, the business model developed for them: Bank-Centric Model. They deploy mobile payment

or devices to customers and ensure merchants have the required point-of-sale (POS) acceptance capability.

However, four of the banks considered (Banca Intesa, Ubi Banca, Banca Sella, BNL) adopt the Collaboration Model: their choice is explained by the desire to establish partnerships with mobile operators, companies that provide high-tech instrumentation and, even more interesting for my study, companies that generate the specific security systems. The partnership can be seen as a Piggyback strategy implementation: the parties agree to serve together on the market, benefiting from their work and their position.

Mobile operators act independently, adopting the Business Model improved for them: Operator-Centric Model. The partnerships that implement are not intended to receive support (as in the case of banks), but they are carried out to support especially banks and companies that provide goods and services electronically or mobile and therefore they need that transactions are secure.

Companies that offer to the market "generic" goods and services have opted for a payment solution, created independently. Sturbuck, Alipay and Amazon have their own payment system that people can use when they wish to make use of their services (or products). The partnerships that they have implemented are not specific in the security of transactions: indeed, it is guaranteed by their payment system. Many of them have considered the Collaboration Model: it is implemented to improve the service and increase client base exponentially. Most of the companies whose core business is the implementation of payment methods as alternatives to those traditional (credit and debit cards), adopt the Collaboration Model. They offer payment services at low fixed and transaction costs, ensuring fast and secure payments. For these characteristics, these companies help organizations that serve the market of goods and services of all kinds. For example, AfterPay is a famous startups considered in the analysis, which has implemented an electronic payment system: it supports Ikea and McGregor.

The digital payment services are becoming increasingly important in the lives of the world's population, contributing to a real lifestyle revolution. In particular, Mobile Payment services have come a long way from simple SMS-based services to advanced and sophisticated bar-coded tickets and much more, to such a point of evolution that some industry experts now believe that the mobile handset could replace the wallet

altogether, through cashless and card-less payment systems (Portio Research, 2010). "*Today, mobile handsets are already being used for many payment related purposes such as transferring money to other accounts, and ordering tickets and discount coupons. Of course for the most part a mobile handset has to-date only been able to part-replicate the role of a consumer's wallet, but user and volume figures from this sector suggest cause for optimism: the worldwide mobile payments volume stood at USD 68.7 billion in 2009, up from USD 45.6 billion in 2008; mobile payment users increased from 57.5 million in 2008 to 81.3 million by end-2009; by end- 2014, the respective figures for volume and users will have surged to USD 633.4 billion and 489.5 million*" (Portio Research, 2010). Markets such as North America, Europe and Asia have observed encouraging uptake of mobile payment services, largely attributable to them being technologically-advanced markets where users have a penchant for mobile data services. But it is necessary to emphasize the development of these technologies in markets like the Middle East and Latin America, that despite being technologically less advanced than those already mentioned, have an incredibly high number of mobile users.

Mobile payment services have gained traction in several markets worldwide. But, as noted frequently, the world of digital and mobile payments is still several obstacles preventing an exponential growth. "*Probably the biggest hurdles to the adoption of mobile payment services are the complex business models and absence of clear revenue sharing models. Each stakeholder realizes the potential of mobile payments in increasing their revenues and acquiring new users, yet none are willing to lead the way*" (Portio Research, 2010).

The primary reasons behind the reluctance of stakeholders to take initiatives to promote the services are the liability to set up the basic infrastructure and the high risks involved. Mobile payment services were launched more or less 18 years ago and yet they retain the perception of being a new, largely unknown, untested medium fraught with uncertainties and with no discernible guarantees of success when they are launched in a new market. Mobile payment services do hold the potential to yield sustainable revenue streams for all stakeholders. However, in order to convert mobile payment services into a reliable source of revenue generation, all relevant parties have to unite to eliminate the biggest hurdles in the way of the growth of mobile payments. Unless these issues are

addressed, mobile payment services will sadly never fulfill their huge potential (Portio Research, 2010).

The introduction of new technologies is in the setup of the market transformations that must be managed by each actor through an appropriate strategy to the changing business needs. Define the positioning in the value chain, identify the secure element which guarantees the reliability of transactions, competing alone or enter into partnerships, and then implement a Piggyback strategy are just some of the aspects to be considered in the context of the definition of the strategy. Given the diversity of the solutions adopted to date, which reflects the different interpretations of the new market, it is necessary to make an analysis of potential solutions, defining the processing required to reach new business goals, especially in light of the level of maturity of current operating model.
After my analysis, I can conclude that there are four solutions that it is possible to implement in this profitable but in the same time uncertain new world. These solutions could be the best options to let electronic and mobile payments work better and to guaranteed more security in transactions and users data protections. These are:

- *Go it alone: "We could create our own system independently, deeply evaluating the different models and scenarios. Perhaps starting with a pilot project "* (https://www.pwc.com/it/it/publications/assets/docs/mobile-payment.pdf);
- *Partnership with a mobile operator:* in this way, it is possible to guaranteed more security, thanks to Sim card system and others;
- *Looking for a carrier (or rider):* it is possible to join with other partners and they can be a bank or a mobile service provider;
- *Mix:* it is possible to establish partnerships, in particular Piggyback strategy, but experience something more personalized for our customer base.

At this point, it seems useful to build a matrix would summarize the conclusions I have reached. It is a matrix illustrating some strategic elements that companies considered could carry out through partnerships with other players. I tracked down the benefits in terms of security of transactions, but not exclusively: implementing a Piggyback

strategy with the other players in the digital world payments could get benefits in terms of growth and success in the marketplace.

Payment Methods		Collaboration Model: to guarantee security reliability			
Mobile operators	Operator-Centric Model: increased security	Operator-Centric Model: more security and speed	Peer-to-Peer: control over revenues		
Providers	Collaboration Model: support of banking tracking	Peer-to-Peer Model: to accept more payment methods			Peer-to-Peer Model: to support Mobile Payment method
General Companies	Collaboration Model: new users acquisition			Collaboration Model: new revenues	Collaboration Model: to increase revenues
Banks		Collaboration Model: perception of better reliability	Peer-to-Peer Model: control over revenues	Peer-to-Peer Model: new users acquisition	

	Banks	General Companies	Providers	Mobile Operators	Payment Methods

Table 7: Matric of strategic solutions

Players on the horizontal axis represent the possible *riders*, while those on the vertical axis the possible *carriers*. The riders will need the carriers to achieve the objectives included in the matrix on a reported.

In my view, it is important to consider another option: the *wait*. Digital payment is a too new market for companies and for customers base. The scenario does not present a clear connotation in term of solutions and business models, restricting the spread of digital payments and curbing the socio-cultural revolution that national and international companies do not spare to announce more and more frequently. It is not yet clear which of the various technological standards, will allow the new ecosystem to work harmoniously, ensuring a high standard of user experience and security levels. Maybe, it is necessary to wait and see how it evolves.

Being protagonists in the context of digital payment means redefining a successful Business Model, re-evaluating strategic partnerships and adapting the existing structures in order to focus on the customer with a multi-channel approach. So, implementing a Piggyback strategy can point out an excellent solution for all actors involved in this fabulous world.