UNIVERSITÀ DI PISA

Social media adoption in workplace by teams for knowledge work: benefits, barriers and enabling factors

TESI

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ABSTRACT

Nowadays, business companies cannot be seen merely as a physical place where employees execute their daily functions. The progress and the development of technologies has made possible the continuous interconnection and interaction among co-workers, allowing to carry on own activities also if are not physically present. It became a key factor for companies or teams geographically separated which need to unit their efforts to achieve a shared goal. The aim of many companies and workers it is, indeed, to use these new technologies not merely to communicate with remote team members, but rather to take advantage of their tools in order to improve knowledge work in workplace day by day. Although there is a general agreement about the development in the future of these platforms, many companies and workers have still not understood completely the potential benefits. Thus, the aim of this work is to find and define a number of benefits from the organizational and collaborative point of view regarding the implementation of a social media platform within companies. Moreover, in order to make aware the subjects interested, here it is proposed also a number of challenges during their usage, that they will be faced during the implementation and the exploitation of the system. Finally, considering the bounds between knowledge sharing and enterprise social media platforms, with the willingness of people as common factors of both, will be analysed also this relationship in order to find the enabling factors for knowledge sharing which can make easier the social media adoption in teamwork and organizations.

CONTENTS

1. INTRODUCTION

Communication and collaboration have radically changed their essence over the last years. While in the past, communication was only unidirectional deriving from mass media, today we assist to a continuous interaction and information exchange among Internet users. We left behind Web 1.0 applications as Encyclopaedia online, personal pages and contents publishing and opened the doors to wikis, blogs and collaborative projects in Web 2.0 era (Kaplan & Haenlein, 2010). This change not only strongly influenced social life, but also working life within the organizations (Derks, D., & Bakker, 2010). As suggested by R.Fiocca in his paper, the role of corporate communication is to support and develop relationship between the company and external environment, but also among employees inside the company. I will focus my attention on this second aspect, namely the one relating to the relationship among colleagues of a same company. Nowadays, more than in the past, communication plays a central role inside the companies, and the main actors are people with their capability to make or glean useful information from others. Acquisition, transfer or exchange of information are a central element for every company, and key factors like globalization, decentralization and emphasis on costs lead to the need to shorten physical distances and increase speed of the interactions (Lipnack & Stamps, 2000) A possible solution for this issue could be the use of social media, more specifically the enterprise social networking technologies. According to (Leonardi, Huysman, & Steinfield, 2013), enterprise social media allow employees to (1) communicate and exchange messages with specific colleagues or broadcast messages to the others in the company; (2) to explicitly indicate or implicitly reveal particular co-workers as communication partners; (3) to edit, post and organize documents and files linked to themselves or others; and (4) to view the messages, connections, text and files communicated, edited, posted and organized by anyone else in the organization at any time of their choice.

According to (Razmerita, 2013) ,this new managing knowledge model involves formal and informal communication and collaboration at both organizational and personal level, facilitating virtual interaction and knowledge sharing through easy collaborative tools use. The social media concept, which changes the relationship between a company and its employees, customers, competitors, suppliers, investors, the media, and essentially

anyone who has an impact on or who can be impacted by an organization (Yang & Lim, 2009), ties in with the above mentioned concepts.

Despite the use of emails is still the main medium to share information on workplace, the growing usage of enterprise social media is allowing new forms of communication and interaction among co-workers, enhancing KM, problem solving and ideas sharing (Subramaniam, Nandhakumar, & Baptista John, 2013). Moreover, it makes possible to share information and knowledge updating files and system constantly and in an easy way, with the advantage to furnish the same version of files, procedures, projects or documents to all (Pierce, 2015). A possible consequence is an increasing of business' efficiency, fundamental in today's work environment, due to an increased knowledge by workers about what is happening within the organization (DiMicco, Geyer, Millen, Dugan, & Brownholtz, 2009).

To achieve the benefits deriving from ESMs it is fundamental to contrast the challenges affecting their usage. They can be several and of general kind, also if the reasons of a failure to achieve benefits are mainly an inadequate leadership and an overemphasis on technology (Van der Meulen, R., & Rivera, 2013). Starting from them, other possible barriers will be searched (in literature) and analysed (in case study) in the present work.

Such as the benefits of ESMs are achievable through an appropriate sharing of useful information and personal knowledge, also some of challenges to social media adoption are linked to the capability by individuals using these platforms to share own knowledge (Ellison, Gibbs, & Weber, 2015).

In order to give an answer to all these aspect regarding benefits and challenges affecting social media platforms, but also the factors that enable the knowledge sharing, I have developed the work based on these three research questions:

> *RQ1: «How can Social Media support working team in a SME in order to ensure efficient knowledge sharing among employees into in-house knowledge work? »*

> *RQ2: «Which are the main obstacles in ESM adoption by employees in a teamwork? »*

RQ3: «Which are the enabling factors favouring knowledge sharing in a teamwork? »

In order to answer these questions I decided to interview employees of two Services Provider Companies in Denmark and to send a questionnaire to different employees of different companies all around the world, having in common the usage of the same social media platform.

1.1 SCOPE

The spread of new social networks and social tools is changing interpersonal connections and relationship. Considering only general social networking sites, the 73% of users declared to use them (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015). Some of them, use the traditional social media also for work purposes (Sarka, Ipsen, Heisig, & Maier, 2014). The development of social media technologies within companies is still ties to general social media sites such as Facebook, LinkedIn or Twitter. However, it is also true that in recent years, the number of enterprise social media is increased, setting itself as a link point between intranet and social media sites (SNS). They, rather than a simply communication channel, operate as a platform upon which social interaction occurs (A. McAfee, 2009). In view of that, this work aim to investigate, through features and tools of ESM, the benefits that they are able to furnish for teamwork and companies in general. Moreover, the other purpose is to understand why the implementation of these platforms is still low within companies, analysing the possible barriers which limiting their adoption. Finally, according to (Ellison, Gibbs, & Weber, 2015) about the mutual benefit between knowledge sharing and ESM use, I decided to carry on a search and analysis of enabling factors of knowledge sharing able to contrast the challenges of ESM adoption in order to achieve the benefits found.

1.2 CASE STUDY

In order to develop the theme presented above according to the aim of this work, and in order also to address research questions, I considered a specific social media platform, PODIO in the present case. I explored its main features, to figure out how it could help team members to better communicate, share or organize their works and projects. Specifically, I analysed aspects related to factors, whether positive or negative, that

emerged during the interviews and questionnaires, regarding the three main questions above cited.

For the case study development were chosen two Danish companies for a sum of eight interviews and other general companies from different land for a sum of thirty questionnaires, all united by the use of Podio.

1.3 THESIS STRUCTURE

This thesis aims at providing a number of benefits supporting social media use among team members, in order to facilitate knowledge work within companies. First, I presented the current state of the literature, identifying the lacks in the theme presented above. Secondly, I developed the methodology, explaining the methods to carry on the work. Here, I explored and decided to use the mixed method research in order to combine both qualitative and quantitative data. Moreover, to explain criteria to interpret data and achieve a robust result, I proposed and followed a framework resulting to combination of theories found in literature. Thirdly, I analysed the specific case study based on Podio and data resulting from collection. Finally, in the same chapter, I summarised results in an illustration with a little explanation of them.

2. LITERATURE REVIEW

This chapter provides an overview on today's general situation of social media for business, paying particular attention to situations within companies. It will start clarifying the evolution and development of internal communication ending with adoption of new technological tools for enterprises. Then It will analyse the purposes, the benefits and the challenges of these new 'media' and in the second part will explore the process of sharing and management of knowledge, its features and its challenges, finding a link with existing social media tools and understanding which are the possible factors able to overcome its barriers.

2.1 THE EVOLUTION OF INTERNAL SYSTEMS FOR COMMUNICATION AND COLLABORATION

2.1.1 THE MERELY TECHNOLOGICAL ASPECT OF OPERATIONAL SYSTEMS

2.1.1.1 GENERALITY

The automatically data elaboration systems, also called operational systems, are the basic IT infrastructure of a company. These systems was born to support the operational level of organization, recording and processing daily transactions of the company. The main purpose is the computerization of procedural activities and the consequent support to organizational activities (Cecchinato et al., 2015). One of the best examples of that are certainly the ERP systems.

ERP

ERP systems, also called Enterprise Resource Planning systems, enterprise-wide systems, or enterprise systems, are the software tools used to manage all the enterprise's data, and to provide information to those who need it when they need it. These systems help organizations deal with their supply chain: receiving, inventory management, customer order management, production planning and managing, shipping, accounting, human resource management, and all other

activities that take place in a modern business (Arik Ragowsky, Toni M. Somers, 2002). The benefits of ERP system implementation were significant regarding reduction of inventory costs (25/30%)[1], raw material costs (15%)[1] or lead-time and production time. Despite the expectations and huge investments, ERP implementation often fail (Arik Ragowsky, Toni M. Somers, 2002). One of the reasons is that the ERP system did not fit organizational needs, and that is due to different characteristics of the companies (Arik Ragowsky, Myles Stern & Dennis A. Adams, 2000). A main implication, indeed, is that ERP involves radically changes in company's structure, core competencies and business practices. Another reason, maybe the most difficult on which intervene, is not regarding technical aspects but people-related and culture-related issues. As argued by Gefen and Ridings (2002), social exchanges during the implementation of a CRM, extended ERP module, influences its adoption by users and the consequently success or failure of the company investment.

2.1.1.2 THE OBSOLESCENCE OF A PRESCRIPTIVE APPROACH

At the beginning of processes digitalization, development of corporate IT systems were closely related to prescriptive approach that really gave little importance to users' needs. These systems, indeed, have been set in a structured way in order to guide people's work by requiring to adapt their way to work to system logics (Somers, Nelson, Somers, Nelson, & Ragowsky, 2000). In many cases, organizations buy standard packages of ERP by vendors and start the implementation consequentially to BPR (Business Process Reengineering) phase with a support team, composed by specialists and human resources of company, that have the goal to train and guide workers of company to correct usage of the system. That phase requires an adjustment of old processes or activities of the company with new ones in order to allow or facilitate the implementation of it (Bora, Impemba, & Monda). A possible consequence of that is a strong change or bending on activities for people that, from there, need to adapt and carry on their work in a new and different manner.

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[1] Average value

That aspect, however, today seems to be obsolete. In current days, corporates are even more globalized, that implies business units and workers of a same company scattered around the globe. Despite different way to work of every unit and their cultural and more differences, often the implementation of an IT system disregards of that, opting for a similar choice for all. That, in many cases, translate it in a failure of the system.

Also the idea that a platform to manage data, resources, information and communications was exclusive for large corporates it was obsolete (Bora et al.). Nowadays several medium and small enterprises look toward a similar solution. Often, however, that need cannot be satisfied and reasons regarding costs and a rigid structure of that systems, very far to the flexibility of SMEs' processes and activities (Umble, Haft, & Umble, 2003).

For that reason there is today an increasingly demand of applications adaptable to users or worker's needs, with a high level of customization and flexibility that are little suitable with old information systems.

2.1.1.3 FORCINGS OF CHANGE THAT LEAD TO A RIDEFINITION OF THE WAY OF WORKING WITHIN COMPANIES

It is out of doubt that the introduction of internet in our private and working life have changed the way we interact with others and the resulting needs. That need to collaborate and to use daily tools to do it such as tablets, smartphones or laptop, is rapidly changing how to operate within companies (M.Corso, F.Crespi, 2014).

The growing importance of collaboration and knowledge within organizational processes is no longer enough to support working activities with merely transactional systems (M.Corso, S.Mainetti, A.Piva, M.Mazzucco, F.Saraceni, 2015). Before to see where is taking us this change, it is important to understand which are the factors that are driving this change. According to (M.Corso, F.Crespi, 2014), Alfresco (2015), the forcings of change are mainly three:

- ***Change in the way to work***

Today the approach to work is changing and, however, it is different from the idea of individual in the workplace at his or her desk or workstation. The key word we use today is flexibility. The work schedule is, indeed, extremely flexible and functional to people needs. This evolution in the way to approach to work allows people to be 'operative' or 'reachable' in every single moment and wherever in the world. If from one side it can be seen as a limitation of privacy, to other side it can be seen as a way to simplify the work life and manage own work time. Anyway, for or against, these seems to be the new strategies that companies are adopting to establish itself in the market.

- *Change in the use of digital technologies*
  Until some years ago, technologies used in the workplace were generally furnished by organizations. Video conferences meetings, intercontinental calls, data access and more were all possible activities into the company. In addition, tools to carry on personal work were exclusively make available by company.
  The current evolution of digital technologies toward smart technologies is unavoidably influencing enterprises. New era trends such as digital natives and mobile social collaboration, new information and communication technologies, information-integrated business, cloud, BYOD and BYOA, security and integrity of data will bring us toward a new way to understand the enterprise (Helmfrid & Kruse).

- *Change in the approach to company's technologies*
  Yesterday, people started to work in a company, needed to a training period to learn how to use a software and to have familiarity with the system. Today the situation is changing. Even more software and systems, indeed, have logics and modality of interaction itself of consumer market (M.Corso et al., 2015). Tags, RSS feeds, wikis and instant messaging are just few of elements transposed from social to work life (Pettenati &

Cigognini). People, which enter for the first time in a new company, need now less time to understand the way of work of the systems. That is a fundamental element in terms of time saving from introduction to full work capacity and costs savings regarding training and errors reduction.

These elements, joint with others, are the drivers which are pushing towards a relevant change in the organizational IS history, defining the born of a new generation of tools, the Collaborative Business Applications, able to give in an integrate way, both transactional and collaborative support.

2.2.1 INTRANET FOR INTERNAL COMMUNICATION

The term communication opens the way to a huge variety of possible ramifications. In the present work, the suitable road leads us to talk about communication within companies at first.

When we talk about communication in a company, we need to make a clarification.

There are two different types of communication ("Differences between Internal and External Communication,")

- *External communication* is an informal exchange of information and messages between an organization and other organizations, groups or individuals outside its formal structure.
- *Internal communication* is the process of exchanging information among the people of different level or internal participants within the organization.

We are interested in exploring the second type, in order to understand what were the different phases of its evolution until now, with the aim to investigate current communication within team of a same company.

A push towards a communication system capable of producing internal value comes through:

- CT introduction techniques;
- Increasing importance for internal communication, as well as the external one;
- Creation of a model for:
    - analysis of communication needs;
    - need for knowledge sharing;
    - technical and managerial staff training;
    - scheduling means and methods;
    - implementation of communicative actions.

Based on these elements, development of a new communication technology as Intranet *"used in the company to structure and govern, in a systematic way, the processes of creating, searching, selecting, organizing, distilling information "* (JP, McGill, 2004), has become a key element for the improvement of (Caruso, 2003):

- Internal mail and service orders
- Company newsletter widely broadcast to all employees
- Development of chat for collaboration between and within the working groups
- Sharing business documents
- Creating interest groups
- Coordinating and working groups
- Work on common documents
- Remote work
- Distance learning
- Using the Internet
- Formation of extranets that connect the activities of stakeholders
- Strengthening the enterprise network

Over time, and with the evolution of the role of internal communication, the Intranet has gone from being a communication tool to a convergence and integration platform able to perform strategic functions more and more relevant (Helmfrid & Kruse, 2013).

In particular, the Intranet played a central role in corporate communication improvement mostly by facilitating access to information, which is the first of several benefits resulting from a survey conducted by (Knight & Steinbach, 2005)

Other relevant benefits resulting from the same work are an increased quality and relevance of information, an improving of productivity and a substantial costs reduction related to savings on paper, telephone, faxing, travel and so on.
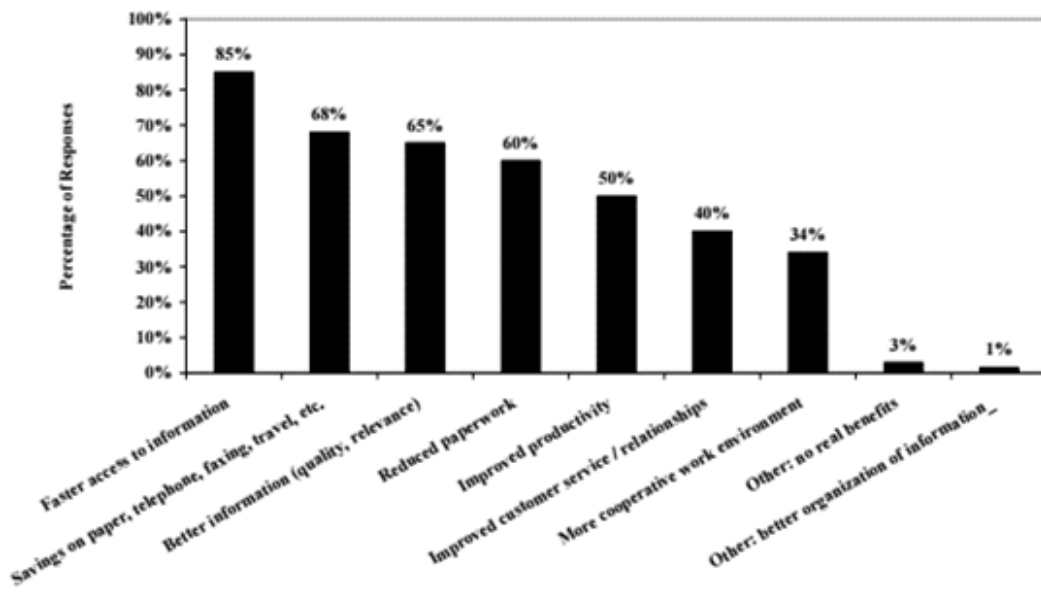
Fig. 1 Graph of main benefits of Intranet (Linda V. Knight et al., 2005.)

However, in recent years, the evolution of digital world changed the current technological context considerably, with an obvious impact for companies on communication, information sharing system and collaboration manners. The consequence is a "push" towards something new, more advanced and evolved, capable of dealing the present challenge for flexibility, remote accessibility

and system integration, but above all S.O.C.I.A.L. according to(Riemer & Richter, 2012):

- **S**ocialising
- **O**rganising
- **C**rowd Sourcing
- **I**nformation Sharing
- **A**wareness Creation
- **L**earning & Linkages

The reason of that is that today Intranet is seen as a central hub of official content, for spreading officially curated information to employees in a streamlined manner (Young, 2015). Although the boundaries can become blurry, since intranets of today can be enhanced with social layers adding collaborative features to the software itself (Tredinnick, 2006), it is still a fact that an intranet has a stronger focus on document management and primarily follows a push approach (Neal, 2015) where organizations "push" official content and information to the employees.

2.3.1 SOCIAL BUSINESS COLLABORATION

The road forward has been mapped out. Despite in the past the introduction of technological tools 2.0 were seen as a passing fad, cause a lack of contextualization of them in a work environment, today the increased maturity of companies and available technologies, is taking us toward the Social Business Collaboration (M.Corso, S.Mainetti, A.Piva, M.Mazzucco, F.Saraceni, 2015). As stated by authors, it is a phenomenon even more important, defined like "*a jump towards new way to work with the purpose to improve effectiveness of processes and to manage in the right way company knowledge*". Data furnished by Trista Bridges (2013) show that surveys conducted in Germany, France and UK presented a 60% of companies that had taken the first step in projects focused on social

collaboration, also if only the 11% of them declared to have fully implemented or completed their projects, and another 33% had at early stage of implementation. In Italy, in 2013-2014, the level of companies moved first steps in SBC projects were the 50% and they have become the 61% the last year, with a percentage growth of 22% (www.osservatori.net). Despite the high level of implementations, these numbers regard the large enterprises. For SMEs situation is different, appearing still faraway by numbers of large companies. Indeed, until now, only the 20% of SMEs have or have schedule an activity regarding SBC.

In many cases, companies still not understanding the real value of a similar choice. The social business collaboration, indeed, have the goal to capture the value added of the collaboration that generally goes among colleagues and co-workers. People, indeed, exchange information, facing each other, discuss and share information and documents. What companies and employees have to recognise is the ability to capture this flow of information, structure it and make it available to others in order to improve the sharing process as well as the productivity (Alfresco, 2015).

INTEGRATION BETWEEN TRANSACTIONAL AND COLLABORATIVE ASPECTS

According to Cervelli R., the only transactional systems are no longer sufficient to maintain the competitiveness of the traditional business model and are not able to support the innovative ones. Collaborative and social applications too, alone, have not make a great difference for companies from economic point of view. Recently, however, a research of Polytechnic of Milan, have certified as the relationship among business processes, traditional IT and collaborative and social application, have taken a right road, more grown then in the past. In 2009, a research of J.M.Whipple et al., already examined the importance of collaborative relationships to combine with transactional relationships. The benefits (or outcomes) from companies' perspective are related to increased satisfaction and performance. Despite a lot of CIO and IT managers agree with that integration, only the 6% stated to have a completely integration of collaborative and transactional systems. As argued by S.Mainetti, to achieve higher levels of

maturity the merely introduction of new technologies is not enough, but it is necessary to evolve the architecture of the enterprise information system, with the goal to allow the integration between tool user oriented and transactional systems and enterprise data.

2.3.1.1 THE TRIDIMENSIONALITY OF THE SOCIAL BUSINESS COLLABORATION

The road towards the social business collaboration needs of three dimension on which intervene. They are necessary to guide organization to the implementation of these systems. These dimensions regard Collaborative Processes, Collaborative Behaviours and Collaborative Business Applications (M.Corso, S.Mainetti, A.Piva, M.Mazzucco, F.Saraceni, 2015).

Collaborative Processes

Generally, a company process is the result of two flows, one structured and prescriptive, the other one collaborative and informal. The first, very formal, see

every people in the company as an element of a certain position, having a number of tasks to carry on and responsibilities related to their role. The second, being a not structured component, it is variable and different from case to case.

Fig. 2 The three dimensions of SBC. Source www.osservatori.net

These flows, alone, not solve companies' problems. To achieve valuable benefits, organizations need to integrate both flows. The evolution study of these two lines revealed their progressive convergence towards semi-structured process analysis

(M.D'Aliessi, G.Bracchi, 2013). This type of processes are especially common among service oriented companies and knowledge intensive activities.

Collaborative Behaviours

Collaborative processes are useless if people have not willingness to collaborate with colleagues or superiors. Very often are behaviours of employees to determine good performance of enterprise. For that reason, top managers need to instil in their employees some behaviour coherent with *information sharing, transparency, trust, social interaction, and risk and responsibility ownership*. In order to achieve these goals, corporate needs to use levers such as *top management's commitment*, *incentive of collaborative behaviours*, *logics of gamification, examples to follow and rewards and recognitions*. Finally, drivers to guide this change have to be top management, employees, managers, vendors and so on (M.Corso, S.Mainetti, A.Piva, M.Mazzucco, F.Saraceni, 2015).

Collaborative Business Applications

The need of collaborative software is not a recent need. The evolution of Web in Web2.0 and the evolution of related technologies for communication and collaboration are developing in the last years. A lot of these software and applications are born to reply to different needs, such as Blogs, Wikis, RSS, Instant messaging or more (Tredinnick, 2006).

Many of them were developed in a stand-alone way, without integration with other tools. Users had subsequently added different tools based on their needs regarding individual productivity, management systems, file management and communication and collaboration tools. Nowadays, vendors are converging these classes of tools in a single one, where all of them are integrated to be aligned with the paradigm of social business collaboration.

Concluding, to achieve higher level of maturity, is necessary to evolve the architecture of the IT system focused on user and its needs.

2.3.1.2 THE CRITICAL SUCCESS FACTORS OF SBC

The challenge of companies that want to change the way to develop their processes, as already stated, is not exclusively about technological factors but also to other elements. First, the change is strongly influenced by people's behaviours. Top management and line managers are often the responsible of the success or failure of a completely adhesion of organization to features of social business collaboration. For that, the presence of a constant commitment by top management is definable as a key factor. Second, the rapidity of business environment forces companies and workers to be constantly looking for the latest information that become obsolete even more quick. This is another key element, such as is a key element the integration of tools and technologies of Web2.0 within enterprises' applications and platforms. Finally, the last key element that is one of the main goals of companies is the valuation of benefits useful to understand their ambitious targets. The awareness and the sharing of possible benefits achievable

Fig. 3 Relationship between obtained benefits and expected benefits.
Source: www.osservatori.net

by organizations can also be an important driver toward the adoption of tools of SBC.

2.2 THE ENTERPRISE SOCIAL MEDIA

2.2.1 HISTORY AND DEFINITION

Before giving a global definition of ESM it is appropriate to provide some important notion about the concept of Social Media. The age of social media began about 20 years ago, precisely in 1997, when Sixdegrees, the first social network site (SNS), was created in order to connect people anywhere in the world quickly and efficiently (Beer, 2008). It can be defined as a kind of father of modern Facebook, Google + and so on. Even if today this term is widely used thanks to the increasing popularity of SNS like Facebook and MySpace, or the broadcast messages on microblogging sites such as Twitter, they are just the tip of the iceberg in the Social Media realm, of which SNS is part, as it is showed below:

Fig. 4 Social Media Realm - the conversation prism (Brian Solis et al.)

There is not a unique definition of Social Media, but according to (Kaplan Haenlein, 2010), it is possible to define Social media as "*a group of Internet-based*

applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content". This definition conveys two key concepts:

- Web2.0
- User Generated Content

While Web 2.0 represents the ideological and technological foundation, User Generated Content (UGC) can be seen as the sum of all ways in which people make use of Social Media. It is clear that this definition fits in several contexts, including that of Enterprise. These internal social media platforms get our attention in this particular context. Unlike external uses of social media that cross many public platforms, most organizations implement an integrated social media platform for internal communications that contains several functions (A. McAfee, 2009). Using different internal social media platforms, is it possible to find similarities in feel, look or functionality with the most popular social networking sites. Anytime, in addition, is possible to find, embedded within these platforms, wikis and blogs, as well as features through which social tagging and document sharing can happen. That is why, when talking about social technologies used for communication within the enterprise, it makes more sense to talk of these different tools as part of a single platform, the Enterprise Social Media platform. According to (Riemer & Scifleet, 2012), ESMs puts emphasis on UGC leveraging social relationships between employees, interactive communication and sharing of information and knowledge. In support of that and according to (Leonardi et al., 2013),we define Enterprise Social Media as:

> "*Web-based platforms that allow workers to (1) communicate messages with specific coworkers or broadcast messages to everyone in the organization; (2) explicitly indicate or implicitly reveal particular coworkers as communication partners; (3) post, edit, and sort text and files linked to themselves or others; and (4) view the messages, connections, text, and files communicated, posted, edited and sorted by anyone else in the organization at any time of their choosing.*"

At present, there are several communication technologies implemented in enterprises that allow doing one, or more, of the activities cited in the definition above. Examples of them are e-mails, Q&A forum or knowledge management systems that allow at the same time to send to other colleagues files like documents, videos, images or links. However, the element that make the ESM important within organizational context is the likelihood to do these activities, and more else, all in one place and at any time in the future thanks to the opportunity to record, store and get access to the content consistently in an organizational setting (Treem & Leonardi, 2012). That is an important element because it allows co-workers to keep track of passed activities that can be useful for the future, thereby avoiding unnecessary duplication of work and efforts. Furthermore, it also allows people of the same organization to enlarge their social networks, personal relationships and sources of learning. These are just some of important aspects that increase opportunities for *social learning* within companies (Leonardi et al., 2013).

2.2.2 FEATURES AND TOOLS

The features of ESMs are the features of Enterprise 2.0 technologies. By Enterprise 2.0, I mean the integration of Web 2.0 technologies (forums, wikis, social networking and instant messaging) within enterprises to drive business value and leveraging communication and collaboration (A. McAfee, 2009; Trimi & Galanxhi, 2014). The same McAfee, that in 2004 coined this term, also provided us the acronym SLATES, by which he indicates the key features of E2.0 technologies and their potential in organizations' context: search, links, authoring, tags, extensions and signals. These technologies support information sharing, open involvement, collaboration, exploitation, internal or external social network development and knowledge sharing (Corso, Martini, & Pesoli, 2008). They can be used in one way as stand-alone applications (Blogs, Wikis, RSS, Tagging, and Social Networks), but in the other way as a social software suite (ESM precisely) that allows to converge in a unique technology key elements like communication, collaboration, contents and communities.

To understand the mechanisms that allow these "media" to reach the goals for which they are implemented in Web 2.0, it is important to specify their main characteristics defined *principles of social media* (Kim, Yue, Hall, & Gates, 2009)(A. P. McAfee, 2006)(Levy, 2009)*:*

Principle	Description
Harnessing Collective intelligence	Internet applications should harness the collective intelligence of all internet users. In principle, it demands the creation of an architecture of participation, where simple and user-friendly operation support user-generated content, which in turn leverage the network effect, where the software gets better the more user contributions taking place.
Data is the next "intel inside"	One of the key aspects of differentiation in the era of Web 2.0 is collected data, where it demands for the use of unique and hard-to-replicate data sources.
Innovation in assembly	The creation of platforms to foster innovation in assembly, where rearrangements of data and services are creating new opportunities and markets.
Rich User experiences	Going beyond traditional web-page metaphors in order to deliver rich user experiences combined with the best of desktop and online applications.
Software above the level of a Single device	The creation of software enabling the visualization on multiple devices connected through the Internet, building on the growing pervasiveness of online experience.
Perpetual Beta	Moving away from old software development models and adoption in terms of online and continuously updated, software as a service (SaaS) models.
Leveraging the long tail	By enabling a broad reach and low-cost economics by the Internet, Web 2.0 leverages the capture of niche markets profitably.
Lightweight Models and Cost-effective Scalability	In order to establish products and businesses in a short time and cost-effectively, the usage of lightweight business- and software development models are required.

Table 1 Principles Matrix (O'Reilly, 2007)

According to (Kim et al., 2009), the applications of these principles in the social media world that needs enabling technologies (likes Semantic Web, Interactivity Responsiveness, Web Services, AJAX, XML, Rich Internet Application (RIA) tools, Flash and others), are the following:

- Social Network Service (e.g., Facebook, MySpace);
- Sharing (e.g., YouTube, Flickr, Bit Torrent);
- (Micro)Blogs (e.g. Twitter, Yammer);
- RSS(Rich Site Summary), Mashups, Tagging and bookmarking (e.g., del.icio.us);
- Collaborating (e.g., Wiki's);
- Rating and Recommendation systems;

- Others (e.g., Window Live, Google Adsense, Skype, Web widgets).

It appears that the adoption of these tools of Web 2.0 cannot be the same within Enterprise 2.0 context, at least for the moment, but it is equally evident how these tools give organizations the opportunity to benefit from the main social media principles. Indeed, they give a great contribution to overcome the difficulties and disadvantages in the use of traditional knowledge information systems (KIS) for supporting knowledge sharing (KS) and application (Boeije & Kolfschoten, 2009)b.

2.2.4 PURPOSES OF ESM

In their work, (Gallaugher & Ransbotham, 2010) provided a number of case studies in which they gave an overview on how organizations were using social media to achieve their different business goals. These goals range from marketing purposes to other ones, such as human resources, innovation or strategy. In many cases, needs were the same, such as collaboration, communication, co-creation, information and knowledge sharing or more. However, the difference was often about the purposes. There is, indeed, the possibility to split the purposes in two different categories:

- External purposes
- Internal purposes

In the first one, organizations often have external business applications. In these cases, they use them to involve a business and their partners such as suppliers, customers, distributors, and all type of stakeholder in constant collaboration, communication and value co-creation.

In the second one, which concerns this work, internal business applications are related to internal activities focused on improving business processes through co-workers collaborations (e.g. through wikis and blogs, internal knowledge management and knowledge retrievals using tagging and folksonomy) (Kim et al., 2009). These applications or tools allow workers' experience to add different

methods to share experiences, collaborate, send and receive information, more than in the past. According to Gopsill et al. 2013, the use of one or more of these tools makes possible to address people, knowledge and/or information appropriate for a specific task. This new but widespread way to interact through social media within organizations is giving a great support for employees' communication.

Supporting this argument, I can use findings of (Sarka et al., 2014) who in their work show different kind of purposes for which workers use social media. They have been grouped in five categories corresponding to five different people's needs:

- INFORMATION
- NETWORKING
- SEARCH
- KNOWLEDGE
- SOLUTION

The need of information is evident in every business situation where the development of a product, service or a combination of both is the goal of an organization. Correct and useful information can be translated into relevant savings of time and money for them. In this sense the availability of information for old projects becomes very important,   because often new solution developments lay the foundations on parts of existing works and knowledge. Duplications and redundant works must therefore be avoided in order to save time that in some case becomes the value added for a company (e.g. *Time To Market*) (Maier et al., 2009).

The need of Networking is another key element that has driven towards social media adoption for work purposes. In a digital era, where all communications become 'real time' and where being geographically separated cannot be anymore a barrier for collaboration, 'to be connected' anywhere and anytime with colleagues is nowadays a necessity.

The third need is the search of something that gives, to the people engaged in a company, a reply to their questions. Every single person sometimes in a workday

may have necessity to have access to information, solutions for a problem or simply knowledge. They search them through internet, documents or colleagues' knowledge. Social media in this case can be a solution for this need. Similarly, it just could be also for need of knowledge and get fast solutions to work issues, preventing time wasting on works already done once.

It is important not to forget that the purposes of an enterprise social media must be aligned certainly with people of an organization, but they need to be aligned especially with the goals of a company where same people are engaged. According to (Li, Webber, & Cifuentes, 2012) the organizations have to direct their efforts towards the following activities:

- **Encouraging sharing:** since the introduction of emails, the way we communicate is fundamentally changed, reducing cost and effort of our interactions. S.O.C.I.A.L. represents a fundamental change because of its essence that encourages sharing.
- **Capturing knowledge:** capturing the collective knowledge of an organization is a daunting task because it includes a wide range of facts, information, and skills gained through experience. Yet few people proactively sit down each day to document and capture their knowledge. ESMs provide an opportunity to do just that, by capturing glimpses of knowledge through profiles, activity streams, and interactions.
- **Enabling action:** the flow of information run faster and faster. Having an ESM to manage and allowing everyone to share information through it is what many organizations need today.
- **Empowering employees:** the last way, but also the most important, is to empower workers through ESMs and embolden them to speak and join up, as well as to give them opportunities to add value within the enterprise with their skills and ideas.

2.2.4 BENEFITS

The number of benefits that a social media platform in an enterprise can give to managers or generic employees is substantial.

Firstly, the existing literature talks about a general improvement of communication and knowledge. The obvious reason is that they are 'social', so they must be used to increase common knowledge. As Russell Working said in his article in 2012, these social media are useful to make available to everyone the knowledge of individual. They make possible to archive the knowledge increasing existing know-how. No more a physical archive to browse, but a virtual space in the cloud where you can search answer to a lot of questions. In this direction the joint efforts of many subjects is able to produce a better outcome than anyone could achieve individually (Kaplan & Haenlein, 2010). Furthermore, they allow collaborating in 'real time' in geographically separated situations, a fundamental innovation for the job in the third millennium.

Secondly, the benefits often are intangibles such as the company cohesiveness (Ford & Mason, 2013) that in many cases provides a relaxed and communicative environment for employees, even while at work. This has been shown to boost overall cohesiveness, which in turn strengthens workers' motivation.

In general, benefits for an organization concern employees, customers and partners. In a survey conducted for McKinsey (2010), (Chui et al., 2012) provide an overview on the adoption and related benefits of ESM. They, summed to other findings, allowed defining the followings benefits:

- Emails reduction;
- Increase of efficiency in teamwork;
- Improvement of internal collaboration processes;
- Increase of bottom-up knowledge;
- Enhancement of internal knowledge management;
- Promotion of the corporate culture;
- Improvement of work documents and their updates versions;
- Increase of employee productivity;
- Motivation of employees and building of loyalty;
- Enhancement of internal talent management;
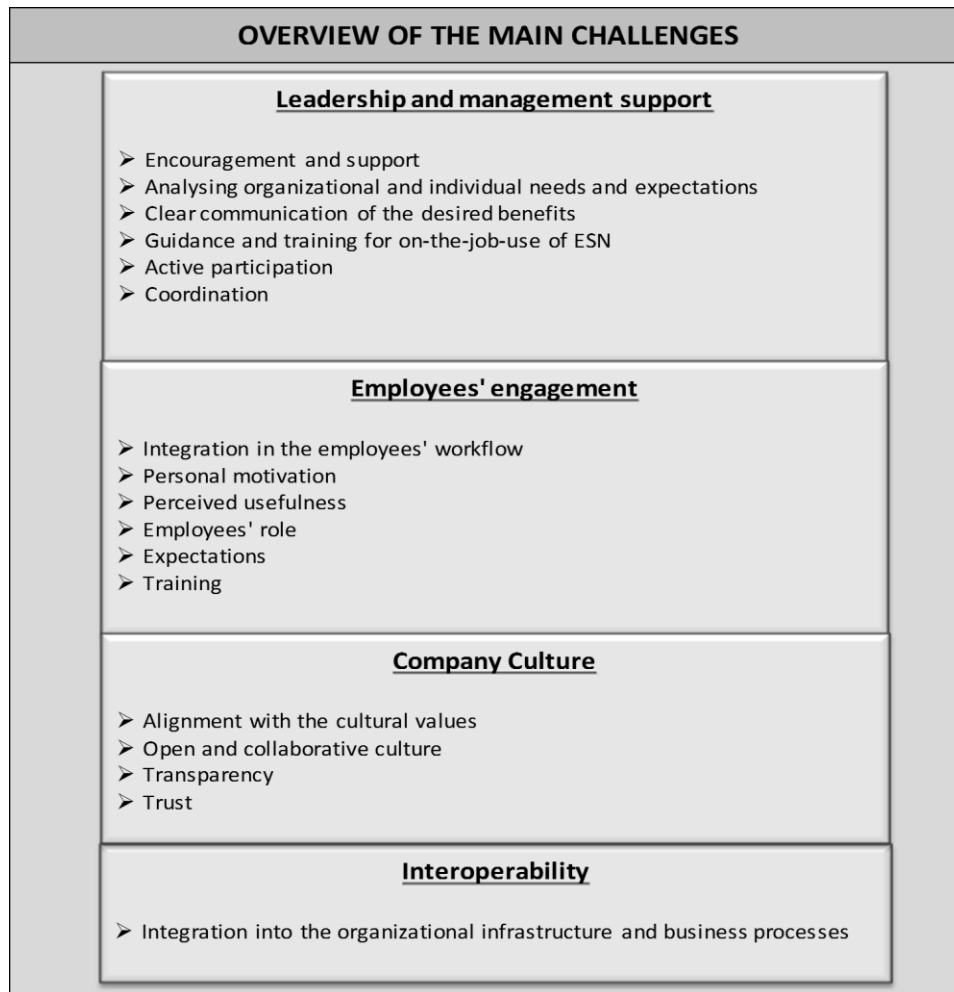- Improvement of efficiency in managing new ideas;

- Increase of effectiveness for communication across distances;

- Reduction of efforts spent on managing corporate information;

- Increase of crowdsourcing within the company;

- Reduction on costs spent on the previous points;

- Reduction on efforts spent on managing information;

In some case it is not possible to define a percentage of how much the benefit is. As suggested by (Lin & Lu, 2011) for some of them it is appropriate to talk about perceived benefits translated into *usefulness* ("the degree to which a person believes that using a particular system would enhance his or her job performance" (*Electronic Services: Concepts, Methodologies, Tools and Applications: Concepts, Methodologies, Tools and Applications*, 2010) and enjoyment ("the pleasure the individual feels objectively when committing a particular behaviour or carrying out a particular activity" (Moon & Kim, 2001)).

Ultimately, the benefits of an ESM are multiple and various, in many cases depending on a type of business or on the intensity of collaboration among colleagues and their need to collaborate across distances or not.

2.2.5 CHALLENGES

On the one hand, it is possible to find many benefits supporting introduction of social media platform, on the other hand it is also true that not trivial are the barriers and the challenges that obstruct their adoption. By reviewing the existing literature, as is shown in the figure 3, it appears clear that in many cases the adoption of an ESM failed for reasons ascribable to one or more of the followings categories (Pierce, 2015):

OVERVIEW OF THE MAIN CHALLENGES

Leadership and management support

➤ Encouragement and support
➤ Analysing organizational and individual needs and expectations
➤ Clear communication of the desired benefits
➤ Guidance and training for on-the-job-use of ESN
➤ Active participation
➤ Coordination

Employees' engagement

➤ Integration in the employees' workflow
➤ Personal motivation
➤ Perceived usefulness
➤ Employees' role
➤ Expectations
➤ Training

Company Culture

➤ Alignment with the cultural values
➤ Open and collaborative culture
➤ Transparency
➤ Trust

Interoperability

➤ Integration into the organizational infrastructure and business processes

Fig. 5 Overview of the main challenges associated with ESM

The figure 5 shows a summary of possible challenges associated with enterprise social media, which can limit their adoption within organizations and teamwork. In order to have a clearer meaning of the elements inserted in the box, it seemed appropriate spent some word more about them:

- *LACK OF MANAGEMENT SUPPORT*

According to (Paroutis & Al Saleh, 2009), the lack of support and recognition by management is one major factor hindering the use of these technologies by workers in a company. They argue that an active role of management and is crucial in order to introduce such technologies successfully. It becomes necessary to communicate how these new tools support the achievement of organizational goals, what benefits are intended and how it fits with the strategy of the company. Therefore, it

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appears clear that next to an improvement of cooperation and communication by management, there are another two important elements that should not be ignored, they are *Strategic approach* and *Training.* The first one, according to (Barnes & Barnes, 2010)provides procedures and policies that must be taken before the introduction of an ESM. (Van der Meulen, R., & Rivera, 2013) emphasize the development of a business strategy indicating the purpose and the benefits of these technologies in order to make acceptance and support by employees easier. The second one, not specifically meant to train workers about new technologies in details, rather provides some guidelines for 'on-the-job-use' of them, links their purposes to business problems and trains workers about what particular tasks or issue the tool can be used in order to promote an active participation and encouragement (Brzozowski, Sandholm, & Hogg, 2009)

- ***EMPLOYEES' ENGAGEMENT***

It means how actively employees are participating within the platform and how motivated and willing they are to contribute and share their information and knowledge with other colleagues. A lower level of engagement could lead to the failure of an ESM platform (Malsbender, Kohlborn, Recker, Beverungen, & Tanwer, 2013). On the contrary, perceived usefulness, alignment with organizational purposes and support by management could lead to a successful adoption (Wang et al, 2014). At beginning, usefulness declared by manager introducing the new platforms in the organizations can feeling the employees about their usage, counting on an exciting atmosphere within the organization for the novelty. At the same time, the worries for the changes in many occasions can be source of stress for the employees, limiting their engagement (Razmerita, Nielsen, Kirchner, & Ravi Vatrapu, n.d.). Furthermore, in many cases organizations not support the implementation of these platforms with an appropriate strategy, waiting that to see the benefits occur (A. McAfee, 2009). This way to implement the ESM within the company can initially works, when generally participation is high, but it is intended to decrease if the people

of the organization perceive a lack of defined goals in its adoption and the lack of employees engagement became an inevitable consequence (Leroy, Defert, Hocquet, Goethals, & Maes, 2013).

- *CULTURAL BARRIERS*

A big challenge for Enterprise 2.0 technologies is on the cultural side more than on the technical one (Corso et al., 2008). Hereby, it is impossible to be sure that the introduction of these technologies in organizations will automatically lead to an enhanced collaboration and knowledge sharing culture among employees (Chiu, Hsu, & Wang, 2006). Kamath claims that an organization has to analyse whether the organizational culture fully supports collaboration or if executive support is needed to build a collaborative culture before implementing any social network technology. It is fundamental that an organization already supports full collaboration and that management is able to ensure the support for the culture of collaboration before starting to implement these platforms (Kamath, 2008). According to (Schneckenberg, 2009), the success and the adoption of social technologies depends heavily on the willingness to collaborate and share knowledge among each other by individuals, where especially trust plays an important role. Trust is closely linked to the intensity of relationships among employees. When that intensity is low, it is possible that the content of the information shared is perceived as unreliable and this acts as a barrier to knowledge sharing (Hubert, Lopez, Dell, & Hubert, 2013). But the trust need to be supported by something else that are management support and transparency, as stated in the report of (Duggan et al., 2015). They argue that managers should practice transparency in order to support trust levels among their employees generating benefits for them and organizations.

- *INTEROPERABILITY*

A definition of interoperability state that it is "The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces, and to use the services so exchanged to enable them to

operate effectively together" (Charalabidis, Y., F. Lampathaki, 2014). In reason of that, social tools need to be appropriated in order to enable the integration in the workplace and in shared work practices (Riemer, Steinfield, & Vogel, 2009). ESM can increase their value if coordinated or incorporated within employees' workflow in their day-to-day activities (Chiu et al., 2006). This concept does not prevent the possibility to implement an enterprise social media platform as a stand-alone system, but highlight as an interconnected structure integrated with the existing system, allows an increasing migration of own activities and habits with a positive influence on the level of participation by employees (Li et al., 2012).

2.2.6 COMPANIES' EXPECTATIONS AND THE TRIPLE POSSIBILITY OF DEVELOPMENT OF AN ESM

WHAT PUSH COMPANIES TOWARDS ENTERPRISE 2.0?

"Web 2.0" is the portion of the Internet that is interactively produced by many people; it includes Wikipedia, Facebook, Twitter, Delicious, and prediction markets. In just a few years, Web 2.0 communities have demonstrated astonishing levels of innovation, knowledge accumulation, collaboration, and collective intelligence. Now, leading organizations are bringing the Web's novel tools and

Fig. 6 Value of Enterprise 2.0. Source: janmariniak.blogspot.it

philosophies inside, creating Enterprise 2.0 (McAfee, 2009). Enterprise 2.0 makes clear that the new technologies are good for much more than just socializing. As showed in the fig.6, Enterprise 2.0 efforts are repaid, in the time, with increasing ROI, improvement of productivity, knowledge retention, less waste and
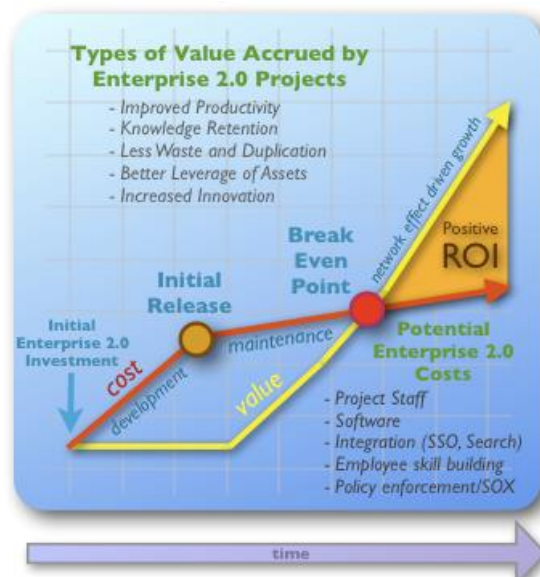
duplications and increased innovation. When properly applied, they help businesses solve pressing problems, capture dispersed and fast-changing knowledge, highlight and leverage expertise, generate and refine ideas, and harness the wisdom of crowds. Most organizations, however, do not find it easy or natural to use these new tools initially.

Moreover, to be actually called Enterprise2.0, organizations should not limit their introduction to the merely use of some new technology for communication, collaboration, crowdsourcing and so on, but they should be able to successfully select, facilitate and utilize appropriate Web2.0 technologies in order to plan actions and initiatives that can lead to future benefits (Seo & Rietsema, 2010). The two authors, through an exploratory research based on six real cases, talked about two ways to use Web2.0 tools, externally and internally.

Externally, they are mainly focused on customer relationships, trying to create a customer engagement and customer loyalty to increase and improve the relationship with the organization, reinforced by functional activities such as customer relationship management, customer service, and marketing and sales. The Web 2.0 tools that organizations can adopt are introduced by four functions. Some tools (e.g. YouTube and social networking websites) can be used across various functions, while other tools (e.g. Twitter) are more beneficial to certain functions (e.g. customer service). Therefore, organizations should select appropriate Web 2.0 tools in accordance with their business needs.

Internally, indeed, the introduction of these tools can bring improvement for four elements, such as organizational structure, organizational culture, communication environment and leadership. These aspects of organizational internal conditions are not independent from each other, but highly related to each other. No matter which aspect an organization initiates to change, it must make sure that each aspect positively influences and reinforces each other. One of the fastest ways for organizations to stimulate this virtuous cycle among four aspects is showing a strong leadership in changing the internal conditions for Web 2.0 activities. Then, this leadership will influence other internal conditions to change.

Concluding, change regarding relationships among and with customers, employees, managers and technologies in general, is driving companies toward new software, applications or platforms, the enterprise social media, able to reply to this new mix of social and technological evolution and needs of current age.

2.2.6.1 THE DOUBLE COMPONENT OF ENTERPRISE SOCIAL MEDIA

Enterprise Social Media (ESM) are developing rapidly in the last years. Internet always and everywhere accessible, smart devices such as smartphones, tablets, laptops, digital natives having high familiarity with new technologies, teams geographically separated with the need to collaborate and many others, are all key elements for the introduction of ESM within companies. It is important, however, to understand which the components of these ESM are. Before to see these components, seems to be appropriate to remember the definition proposed by Leonardi (2013):

Web-based platforms that allow workers to (1) communicate messages with specific co-workers or broadcast messages to everyone in the organization; (2) explicitly indicate or implicitly reveal particular co-workers as communication partners; (3) post, edit, and sort text and files linked to themselves or others; and (4) view the messages, connections, text, and files communicated, posted, edited and sorted by anyone else in the organization at any time of their choosing.

From this definition appears clear the communicational and interactive nature of these platforms that allow people of organizations to work no more independently, but in a collaborative way. This is a, therefore, a clear component of ESM, the social aspect.

As argued by Mumford (2006), an organization is an open work system and consists of technical and social elements. The socio-technical system present both the social and technical system as part of an inclusive system. The social system referring to the people working in the organization (actors), workgroups and the relationships between them, which in turn are influenced by the actors' attitudes, skills, and values. The technical system, indeed, consist in work processes and

techniques, technologies, knowledge and skills used by the actors of the social system needed for the organization to function and to perform its tasks.

The ESM trying to join these two aspect, exploiting the technical component, that creates new way to interact and to be connected with others quicker and better than in the past, and the social component, that reply to users and employees needs to faced tasks and issues discussing with other, searching on web or consulting passed and similar experiences of other to find answer to current ones (J. Girard, 2012).

The socio-technical theory provides an integrated concept which support the understanding of the complex way in which individuals cooperate and use technologies in an organizational environment in order to get their collaborative work done (Eason, 2008). According with Riemer & Scifleet (2012), ESN can be seen as a socio-technical system, where its main focus is to create interactive communication, support social relationships and ad hoc sharing.

2.2.6.2 THREE DIFFERENT WAYS TO IMPLEMENT AN ESM PLATFORM IN A COMPANY

According to (Leonardi et al., 2013) the emergence of ESM has typically followed one of three primary paths into organizational contexts: (1) use of publicly available sites like Facebook, Google+, and Twitter; (2) private implementations of open source or proprietary software, either installed on a company's own servers or acquired as a hosted (cloud-based) software service; or (3) in-house proprietary solutions, often built as prototypes by software vendors for later incorporation into commercial offerings. Leonardi elaborates three different paths below.

Public Sites

Although many organizations now routinely use publicly available social networking and microblogging sites for customer-facing innovation, marketing and after sales service purposes (Kaplan & Haenlein, 2010), in the years before popular sites allowed business pages, employees often independently joined and

interacted with co-workers on public social media. Early studies further examined the tensions created by the use of public sites, such as the potential they raise for proprietary information leakage, hierarchy problems when managers and employees become friends, or personal and work boundary issues (Skeels & Grudin, 2009).

Private Systems

Primarily due to security concerns, a more common approach to implementing social media in the enterprise is through in-house implementation of applications that are not open to external audiences. These can be either open source or proprietary systems implemented on a company's own servers or implemented on a private basis as a hosted ''software as a service" (SaaS). Installing private social media applications were simplified by the availability of popular, and free,

open source wiki and social software such as TWiki, Foswiki, Tiki Wiki, and StatusNet. In recent years, however, many vendors have entered the enterprise social software market with proprietary solutions that can be either installed on company servers or hosted in the cloud. Such enterprise social software tools now typically integrate the full variety of social media functionality, including blogs, wikis, status updates and microblogs, social analytics, and other collaboration tools (e.g. uploading and sharing files and other digital resources), as well as social network features such as profiles and the ability to connect with or follow someone. Examples of such integrated enterprise social software services include Salesforce's Chatter, Microsoft's Sharepoint, Yammer, IBM's Connections, Jive from Jive Software, Oracle's Social Network, Cisco's Webex Social, BlueKiwi from Atos, Cynapse's Cyn.in, Tibbr, Telligent, MangoApps, Socialtext, Socialcast, and Ingage Networks.

In-House Developed Proprietary Solutions

The literature on ESM documents a number of examples of proprietary, custom-built systems, usually developed by computer (both hardware and software) and

information technology companies that have vested interests in understanding how organizations might employ such new computer-based applications. These types of companies not only stand to benefit from the potential for increased productivity of their own knowledge workers, but also have an obvious interest in the potential that ESM can have for their product mix. Their prototypes have been used to support research that informs internal production systems and future commercial products, or otherwise supports client needs. Two custom ESM examples that have been the subject of several papers are the Beehive system developed at IBM and the Watercooler system developed at HP (Brzozowski, Sandholm, & Hogg, 2009)

2.2.7 OVERVIEW ON CURRENT SITUATION OF MARKET

Socialization and collaboration technologies are currently reshaping the established enterprise collaboration market as well as creating whole new categories of offerings, especially around private social platforms. In addition, many other enterprise applications such as CRM and unified communications are heavily transformed through the incorporation of new technologies including group messaging & activity feeds, document collaboration, and analytics. Much of this
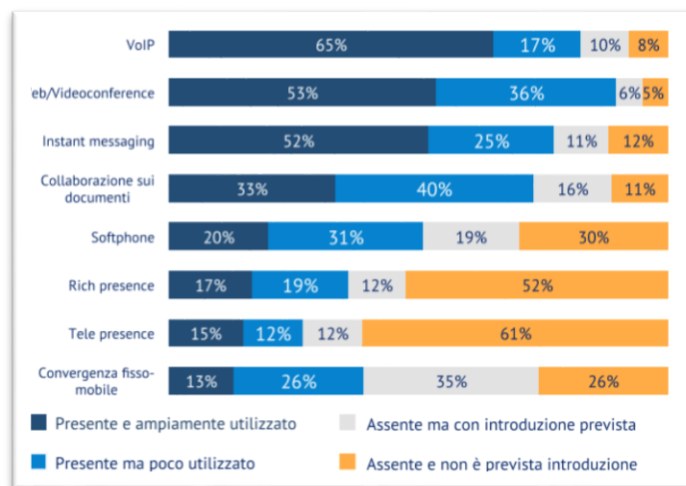

Fig. 7 Diffusion of UC&C services in Italian companies. Source: ww.osservatori.net

change is being driven by the consumerization of IT and the incorporation of social technologies. As businesses look to leverage the benefits of improved "connecting" and "network building" that employees have experienced with Facebook and other social solutions, a convergence is occurring between the

enterprise social software and collaboration markets (Report, 2013). The same report, three years ago, talked about a situation that today we are seeing: the convergence of both social and collaborative technologies into single platforms in order to enhance the benefits that these solutions provide. Effectively, the Enterprise social media market is growing fast. Enterprise social software vendors are improving their products focusing more on mobile features and adding workflow, as stated by T.Petrocelli, research director, Enterprise Social, Mobile and Cloud Applications, for Neuralytix. Petrocelli said that while mobility is becoming a "must-have" capability for many enterprise applications, it is especially important for social networking. Moreover, enabling users to move from simply sharing and discussing information to acting on it by providing features such as task management, templates and rudimentary workflow differentiates enterprise social leaders from the rest of the pack. Without such features, knowledge workers tend to rely on more tried-and-true forms of collaboration such as email. Todays, enterprise social network (ESN) and companies' communities for internal usage is the most widespread initiative within organizations (13%) (M.Corso, F.Crespi, 2014). A research of Polytechnic of Milan conducted by Corso and Crespi, deeply analysed widespread of services such as unified communication & collaboration, social computing or mobile, with interesting results regarding their diffusion in Italian companies. While services of UC&C seems to be used a lot by managers and employees, less exciting are the numbers regarding social computing services. Despite much literature talk about the benefits for organization introducing social computing services, there is still a barrier affecting their introduction that is still on 16% and divided in different elements as shown in fig.8:
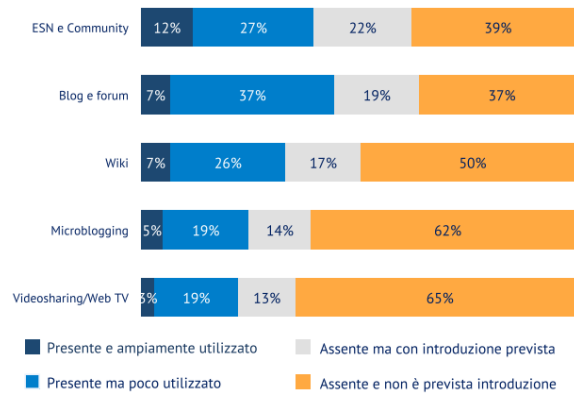
ESN e Community	12%	27%	22%	39%
Blog e forum	7%	37%	19%	37%
Wiki	7%	26%	17%	50%
Microblogging	5%	19%	14%	62%
Videosharing/Web TV	3%	19%	13%	65%

■ Presente e ampiamente utilizzato   □ Assente ma con introduzione prevista
■ Presente ma poco utilizzato   ■ Assente e non è prevista introduzione

Fig.8 Level of diffusion of social computing activities. Source:
www.osservatori.net

2.2.8 THE ESM'S MARKET

Despite this low adoption by companies, the market of social media platforms and software is growing fast. Frost and Sullivan's research of 2013 showed that enterprise social networking subscribers reached 208 million last year, an increase of nearly 30 percent from 2012. Nearly 90 percent of users pay for subscriptions rather than using free versions of social software. They also stated that four vendors command a whopping 80 percent of the enterprise social networking market: IBM, Jive, Tibco and Microsoft (with both Yammer and SharePoint). The scenario, however, seems to be lightly changed from 2012, with an introduction and development of new solutions that are rapidly growing. An article of J.Ellacott in October 2015, indeed, talked about Communispace, IBM, Jive, Microsoft and Zimbra as the five main vendors of enterprise social software. Despite argumentations on why of that ranking, ii seems, however, impossible to define the best software or platform in the market of enterprise social solutions. The features and the variables to judge are numerous and differ from enterprise to enterprise. For that, to propose a single picture comparing all existing software and platforms seems to be an impractical road. It is possible, therefore, analyse different features of platforms and software that appears the most utilized by users and companies. In our case, the analysis of these enterprise social media regards vendors like Podio, Yammer, Chatter (Salesforce) and Slack. The choice wanted to investigate about the features and drivers to understand common and different point both for SMEs than for large companies.

Podio

Podio is an Enterprise collaboration software that supplies a cloud-based service. It is useful to organize team communication, data and content in PM workspaces. Founded in 2009 by Jon Froda, Anders Pollas and Andreas Haugstrup Pedersen, Podio was acquired by Citrix, an American multinational software company, in 2012.

Podio, differently from most PM systems that have rigid, fixed structures that compel users to speak their language and work in a predefined structure, is unique because allows each user to create their own tools and design custom workspaces (J.Titterington, 2014).

Podio is entirely web-based, suppliers as SaaS or On-Premise. A great attracting element for users is the possibility to download iPhone or Android app on personal mobile devices, in order to be able to communicate, collaborate and update data everywhere. Moreover, Podio allows their customers to create personal apps based on their needs and sharable with others on own web-market.

Fig.9 Features of Podio. Source: www.getapp.com

From 2011 to 2015, managers, employees or Podio support teams have created over 10 million of apps. Generally, typical customers are freelancers and SMEs. Very low, indeed, is the number of large companies using that platform which base its force on the flexibility and evolution of a digital environment, well combined with the needs of small business. Concerning features of Podio, a list of main elements provided from vendor is shown in fig.9.

Another important element of Podio, but in general of all enterprise software and platforms, is the possibility to integrate it with common applications and service cloud-based or web-based. Example of integrations are Dropbox, Google App, Google Drive, Box and others for a sum of 28 integrations.

This integration is very important because allow users to create, send, store, upload or share files and document using old web-based systems but in a work environment thanks to their integration with Podio.

Finally, the costs for a subscription starting from nine dollars for month. The account is a freemium type, meaning that the cost rise depending to the kind of requested service. It is also possible to get a free account but with a very limited number of contacts to add (max 5) and limited functionalities to use.

Slack

Another software for small and medium business, very appreciated by users, is Slack. This software is developed by Slack Technologies and is a cloud-based team collaboration tool. Slack started as internal tool for the company, and now is one of the most appreciated vendor of collaborative software solutions. The growth of Slack was constant from its launch in 2013, with the acquisition of Screenhero in 2015 in order to add voice, video and screen sharing (http://blog.screenhero.com/post/109337923751/screenhero-joins-slack).

This platform, such as Podio, supports iPhone and Android apps but differently from it, typical customers are not only freelancers and SMEs but also large enterprises. Features of Slack are, indeed, shown in fig 10.

From these features it is possible understand how Slack is major focused on communication among team workers. Additionally, Slack teams allow communities, groups, or teams to join through a specific URL or invitation sent by a team admin or owner. Talking about integrations, it is possible to say that their number in Slack is conspicuous, with more than one hundred integrations such as Box, Dropbox, GitHub, Jira Software, Zendesk and much more.

Fig. 10 Features of Slack

As well as for Podio, also Slack presents a freemium version with a starting price from 6.67 dollars for month.

Concluding, the number of daily active users is very high, with over one million people online and over than six thousand groups around the world using it.
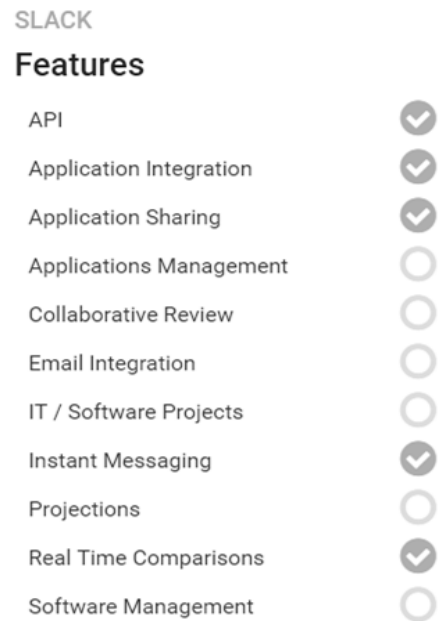
Yammer

Founded in September 2008, Yammer is a freemium enterprise social network service used for private communication within organizations and one of the simplest online business platforms to navigate.

This platform, defined some years ago as "Facebook of Enterprises", it was acquired by Microsoft, in late 2012, for over than 1 billion of dollars. Later, in 2014, Microsoft announced the moving of Yammer into Office365 development team.

YAMMER

Features

API ◯

Application Integration ✓

Automatic Notifications ✓

Instant Messaging ✓

Task Tracking ✓

Third Party Integration ✓

To-Do List ✓

Fig 11. Features of Yammer

Yammer is based on the idea of creating a digital social platform for, however, business customers to share with colleagues the projects on which you are working and those in the pipeline. Differently from Podio and Slack, it is a choice especially of large enterprises, also if are freelancers and SMEs among its users. Main features, as showed in fig 11. , regard automatic notifications, instant messaging task tracking and much more. Moreover, with Yammer app directory, it is possible to have all apps in a single location boost engagement and empower employees to find other useful apps. With it, employees can browse and cnnect business apps in their own. The main integration in Yammer are Bitium, GitHub, Microsoft Dynamic, Zendesk and others. Despite the membership with Microsoft, very little are the integrations with its other software and applications. Generally the number of total inegration is quite low, with only tirthy for an enerprise social platform having big partners around the world.

Also in this case the platform deliver a freemium account for 3 dollars/month for the basical version.

Salesforce.com (Chatter)

Salesforce.com is an American cloud computing company born in 1999. Its name is strongly related to customer relationship management (CRM) products, but in the last years, it is also developing on commercial applications and social networking. Salesforce.com's services regard several categories such as Sales Cloud, Services Cloud, Data Cloud, Marketing Cloud, Analytics Cloud, App Cloud and IoT. Salesforce was initially built to be utilized by everyone on a

company's team it has become most useful for professionals in the sales, marketing, and services departments. In 2010, Saleforce.com launched an enterprise social network to connect co-workers within organizations and enable them to real time collaboration and interaction (http://www.salesforce.com/chatter). Chatter brings social networking to the enterprise in much the same way salesforce.com brought Web 2.0 to the enterprise enabling the benefits of social networking to be utilized for new strategic advantages. Chatter delivers the familiar look and feel of social networking sites like Facebook or Twitter to enterprise customers in a secure platform. With Chatter, customers can capitalize on the social networking concept to allow users to establish networks of co-workers and team peers to follow, and enable them to streamline productivity by posting status updates on documents and projects. While the broad range of Salesforce.com's products is adopted, generally, by medium and large enterprises, Chatter is a solution adopted especially by small business. Differently from other solutions seen before, Chatter have not a freemium account, and the only possibility to use it is paying a monthly price of 15 dollars, or free, but only purchasing a CRM licence. Compared with others platforms or software, Chatter has not an iPhone or Android app and the number of integrations is very limited, with only seven of them including Now Workplace, SocialChorus and Zapier.

2.2.9 OVERVIEW ABOUT RESULTS AND COMPARISONS

In order to have a clear comparison of main features and numbers of selected platforms chosen graph are proposed as following:

- *Number of users by industry*

PODIO — Users — By industry
- 11% Marketing and Advertising
- 11% Computer Software
- 11% Information Technology and Services
- 7% Marketing & Advertising
- 60% Other

YAMMER — Users — By industry
- 30% Information Technology and Services
- 20% Civil Engineering
- 10% Internet
- 10% Sporting Goods
- 30% Other

SLACK — Users — By industry
- 19% Computer Software
- 17% Information Technology and Services
- 14% Internet
- 8% Marketing and Advertising
- 42% Other

SALESFORCE — Users — By industry
- 21% Computer Software
- 19% Information Technology and Services
- 10% Internet
- 4% Marketing and Advertising
- 46% Other

Fig. 12 Number of users by industry

- *Number of users by country*

- 33% United States
- 13% Canada
- 8% United Kingdom
- 5% Netherlands
- 41% Other

- 50% United States
- 20% Belgium
- 10% Norway
- 10% China
- 10% Other

- 40% United States
- 7% Canada
- 6% United Kingdom
- 4% Australia
- 43% Other

- 61% United States
- 6% Canada
- 5% United Kingdom
- 5% India
- 23% Other
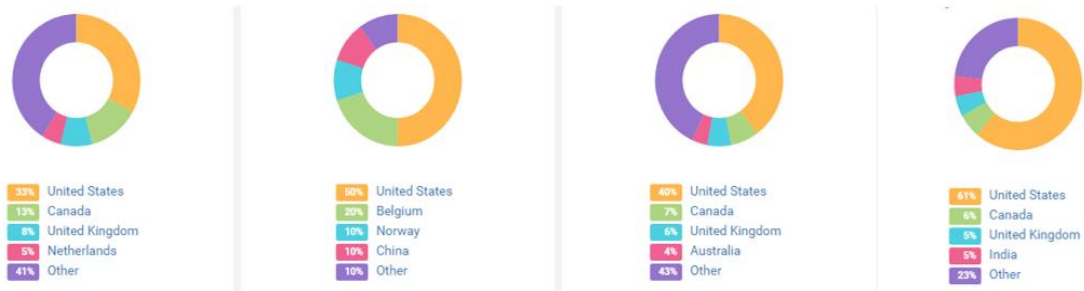
Fig. 13 Number of users by country

- *Number of users by company size*

- 56% 1-10
- 19% 11-50
- 4% 51-200
- 7% 201-1000
- 15% 1001+

- 20% 1-10
- 20% 11-50
- 50% 51-200
- 10% 1001+

- 37% 1-10
- 32% 11-50
- 15% 51-200
- 6% 201-1000
- 11% 1001+

- 16% 1-10
- 30% 11-50
- 27% 51-200
- 6% 201-1000
- 20% 1001+

Fig. 14 Number of users by company size

2.3 THE IMPORTANCE OF KNOWLEDGE SHARING WITHIN COMPANIES

Nowadays, knowledge is one of the most important strategic assets within organizations that can give them the added value able to make achievable and sustainable competitive advantage (Davenport, 2000). In the existing literature, there is the shared idea that new technological tools of social media platforms, with their specific features, can improve knowledge management and knowledge sharing processes (Paroutis & Al Saleh, 2009). But if on the one hand it is true that these tools can improve the work life for employees for knowledge purposes, on the other hand it is equally true that they are barriers to the employees' active participation that limit the complete use of these platforms. In the following chapter, I am going to understand and analyse which barriers avoid their adoption proposing a solution to knock down them.

2.3.1 THE KNOWLEDGE SHARING CONCEPT AND ITS DEFINITION

In workplace context, the word knowledge refers to something that resides in individuals including ideas, information and expertise relevant to tasks performed by organization, groups or individuals (Timonen & Ylitalo, 2007). Recently, in the high company competition in business environment, the capability of organization to acquire, create, manage and apply knowledge has become a key factor to gain competitive advantage (Lee, Shiue, & Chen, 2016).Theoretically, knowledge sharing is a part of knowledge management including creation, acquisition, sharing, and maintenance of knowledge (Jones & Texas, 2005). Specifically, knowledge sharing could be seen as the critical activity for improving organizational capabilities, including innovation, absorptive capacity, problem solving, and profitability (Foss, Husted, & Michailova, 2010). Through knowledge sharing employees can gain relevant information and knowledge about the company and other colleagues, transferring or exchanging their extrinsic and tacit knowledge, useful to activate the knowledge creation process. Aligned with that is the thought of (Wang & Noe, 2010) who say that knowledge sharing is a part of a social interaction culture within organization in which people make available to everybody their knowledges, skills and experiences, also collaborating to solve problems, develop ideas and implement policies and procedures.

All in all, according to (Hooff & Ridder, 2004) it is possible to define knowledge sharing as a "process where individuals mutually exchange their implicit (tacit) and explicit knowledge to create new knowledge". It is aligned with the above-mentioned concepts, but need to get some clarification about the concept of tacit.

2.3.2 THE TACIT KNOWLEDGE AND CREATING KNOWLEDGE PROCESS

In order to understand how social media platforms and technological tools of Enterprise 2.0 can enable the creation of the knowledge process, it seems appropriate to talk about how it works. According to the existing literature, based on (Nonaka & Takeuchi, 1995) theories, it is important explain the importance of tacit knowledge through the SECI model. In contrast with explicit knowledge that is often formal and impersonal and substantially in form of documents, paper, reports, procedures etc..., tacit knowledge is very personal and finds no little difficulties to be transposed on a paper sheet or in a file document. The best way to transfer tacit knowledge is through face-to-face communication. Those exchanges can be formal (deriving by conferences, learning etc...) or informal (such as informal social networks, task forces or interactions with other colleagues), anyway, both need the willingness by workers to share what they know (Casimir, Lee, Holste, & Fields, 2010). However, in order to understand how knowledge is created and how knowledge process is enabled by ESM platforms, an explanation of SECI model functioning is necessary:
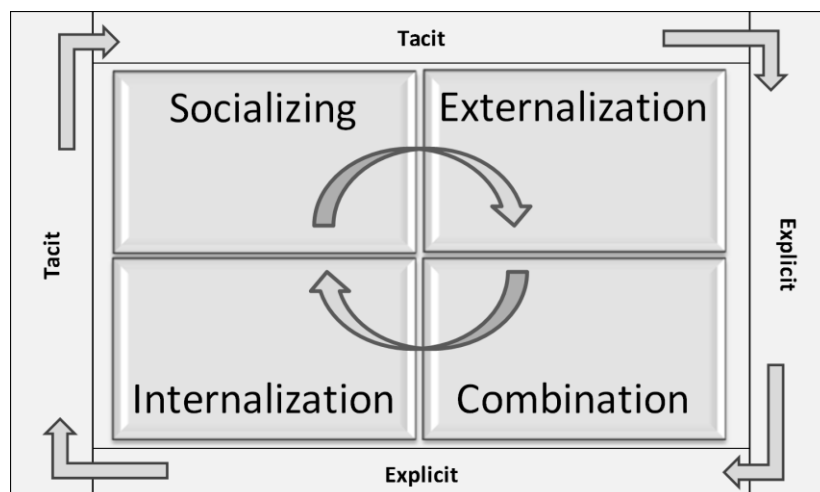

Fig. 15 SECI model (Ikujiro Nonaka & Hirotaka Takeuchi)

We have four cycling phases, each of them need of a specific knowledge (explicit or tacit). The socialization phase is the easiest way to exchange knowledge, from explicit

to tacit, involving the knowledge sharing process with the goal to acquire a shared comprehension (Dalkir, 2005). The externalization phase has the delicate purpose to convert the tacit knowledge to explicit through metaphors, analogies, models or hypothesis. The right way to follow in this case is to make that knowledge tangible, by writing, recording or in other ways. The third phase, combination, allows mixing the existing or personal knowledge with the new acquired one during previous phases. The last one, internalization, describes the transition from explicit to tacit knowledge. In this phase, there is an integration of experiences and knowledge shared or individual through the 'learning by doing' model, 'on-the-job-training' or observations (Chou, 2005), that can be used by everybody engaged in this process to expand or reframe the new acquired knowledge adding to their own existing one (Dalkir, 2005).

2.3.3 BARRIERS OF KNOWLEDGE SHARING: USING ENABLING FACTORS TO KNOCK DOWN THEM

The benefits of sharing and management of knowledge are numerous for a company. It can increase innovation through sharing of ideas or solution for single issues; it can increase profit savings costs linked to management of projects, documents and much more; it can also save time, which ends up by saving money, be easily accessible and available for those who need something; and finally, it can promote a cycling mechanism of self-use and self-production of knowledge that takes advantages for the entire organization.

Despite these benefits, it is very difficult to find an effective and efficient knowledge sharing for work purposes within workplaces. As suggested by Timonen & Ylitalo (2007) and (Riege, 2005) , the potential reasons affecting it might be attributable to three specific categories including:

- **INDIVIDUAL BARRIERS**

- **ORGANIZATIONAL BARRIERS**

- **TECHNOLOGICAL BARRIERS**

According to Handzica, Lazarob, & Toornc (2005), the analysis of the barriers of knowledge sharing could be the starting point forward an understanding of which are the element to be combated and, based on them, which are the enablers to use in order to allow an effective knowledge sharing in workplace.

2.3.4 THE RELATION BETWEEN KNOWLEDGE SHARING AND ENTERPRISE SOCIAL MEDIA TOOLS

If on the one hand, face-to-face communication is the best way to create knowledge, on the other hand it is also true that today's business environment asks for new tools able to make this process faster and accessible. From this perspective, ESM provide a solution. They enable the first phase of the above framework through *observation*, sharing and gathering of knowledge, development and management of ideas with the goal to capture individual knowledge making it accessible and reusable (Boateng, Malik, & Mbarika, 2009). ESMs also allow developing the second phase of SECI model. It is possible, indeed, to collaborate, communicate and discuss having the possibility of receiving knowledge by others, managing it and creating different concepts from gained information . In the phase of combination, ESM leverages integration and combination of knowledge from different sources through uploading, editing and storage of information and content. Finally, these platforms and tools also enable the process of feedback communication, the creation of polls and statistics to evaluate alternatives, content editing and co-creation among employees regardless of their place or time (Pierce, 2015). Moreover, in the following scheme it is possible to find the technologies and tools of ESM platforms associated with each phase of the process.

To conclude, these ESM platforms are able to leverage the learning by doing and asynchronous learning by allowing employees to apply and experiment with the knowledge received from others.

SOCIALIZATION (tacit to tacit)	EXTERNALIZATION (tacit to explicit)
Social media	Blogs/Wikis
Online real-time meetings	Phone/video conferencing
Online community of practice	Collaborative systems
Synchronous communication (Chat)	Discussion forums
Groupware systems	Annotations
	Groupware systems
	Answering questions
COMBINATION (explicit to explicit)	INTERNALIZATION (explicit to tacit)
All forms of technologies	Visualization
Text search	Video/Audio presentations
Document categorization	Online learning
Podcast/ Vodcast	E-mail
Blogs/Wikis	Webpage
RSS	
Mashups	

Tab. 2 SECI model through ESM (Source: Towards Tacit Knowledge Sharing over Social   Web Tools)

It is anyway important to remember that the adoption of these technologies for knowledge purposes is not the end of the work, but rather the beginning. The theory of their use in many cases could seem the best solution, but often the reality can be very hard.

3. METHODOLOGY

In this chapter, I propose the methodological approach used to develop my study. By methodology I mean the strategy, the action plan and the processes linked to the choice and use of particular methods (Crotty, 1998). Before explaining how data collection and analysis were done, I will spend some words about the research design and the methods chosen.

3.1 RESEARCH DESIGN

Research design is a logical sequence of steps starting with an initial research question and ending with the conclusions. Between extremes several steps may be found, including collection and analysis of relevant data (Yin, 2009). Furthermore, it can be seen like a useful plan that guides the investigator to collect, analyse and interpret observations. According to these general guidelines to develop a logic research, I followed the five steps suggested by Yin, which are:

1. *Case study's question*
2. *Study proposition*
3. *Unit of analysis*
4. *Linking data to proposition*
5. *Criteria for interpreting data*

3.1.1 CASE STUDY'S QUESTION

Approaching with existing literature about the selected topic (*Social Media and Knowledge Management*), and analysing papers and articles about it, I realized that a huge field was needed for a circumscription of its boundaries. Therefore, the first step was to choose a part of literature about the selected topic, starting to read articles looking for the following key words: social media, knowledge management, knowledge sharing, web 2.0, Enterprise 2.0, Enterprise social media, teamwork and sharing factors.

The sources to find papers and articles were Scopus.com, Sciencedirect.com, DTU Findit and others. After the first screening, I reached the conclusion that the majority of works examine the ties between organization and social media tools or platforms, focusing on external environment including marketing, stakeholder analysis, customer relationship

and interaction and so on. According to Leonardi et al. (2013),(Suh, 2015) and other authors, very little space, instead, was given to social media within enterprises, and even less to the knowledge sharing and its enabling factors that allow it to achieve high performance through social media platforms. That, added to an increasing interest for that theme and for the evolution of communication channel and interaction among colleagues through new technological tools, inspired a lot of interest for my study.

On this basis, according to motivation explained in the introductive chapter, the research question (RQ) on which I built the work was:

> *RQ1: «How can Social Media support working team in a SME in order to ensure efficient knowledge sharing among employees into in-house knowledge work? »*
>
> *RQ2: «Which are the main barriers in Enterprise Social Media adoption by employees in a teamwork? »*
>
> *RQ3: «Which are the enabling factors favouring knowledge sharing in a teamwork? »*

The answer to these research questions will be the aim of my work.

3.1.2 STUDY PROPOSITIONS

The study proposition is a phase that helps to move the research toward a right direction. Frequently, the claim on which a work is developed derives from existing literature (Baxter, Susan Jack, & Jack, 2008), although not all studies required its presence .

However, for the structure of this work it appears to be appropriate because it is through previous general assumption that I want to start to deeply investigate if reality can confirm them or not. The possibility of gathering data in a direct manner, as interviews are, is one of the best way to realize the accuracy of cited affirmations or, on the contrary, contest it according to well-grounded data.

I propose now a table of propositions founded in literature related with research questions object of my investigation. The proposed table is the following:

PROPOSITION	RQ RELATED	SOURCE
Social media tools emphasize online collaboration and sharing among colleagues.	RQ 1	Prasarnphanich and Wagner (2009)
ESM allows employees to have knowledge about what is happening within the organization, keeping track on projects they are working on, and to be connected real time to their colleagues.	RQ 1	(DiMicco, 2009)
ESMs assist increased efficiency in knowledge and information exchange.	RQ 1	(Cao et al., 2013).
ESM improves challenges in communication and collaboration within team geographically separated, by enabling a better flow of knowledge sharing.	RQ 1	(Ellison, Gibbs, & Weber, 2014).
ESMs prevent the challenges of information overload, by improving processes of creating, managing and using enterprise information.	RQ 1	(Simperl et al., 2010)
Collaborative solution tools support reuse of knowledge helping people and preventing time wasting on things already done once.	RQ 1	Sarka, P., Ipsen, C. Heisig, P., & Maier, A.M. (2014)
ESM leads to a new way of working that drives business alignment and agility, empowers employees to be more productive and successful by enabling them to collaborate easily, reduces cycle times, engages employees, and improves relationships with customers and partners.	RQ 1	Ioannis Leftheriotis & Michail N. Giannakos (2013)
The possible benefits of ESM depends heavily on the full and enthusiastic participation of the employees and on an organizational culture of trust.	RQ 1 and RQ 3	(Chui et al., 2013).
Lack of support and recognition from the organization was also stated as a factor that could adversely affect employee engagement	RQ 2	S. Paroutis and A. Al Saleh (2009)
Weaker privacy makes information more available to others, but may make people less willing to share.	RQ 2	MIS Quarterly Executive, 2015
Social tools require a culture of collaboration and the willingness to share knowledge.	RQ 3	(McAfee, 2006; Stenmark, 2005).

A growing usage of ESM within organizations enables new forms of digital interaction among employees.	RQ 3	(Subramaniam & Nandhakumar, 2013).
Motivation of individual is an important driver for knowledge sharing in organization.	RQ 3	S. Paroutis and A. Al Saleh (2009)

Table 3 Table of propositions found in literature

With it, I will try to get an overview on main aspect analysed in the case study on chapter 4.

3.1.3 UNIT OF ANALYSIS

According to (Trochim, 2006), the unit of analysis is the major entity that is possible to analyse in a study. Samples of these units could be individuals, groups, artefacts or social interaction. It appears important, therefore, to define "who" or "what" the unit of analysis is for a study. Moreover, it helps to identify the relevant information to be collected (Wiley & Pojasek, 2013). The present work focuses on individuals of two different companies, in particular within teams of two SMEs. The choice was made to investigate deeply on aspects involving their engagement, motivation, possibilities and purposes in the use of social media platforms or tools in order to improve their way to work, to acquire and to share knowledge or to interact with colleagues and more in general to understand benefits but also challenges that they meet in the workplace.

3.1.4 LINKING DATA TO PROPOSITION

Once the data have been collected and analysed, the data and results are organized in order to create categories of results to the previous claims and assertions. This step was very important, because it connected the initial part of the thesis (statements) with the final part (results). Through it was possible to check if the research was aligned with existing theories about the topic, or whether there were new findings that might improve or change the existing situation, backed up of course by objective evidence of results.

3.1.5 CRITERIA FOR INTERPRETING DATA

The presence, as well as the choice of a specific criterion, are a helpful element preparing and conducting case study analysis. That choice allows to link the case study data to some concepts of interest, concepts that give the possibility to directing the data analysis. There is not a default criterion in relation to a specific kind of research (Yin, 2009). However, Yin proposes different criteria depending on the outcome to be achieved, as synthetize in the following table:

CRITERION	CONTEXT
Relying on theoretical proposition	*Designing of a case study based on proposition that reflect the research questions, existing literature or new hypothesis*
Working your data from the 'ground up'	*Achieving of goal resulting from a 'playing process' with data able to furnish useful and logical connections among them.*
Developing a case description	*Organization of own case study according to some descriptive framework*
Examining plausible rival explanations	*Data searching supporting other logical alternatives or different point of view of a setting*

Tab. 4 Criteria for data analysis (source: R.Yin, 2014)

Starting with the assumption that everyone can follow an own logic and that the listed criteria are not mutually exclusive (P. Dahler-Larsen, 2008), I decided to use a strategy that combines the first two criteria in the table in order to implement data gained. The scheme proposed have the following structure:
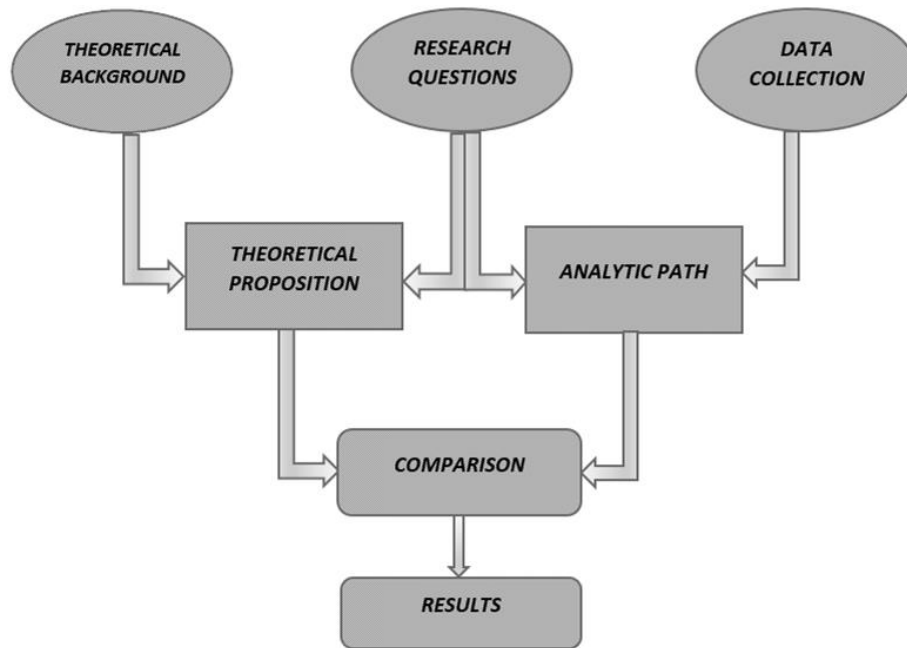
Fig.16 Analytic framework: from data to results

The aim is to achieve valuable results through the comparison of two elements, theoretical proposition and analytic path, deriving respectively from a research of suitable proposition between theoretical literature and my research questions, and from the other side from data collection done in relation with the purposes of the research questions. Considering the present initial framework used to carry on and, successively, develop the research, I make a clarification about the proposed theoretical scheme. According with P.Dahler-Larsen (2008), I need to specify that often the initial plan can undergoes a change in the ongoing process of research and analysis. It is common that patterns and themes change or are discovered during data generation, which are interpreted theoretically, leading to new matters already during the interviews.

3.2 RESEARCH METHOD

Research methods refer to systematic, focused and orderly collection of data in order to obtain information, to solve or answer a particular research problem or question. They can be of different type: historical review, field experiments, surveys and case studies. Often, in business studies, the principal methods used are structured, semi-structured or unstructured interviews, observations and surveys (Ghauri & Grønhaug, 2005).

For this work, I opted for the use of semi-structured interviews. They seemed to be the most appropriate way to deeply understand the arguments linked with my questions and to capture the shades behind every single answer obtained. Moreover, I also have adopted the use of questionnaires to have a general idea and numerical data about the matter and element to examine.

In order to follow a logical scheme that allows the achievement of robust results, I though that the most appropriate research approach in this case could be the Mixed Method Research (MMR). The MMR "involved integrating quantitative and qualitative approaches to generating new knowledge and can involve either concurrent or sequential use of these two classes of methods to follow a line of inquiry." – (Stange, Crabtree, & Miller, 2006). Therefore, this research method, with combination of both qualitative and quantitative approach, allows a better understanding of the research problem than a single approach. For quantitative research I mean 'a formal, objective and systematic process in which numerical data are used to obtain information about the world' (Burns, 2005) and it allows to describe variables, to examine relationships among variables and to determine cause-and-effect interactions between variables. The qualitative research, instead, is a 'systematic subjective approach used to describe life experiences and give them meaning' (Burns et al., 2003).

It is important to specify that there is not a single way to combine these two approaches. Furthermore, just collecting qualitative and quantitative data does not give implicitly or automatically the assurance to make a correct mixed method research. It is important to frame the specific case building on different variables like *paradigm emphasis decision* and *time order decision.* To have a better comprehension of its meaning I propose the following figure:

	Time Order Decision.		
		Concurrent	**Sequential**
Paradigm Emphasis Decision	**Equal Status**	QUAL + QUAN	QUAL → QUAN QUAL → QUAN
	Dominant Status	⬭ QUAL → quan ⬭ QUAN → qual	QUAL → quan qual → QUAN QUAN → qual quan → QUAL

Fig. 17 Mixed method design matrix

The procedure to develop my research is based on the dominant state of qualitative method compared to quantitative one. Moreover, the period in which two researches were carried out is the same, and this set of elements leads us to ground my analysis on the mixed method design proposed by (Creswell, 2003) which is as follows:
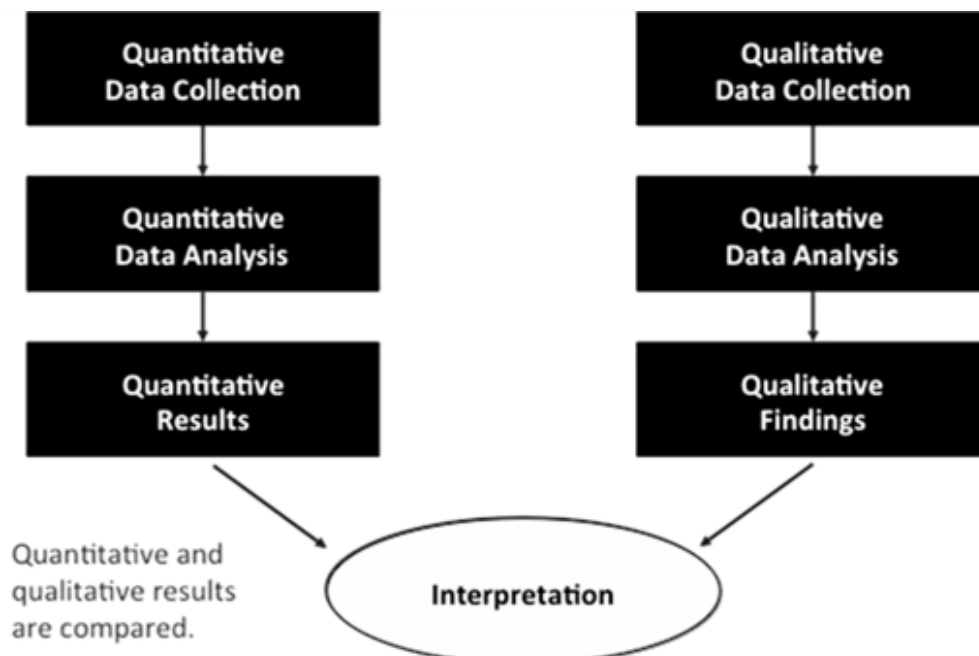

Fig 18. The Convergent Design

In this framework, Creswell suggests to compare and give an appropriate interpretation of both results deriving from data analysis. Even if I agree with this framework, I think it

is appropriate to make a clarification about it. There is in my work, indeed, more emphasis put on qualitative results than on quantitative ones. However, the second kind of results is very useful to give support for qualitative ones and, in addition, to allow a clarification about found data.

TRIANGULATION

According to the above-stated assertions ,I propose to follow the concept of *triangulation* to carry on my work. This new concept is very similar to *Creswell's convergent design*, which gives the same importance to quantitative and qualitative researches. Despite different point of view in literature about the priority of qualitative or quantitative research in *triangulation method* Creswell, J.W., (2007), I realized that it is not the priority but the integration of both (even if in different percentage of importance in a work) that allows the development of a useful mixed method research. Therefore, according to the definition of triangulation stated by L.Cohen L.Manion (2000), which affirms that it is "an attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint",I found that the understanding of human behaviour in this specific case is a key element that links up with other important ones, especially with ESM's concept. In conclusion, through *triangulation* I can check and establish validity of data by analysing a research question from multiple perspectives and arriving at consistency across data sources or approaches. Indeed, it should not be seen as weakening the evidence, but should be viewed as an opportunity to uncover deeper meaning in the data (Patton, 2002).

Considering the assumptions I have made, I use the case study for this work thinking that it is the best way to develop and present the found results.

3.3 DATA COLLECTION

In a case study the ways to collect data are many and different. They may be gained through documents, archival records, observing behaviours, face-to-face interaction or interviews. Of these, the interview seems to be the most appropriate source for a case study, according to Yin (2009). There are basically three different types of interview:

unstructured, semi-structured and structured interview. The first type provides neither predetermined questions nor schemes to follow necessarily; instead the interviewer develops it having just a list of few main concepts through which he can carry on the conversation leaving to the interviewee the control of it. (Arksey, H and Knight, 1999). On the opposite side are placed the structured ones. In this case, the interviewer always follows a standardised and predetermined set of questions with the aim to have different opinions on the same and specific issue or theme. Finally, there are the semi-structured interviews, whose structure, although there is the presence of predetermined questions, is more flexible than the structured one and allows the interviewer to go more thoroughly into a question than into another (Berg, 2001).

According to Yin (2009), in the present thesis data collection will be conducted through a case study research based mainly on semi-structured interviews, but also on questionnaires. Developing a case study research, the design of the research may concern a single organization or comprise multiple organizations (Locke, 2001). In this case, I decided to make an analysis of the usage of social media platforms in two different organizations. It is important to underline that the generalizability of my findings is limited for two main reason: 1) limited number of subjects investigated and 2) differences in roles and position in the companies. Anyway, the research method of employees' interviews is conducted to collect data 'on the ground', to understand not only the effects but also the causes that lead to a particular kind of behaviour or decision in a specific process. Through the interview, it is possible to have a more careful research and clearer picture, because it allows seeing and investigating the problem and knowledge from different point of views according to the role and the level of the participant in the research. Therefore, a two-way communication allows a certain amount of flexibility and openness useful to obtain more details and tap the ESM context more deeply (Recker, 2013).

However, considering the way to collect qualitative data according to Kvale (2008), I reported just some of the seven steps expected for an interview inquiry, by proposing the following scheme used to develop my interviews with related explanation of each indicated step:

Fig. 19 Interview process (source: Kvale 2008)

I decided to start with the second step of the scheme, because the general theme and the aim of my study are explained in the first chapter of the thesis. Moreover, the last step (Analysis) was developed deeply in the chapter four of the thesis.

3.3.1 DESIGNING

The structure of the interview was designing according to research questions and sub-research questions, literature review and conceptual schemes, in order to acquire useful information about the current usage of a social media platform in a SME, the issues, the benefits of using it, and finally the enabling factors that allow or limit their usage.

For this purpose, and to help in understanding the links between question and topic under investigation, I present a little scheme including an extract of questions of the interviews proposed during interviews:

QUESTION	CONCERNING ARGUMENT	RQ
Based on your experience, how has it changed the way you work?	Changes in work-life.	RQ1
How has Podio changed the way you collaborate with your colleagues?	Changes in collaboration	RQ1

*Does Podio **increase collaboration** with your colleagues? How?*	Improvement in collaboration	RQ1
*Which are 3 main **challenges** you had (or have) using Podio?*	Issues or challenges deriving from social media platform usage.	RQ2
*Can you tell me what are now and what were your main **worries** when you started to use Podio?*	Barriers for different phases of its adoption.	RQ2
*Can you tell me what were your main **expectations** when you started to use Podio?*	Drivers of a social media adoption.	RQ3
*Can you suggest possible **Benefits** using Podio?*	Perceived benefits deriving from social media platform usage.	RQ3

Tab. 5 Extract of interview proposed to interviewees (1)

A similar scheme was developed for face-to-face interviews, where interviewees were free to answer questions arguing openly about the topics that had been proposed. Their semi-structured form does not allow to comply with the question in a very strict manner, but it gives the people the liberty to extend their concepts and sometimes it provides more useful information than the ones foreseen.

In addition to the questions for interviews, I have also developed a questionnaire sent by email to several individuals. The questionnaire was designed through Google Drive, which gives us the possibility of sharing it by sending the link, of collecting data directly in an excel sheet and of enabling us to collect and schematize the gained data.

The questions in the survey were structured in a different way compared with the scheme of the interviews. They were designed to give them a specific and unambiguous meaning.

For that reason, they were presented in the form of sentences with the possibility of specifying the level of alignment of their thoughts with the proposed statements through a vote from one to five, in ascending order of agreement. An extract of questionnaire proposed, aligned with Pia Nielsen's findings (2014), was:

TYPE OF ENABLING FACTOR	STATEMENTS	VALUATION FROM 1 TO 5
TECHNOLOGICAL	*IT IS EASY TO* **USE**	
	IT NEEDS TRAINING FOR A GOOD COMPREHENSION OF ITS **FEATURES** *AND* FUNCTIONALITIES	
ORGANIZATIONAL	*MANAGEMENT SUPPORTS* **KNOWLEDGE SHARING CULTURE** *AMONG COLLEAGUES*	
INDIVIDUAL	*I THINK THAT THE USE OF PODIO* **SIMPLIFIES** *THE WAY I* **INTERACT** *WITH MY COLLEAGUES*	
	I SHARE MY KNOWLEDGE THROUGH IT HOPING TO **HELP** *MY COLLEAGUES*	

Tab. 6 Extract of interview proposed to interviewees (2)

The level of agreement with these statements allows us to have a picture of the situation of the main elements that promote or limit the adoption of social media, but also of the enabling factors that allow the knowledge sharing culture among colleagues. (The full framework of the interviews and questionnaires, together with numerical data and consequent implications, are proposed in the next chapter).

3.3.2 INTERVIEWING

The process of selection of interviewees was a very long and time-consuming one. At first, it was not easy to become acquainted with the organizations that were using the

specific ESM I was interested in studying. That is why I decided to contact the developers of the social media platform (Podio) directly, in order to obtain contacts helpful for my project. The steps to contact individuals for interviews were many and long, because it was established to consider various restrictions such as number of employees in the company, specific use of the ESM, role in the company, time horizon of employment, its usage in a teamwork and so on. Successively, respondents were contacted by email or cell phone and some of them gave their availability to take part in the interviewing process. I finally agreed with eight individuals. Obviously, to allow the interviewees to answer more freely to my questions I decided to protect their identity and make interviews completely anonymous, trying to avoid every kind of element potentially connected with the real person. For that reason, the name of people interested or the name of companies are not present. However, a little table was inserted in order to show general information about the respondent.

INTERVIEWEE CODE	ROLE IN THE COMPANY	TYPE OF ORGANIZATION
Interviewee 1	*Surveys and analysis*	*Services Provider Company*
Interviewee 2	*Communication manager*	*Services Provider Company*
Interviewee 3	*Benchmark and project manager*	*Services Provider Company*
Interviewee 4	*Office Manager and Project Officer*	*Services Provider Company*
Interviewee 5	*Project Manager*	*Services Provider Company*
Interviewee 6	*Head of Department*	*Services Provider Company*
Interviewee 7	*Communications Assistant*	*Services Provider Company*
Interviewee 8	*Senior Consultant*	*Services Provider Company*

Tab. 7 Participant details

It is easy to note that the company's industry is the same for both the organizations that took part in the interviews. That allows us to understand the differences but also the similarities in the use of ESM among co-workers.

In spite of the same usage of guide questions, the conversations have been developed in very different ways. In some cases, the interlocutor was very thorough and clear with the explanation of his thoughts and sometimes he happened to anticipate subsequent questions. In other cases, the conversation was less intensive with a minor presence of helpful information, which went beyond the simple answer to the asked question. That was one of the reasons why the duration of the conversation was very different from person to person, starting from a minimum of 22 minutes to a maximum of 43 minutes.

3.3.3 TRANSCRIBING

During the interviews, the use of a recorder was very helpful to keep track of any single word or concept. Moreover, I used a double recorder as safety in the case one of them did not work for any reason. It allowed us on the one hand not to interrupt my interlocutor, asking him to repeat or to wait, in order to write every single word, and on the other hand to understand the intrinsic meaning of a sentence and to categorize it after having analysed it.

During the transfer of the vocal record to a written form, I took a first cleaning step, avoiding to insert unnecessary elements present in a similar case. Further steps, like translation of the meaning of words, categorizing and alignment with key elements of my project were taken in the sub-chapter of data analysis.

The transcription of the interviews can be found in Appendix.

3.4 DATA ANALYSIS

According to criteria proposed by Yin (2013) and to the framework showed in the previous chapter of the research design (fig. 19), I decided to combine the approach using theoretical foundation and the approach using the "data playing process" in order to develop my analysis. The choice of this particular framework for the analysis had the consequence of interesting and helpful approaches proposed by Yin, which I have understood and used in my requirements and also for the choice to use the mix method approach that seemed to be the best way to develop my project.

4. CASE STUDY: THE USAGE OF THE SOCIAL MEDIA PLATFORM PODIO IN SMEs, BENEFITS AND CHALLENGES.

This chapter analyses the data collected during the interviews and questionnaires of respondents to the investigation, having as subject the social media platform Podio. However, I feel the need to get an overview of the social media of that enterprise before starting with my empirical findings.

4.1 PODIO'S OVERVIEW AND ITS FEATURES

GENERALITIES

Podio is an Enterprise Collaboration platform used to organize and manage team communication, data, business processes, and daily tasks in workspaces. Podio, as stated by its founders (J.Froda, A.Pollas and A.H. Pedersen in 2009) was designed to be a "complete work platform for enterprises", a vision shared by Citrix Systems Inc., an American multinational software company that in 2012 acquired the Danish company. At present, there are a lot of similar platforms in the web market that are trying to make their usage within companies a common practice with the aim to improve the quality of work and communication. Despite the large number of social media platform developers, I decided to take Podio as a subject of my case study and the companies that implemented it. There were several reasons prompting my choice, including a good position in ranking (Merchantmaverick, 2014), positive feedback by users, free subscription with the possibility of having access to that platform, even if limited, in order to explore and understand how it works and finally, Copenhagen as birthplace. The last reason was that I thought of a major possibility of finding organizations using Podio in the Copenhagen area, with the consequent advantage to reach the company's headquarters in order to obtain face-to-face interviews for my project.

WORKSPACES IN PODIO

Analysing now Podio features, I can state that this platform provides companies with professional social media-enhanced collaborative workspaces. The workspaces are virtual spaces used to structure the work and to collaborate with a specific group of people. Here people can create a specific workspace for a particular purpose and add colleagues or clients in some way interested in that. For example, workers often have to manage different projects simultaneously, and the mere use of emails or agendas appears to be inappropriate. Supporting this, Podio allows the creation of a specific workspace to manage different projects and different tasks with different colleagues or clients, as showed in the following picture:
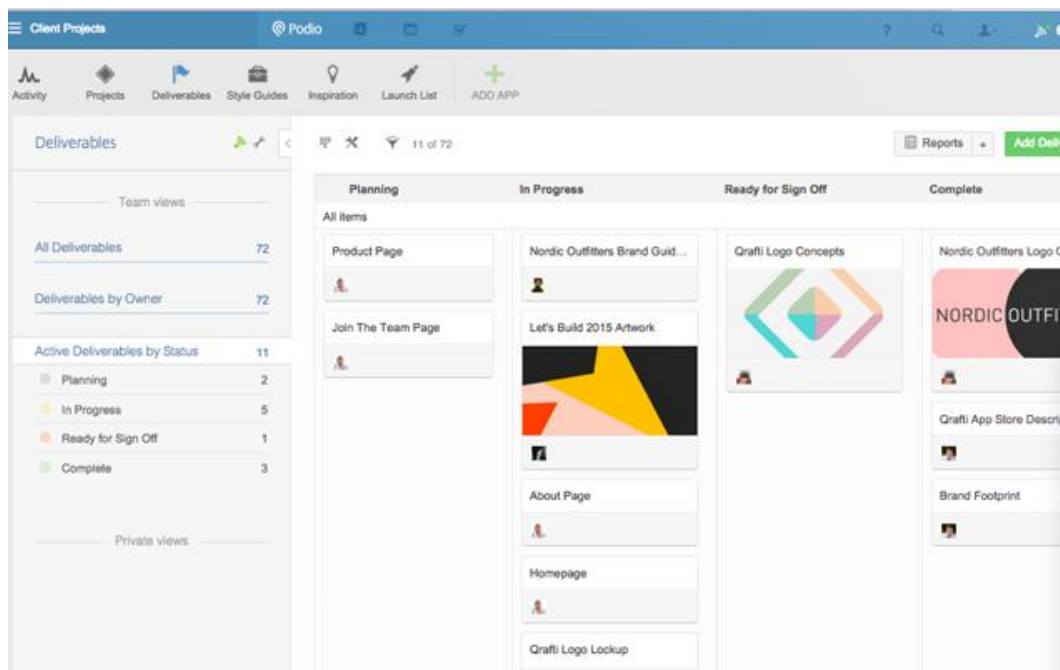
Fig. 20 Example of deliverables on Podio

The picture shows the section deliverables, where we can have an overview of the status of the projects. Moreover, by clicking in each box it is possible to get into a specific project and have more information about it, such as deadline of the project, its status, people engaged and their role in the project, description and all files shared visible by

members in the group. Lastly, the presence of an activity table is useful to add comments and supplementary information, in order to clarify aspects for someone who needs it, also during the development phases but always among the 'followers' of the project. A visual example of what said above is shown in the picture below:
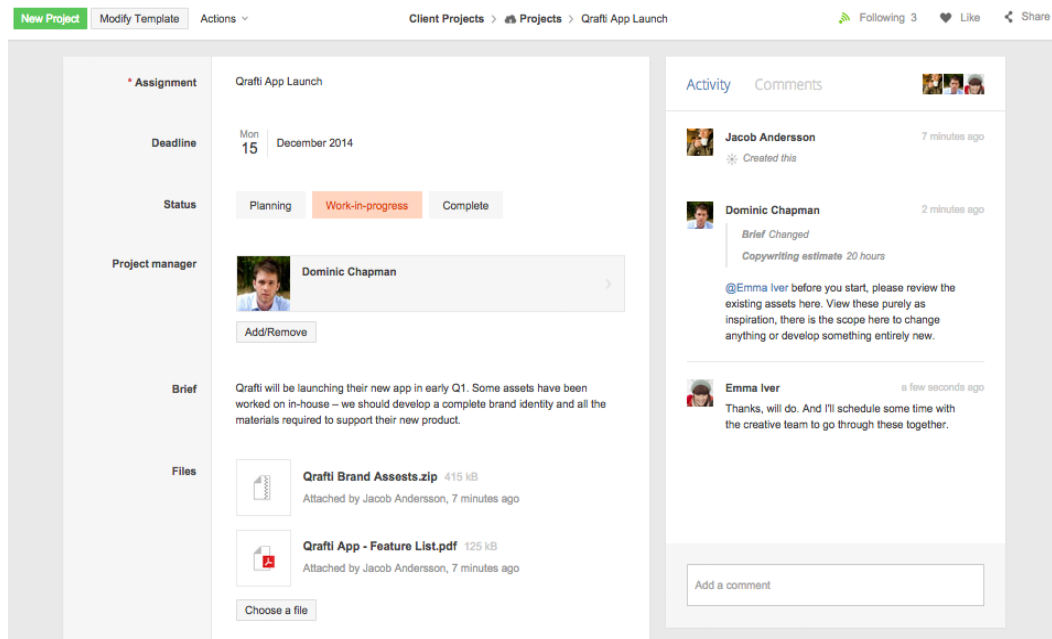

Fig. 2 Example of delivery and its features

Therefore, one of the best features that proves useful also in terms of time is the possibility of keeping everything in one place, avoiding constantly to switch between a management program and email or spreadsheets.

An important help to manage workspaces are the apps. They are tools used by teams working on Podio to organize and track their work. The presence of hundreds of different applications favours their capacity to adapt in a flexible environment answering several questions of the organization, thanks to the huge presence of apps created for different tasks. The presence of the box "tasks" allows manager or colleagues to give assignment to each other inside the Podio environment in a simple manner, having also the possibility of assigning different responsibilities based on the specific task.

COMMUNICATION

Every workspace in Podio includes an activity stream. The social activity stream reduces time-consuming for email threads, increases transparency and knowledge sharing. In Podio, indeed, it is possible to ask questions and solve problems through status posts (including text, pictures, links or files). It also allows commenting everything put in the Podio environment with the possibility of real time discussions or instant messaging and video calling, overcoming the problem of geographical distance. Also for formal meetings, Podio enables the possibility of launching an online meeting with remote team members, or clients, using the GoToMeeting integrated application.

SHARING

Very often, knowledge sharing in business environment occurs via email or face-to-face meetings. These two ways alone to share confine the information in personal silos, limiting diffusion and new generation of knowledge. In this sense, Podio enables us to extend the boundaries of sharing, making available the knowledge to all. The ways to share in Podio are numerous. It is possible to add file, links, posts, ideas or images on the general homepage, where all members are able to see it, just like in Facebook or LinkedIn, and to comment and start discussion on them. Moreover, it allows us to share knowledge and information in real time with other colleagues, but also to store related data and information in order to avoid repeatedly duplication of same things. This can be done through integrated file sharing system or file storage such as Google Drive, ShareFile, Box, HighTail and others.

4.2 PODIO WITHIN COMPANIES: EMPIRICAL FINDINGS AND RESULTS

In this part of the chapter, I provide argument resulting from empirical findings related to the research questions previously mentioned. Moreover, I am going to prove or modify the statements founded in literature about the role, benefits and challenges relating to

Enterprise social media in a SME and the enabling factors for knowledge sharing in teams and organizations. The next sub-chapters are structured as follows. Each of the three research questions is compared with existing argumentations in literature, obtained interviews of companies involved in the case study and the results of questionnaires acquired through web contacts. The aim of this analysis has a double meaning. The first is to furnish valuable data, both qualitative and quantitative, supporting general statements regarding the hypothesis investigated. The second is to propose possible solutions regarding existing issues in companies analysed, generalising the concepts, taking into account the findings from interviews and questionnaires.

Moreover, in order to make clearer the exposition of result, I inserted a summary in the end of each sub-chapter regarding the three analysis with the addition of a little chapter (4.2.4) where I propose the last overview of results achieved.

4.2.1 ANALYSIS OF EFFICIENT KNOWLEDGE SHARING SUPPORTED BY SOCIAL MEDIA FEATURES WITHIN WORKING TEAM

The present paragraph has the purpose of reporting the results of the research regarding the ways in which social media, Podio in this case, support an efficient knowledge sharing, showing which are the different benefits observed. Generally, they were the result of the personal perception of interviewees, related with their experience, which has emerged during conversations. However, this could not be the only way to investigate the possible benefits obtained, because of the limited duration of the interview combined with the high percentage of the possibility of forgetting, unintentionally, some of them. In order to avoid that, I proposed to my interlocutor a series of possible benefits resulting from existing literature, evaluating the level of agreement with them. The themes shown below are the summary of my findings.

PERCEIVED BENEFITS DERIVING FROM THE USAGE OF SOCIAL MEDIA TOOLS

People of organizations are realising the importance to be constantly connected with colleagues, manager or clients. The development of flexible organizations, very common in SMEs, has changed people's way to work by requiring both abilities and ever changing knowledge (Judith Heerwagen, & Kampschroer, 2010). The awareness that the destiny of individuals is highly bound to collective success in workplace is a driver pushing them towards the achievement of shared goals (Thomson, 1998). Often, that means to be able to share their own knowledge, to communicate and collaborate with colleagues and partners in an easy way, contrasting issues related to geographical distances, to exploit knowledge shared by others to save time and efforts for issues already faced by someone else. For all these purposes, the social media tools are able to find a solution, bearing in mind that they furnish just a partial means to achieve the goals, which also needs a necessary series of enabling factors to be completely reached.

Once combined these entire elements, the benefits deriving from them can be similar to the ones reported by my respondent:

> *"It makes my work easier. Easier to look up information about organization. For example, any information of* my *members is updated on Podio. In this way* everybody has the same information at the same time and it avoids confusion and allows me to save a lot of time to obtain information"   *(Interview 6)*

> *"… there is an exchange of information or excel sheets through Podio, and it allows me to take them for my job when I need them, and it is a benefit, because in this way I* reduce the confusion about new sheets version, duplicates or saving time to find and update it".   *(Interview 4)*

THEMES: TRANSPARENCY AND TIME SAVING

When general information of a company are shared in a social media platform like Podio, every single worker can benefit of them. This element seems to be very important for employees because permit the access in an easy way and without efforts to all information inserted regarding procedures, company, employees and partners' details, projects development, responsibility, status of bills and so on. Moreover, the possibility to modified data real time on the platform avoids problems of misalignment of file versions or outdated data. This and other aspects, consequently, generate an amount of time saved who affects inevitably on the performance of individual and teams.

> *"If I have a problem with one of my tasks, I can share the issue and he or she can help me. If I need information for something, it is easy to ask maybe three people at one time about the problem and talk with them simultaneously about it in Podio. So,* the interaction becomes faster!"

<div align="right">

(Interview 7)

</div>

THEME: FAST INTERACTION

Interviewees explained as the way to communicate and interact are became faster if compared with traditional tools. The presence of app and application web integrated with Podio permit to manage work relationship, conversation and idea or information exchanges also through devices such as tablets or smartphones. Additionally, the presence of workspaces and chat box like in the most common social network sites, allow to interact real time with colleagues avoiding the use of emails and cc to communicate with multiple workers.

> *"We work in different places in Denmark and it happens that sometimes we need a sign for a bill by someone that is not here. So we put the file on Podio, we assign a task writing to put a sign on the document, and we resolve at the same time the advantage* to solve the problem of distances and of time saving, *because Podio is*

integrated with our financial system."

<div align="right">*(Interview 6)*</div>

THEME: EASY COLLABORATION ACROSS DISTANCES

One of the best benefits of these technological platforms is the possibility to communicate easily also if geographically separated, or by home. The presence of tools for videoconferencing with the possibility to record and manage records. Moreover, for company like these having different offices around Denmark, have the possibility to create workspaces e.g. for common projects, makes collaboration easier.

> *"We can have the control of emails through Podio and when we communicate with Podio items we do not have to describe the scenario as in the email, but just to describe the issue. That makes the* communication easier"

<div align="right">*(Interview 8)*</div>

THEME: EASY COMMUNICATION

The easiness in the new way to communicate regard especially the crossing process of emails. Often the formality of email create a kind of barrier that limit the completely availability to share information with an uncertain degree of usefulness. The presence of a platform like Podio, indeed, set aside this barrier fostering a more informal environment within open communication and knowledge sharing find breeding ground.

> *"....in my opinion the knowledge sharing is became easier, because we often are in contact with the same customers for different projects and with different colleagues. So, I can see in Podio who was in contact with them, approach my colleagues and get useful information avoiding asking the same things, and that makes my job faster!"*   *(Interview 3)*

"Podio has a positive influence in the sense that all information is gathered in one place and my colleagues both in the office here and in Copenhagen can share and access the same information".

<div align="right">*(Interview 2)*</div>

THEME: EASY KNOWLEDGE SHARING

Increasing of Knowledge sharing is a consequence of all positive factors like transparency, collaboration, communication and so on. The possibility to store, record, save, use and reuse information available on Podio stimulates people of organization "to give" and not only "to receive by other". Whether share all own useful information for co-workers and the company became a routine, respondents agree that the benefits for everybody can be always more.

These interview extracts are just some of several benefits deriving from the usage of a similar enterprise social media. According to literature statements indicated in the chapter of study proposition (3.1.2), these extracts were generally shared by the participant interviewed. Each of them shared with us information regarding the theme under investigation, applying it in their personal experiences. In order to draw a comparison between the concepts expressed in a conversation and the ones of interest, I have also provided participants with a list of possible benefits with the following results:
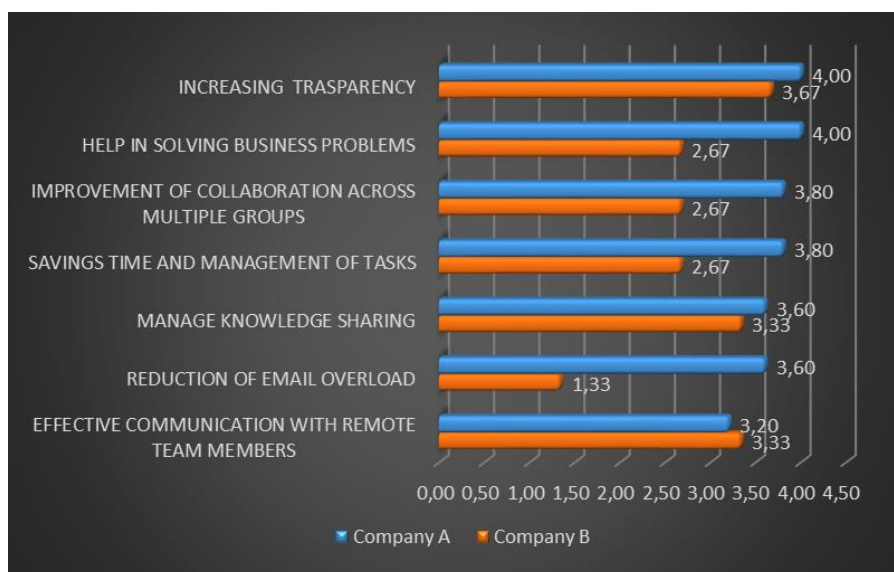
Fig. 22 Perceived benefits of companies A and B

The data in the box compare the same perceived benefits for both the companies. For these statistics there have been considered overall eight respondents, five for the company A and three for the company B. The scale of evaluation used to obtain votes had a maximum of five. From fig. 22, we can see that the company A presents high levels of agreement with the themes presented, according to the interviews. The situation for the company B seems to be a little different. In this case, the level of agreement about the perceived benefits presented is quite lower. The biggest dissimilarity concerns the reduction of email, but there are also important differences in solving business problems and collaboration among multiple groups. Through the interviews, it was possible to investigate the reason of these incongruities. The low score about the reduction of emails can derive from different factors such as:

- **Time of implementation of the platform**

   "*We started implementing Podio in 2013. At that time, we were nine employees….*"

   (Company A)

   "*I think it is now half a year since we implemented Podio, but we have been working on it for a year. We are two companies working…..*"

   "*We still use outlook a lot for the emails….we use outlook and then we send emails in Podio*"

   "*...we are not yet ready to fully switch to Podio.*"

   (Company B)

- **Impossibility to completely switch in Podio**

   "**I still need to use emails because all my correspondence takes place by emails.**"

   "There are a lot of people and customers who prefer using emails, so it is impossible for me not to use them…."

- **System settings**

"….when people open a conversation about a topic, the others that use Outlook instead of Podio receive a lot of mail with notification about updating of conversation. That's an issue!"

The score, instead, regarding the other two benefits in disagree, has as main reason the lower time of implementation of the platform on one hand and a momentary lack of parameters to judge them on the other. As stated by one of correspondents "…potentially could be four, but the reality for now is two…we need to change our habits and it takes time." Considering that for someone of the themes explored the time is an important element supporting the development of positive benefits, it is possible to conclude that the two companies, which now have anyway a level of general agreement equal to 75.6%, could have in the future a more aligned situation regarding these specific benefits.

In order to furnish a robust evidence of results and perceptions regarding the arguments analysed with the interviewees in the companies investigated, I added the results of online questionnaires having the same questions of the second part of the interviews, where the questions proposed, in any case focused on the same arguments, were structured in a different way. Moreover, in this case there was the addition of a respondent for the company B, who for lack of time was not able to participate with a complete interview but only with the questionnaire. The data gained are reported as follow (fig.23):
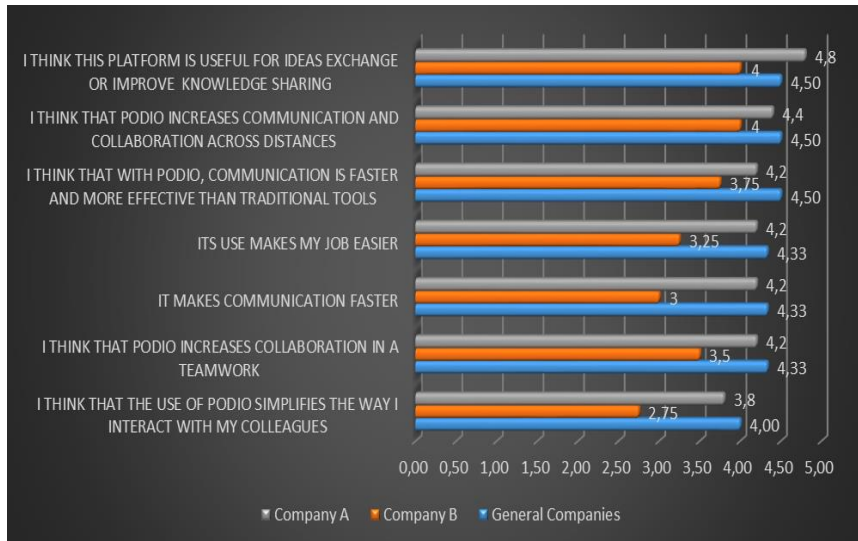
Fig. 23 Perceived benefits for companies A, B and generals

From the graph, it is possible to see how the level of agreement between the company A and the general companies is very high .It follows from the analysis that the value of agreement reached between general companies and company A is almost identical (97.7%), whereas the one between general companies and company B reached almost the eighty-point percentage (79.5%).
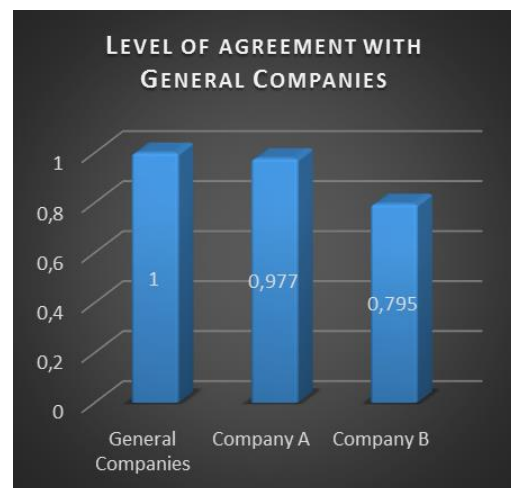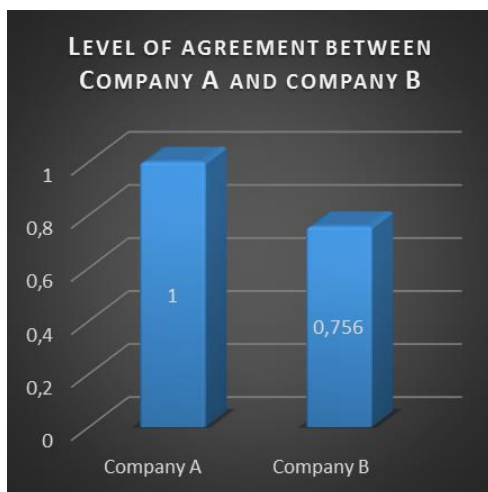

Fig. 24 Level of agreement among companies investigated

The two graphs follow the same logic. The bar with the number 1 is the bar taken as reference point, while the others are the bars with a level of agreement related with it.

But here too, as expected, the level of agreement of company B is quite lower for some element proposed. Analysing the causes of this misalignment of company B, some of interviewees talked about the low amount of time to evaluate possible benefits due to the only seven months of implementation. A consequence of that is the difficulty to use the platform for someone that needs time and training to familiarized with the functionalities of the system. Moreover, being a services provider company, the current usage of Podio considers strongly the interaction with partners. Team's works often include the presence of clients, which have not the same platform to interact, limiting obviously the benefits for those who use it:

"...currently we are registering clusters, and all the information we have about them, contact persons and their involvement in our activities.....but there are a lot of elements we do not use yet."   *(Company B)*

SUMMARY

The analysis of the data allows me to claim that the benefits resulting from companies are numerous, and most of them confirm the general benefits found in literature that are reported in previous chapters. The perceived benefits do not regard money saving, also because the subjects of the research were employees and not the organization in general. They refer to advantages or improvement of way to interact and collaborate with co-workers and team member. The emergent themes regarding positive aspect of implementation of Podio were improvement of collaboration and communication, fast interaction and knowledge sharing, transparency, time savings and improvement of collaboration across distances and ideas sharing. Although is observable a uniformity of valuation for the element examined, someone of them received a lower valuation by company B. Despite in some case interviewees answered saying that the little time from the initial adoption and the partial implementation in the company has limited the exploration of it benefits, it is not possible ensure that they are the only causes. On the

other hand, the alignment between company A and general companies about benefits found and their implementation time that is of 3 years for company A and an average of 1,75[2] years for general companies can be an important indicator to evaluate the perceived benefits for workers.

4.2.2 ANALYSIS OF OBSTACLES TO ADOPTION OF AN ENTERPRISE SOCIAL MEDIA BY PEOPLE IN A TEAMWORK FOR WORK PURPOSES

The present sub- chapter has the aim to identify and analyse the obstacles found by employees of a company facing the adoption of a social media platform and its tools. While I aimed to explore and understand the successful elements of enterprise social media adoption, as every coin has a double side, I was faced with the unavoidable presence of obstacles limiting their fully adoption. A part of these obstacles and challenges were discussed with respondents during the interviews. According to the scheme proposed in the chapter 2.1.2.5 regarding the existing challenges in literature, I investigated these themes inside the company using Podio.

MANAGEMENT SUPPORT

Managers are the key influencers of the adoption of ESM (Brzozowski et al., 2009). Their support is fundamental for the success of a social media platform implementation as already mentioned in the chapter two. The results of questionnaires report that approximately 90%[3] of managers in the companies support the usage and the collaboration through Podio. The results of general companies are aligned with the ones of the two companies that I obtained through the interviews, as shown in the figure 23. Nevertheless, during the face-to-face conversations with the employees, the theme of the lack of support by managers was discussed. The general trend about the answers is that in these two companies the management supports in a good way the usage of Podio. This

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[2]Average time of implementation obtained from answers of 30 questionnaires.
[3] Average score of 4.5 on a maximum of 5

element, however, is not completely absent. In the company A, more than in the company B, the theme of lack of support was present. In that organization, engaged with the implementation of Podio for three years, not all the business units followed the same incremental development of the platform. One of the reasons is that not all the managers shared the same purposes regarding the implementation of Podio (Interview 6). This misalignment of goals or lack of support by managers is due to difficulties in approaching the new technology more than a lack of perceived benefit using it. For some respondent one of the reason is related to the age and previous experiences with other platforms:

> *"...the problem for someone of my colleagues is that he/she who never used this kind of platform before has problem…the young generations learn quickly because they find similarities with Facebook, Twitter or other platforms. The problem is for old generations, which spend a lot of time exploring how Podio works."* (Interview 5)

Moreover, having the company remote locations in different places of Denmark, everyone with different managers, a misaligned vision about the implementation and the application of that platform can raise issues regarding communication and collaboration among people and teamwork:

> *"Sometimes we have partial information because not all of my colleagues share through Podio. They prefer to share through email, so it often happens that information is incomplete and you need to find it split in Podio, emails etc.….."* (Interview 4)

When, instead, managers deeply believe in a development of enterprise social media, they make a lot of efforts trying to explain the benefits of a general and active participation to employees:

"My goal is to let people understand that this is not time wasted, but valuable time very useful for the organization and all its employees in prospect."

"We are trying to let people understand that everything is related in Podio… the company is related to people, people to projects, projects to findings, events and so on…..if everybody understands that mechanism, I think that it can bring individual and collective advantages "

<div align="right">

(Interview 6)

</div>

"My big challenge when we started to use Podio was: how can I convince people that this is a brilliant thing?"

(Interview 8)

"The main challenge we have now is to motivate our colleagues to use Podio….we will have more benefits if everybody uses it, but now only 50% uses it in a good way"   *(Interview 3)*

The results of the interviews show that in the companies and among managers and employees, there is the awareness that leadership and managers' support are a key element for an appropriate implementation of Podio.

Even though some managers do not support completely the implementation of this social media platform, because of a misalignment of goals or personal difficulties with the new technology, the general perception is that the two companies have a good level of support by their managers that are engaged in the promotion of the platform in the organization. The results of the two companies analysed regarding the level of support by the management is aligned with the general thought of companies using Podio that this is a key factor for its successful adoption:
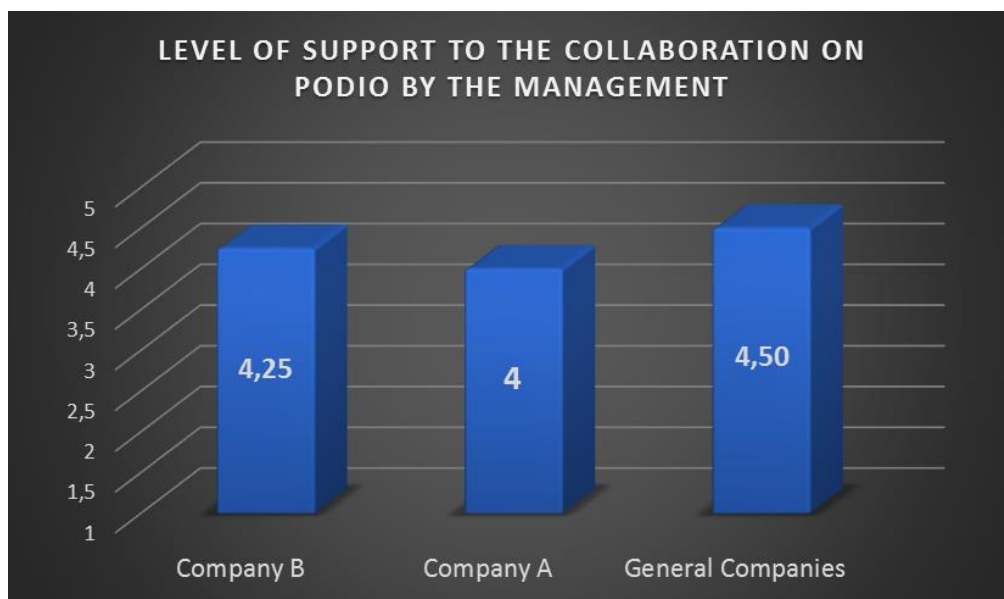
Fig. 25 Level of support provided by managers

Although these data show a good level of support by managers for the collaboration through Podio, someone of them does not give the same level of support, which impacts firstly on the interaction among colleagues, and then on the performance of employees. An example is the splitting of their time managing information and collaborations in Podio and outside it (Interview 4). Thus, I can conclude saying that, according to (Brzozowski et al., 2009), an active participation of the managers as well as the involvement of employees by managers encourage them to adopt the ESM platform.

EMPLOYEES' ENGAGEMENT

The engagement of employees is often one of the barriers affecting a more effective usage of social media platforms (Malsbender et al., 2013). This concept has also been spotted in some of the conducted interviews. For somebody, a poor integration in personal workflow makes a completely adhesion to Podio difficult, because it can often be seen as a loss of control about his own work:

> *"I do not have the same overview and feeling regarding changes….I have lost the insight"*   *(Interview 2)*

In cases like this, where people of the organization used to manage all information and communications among employees and customers, the fear to lose the control of their own role in the company can act as a barrier to its adoption.
In other cases, the lack of engagement by employees may be due to a sense of frustration for a missed usage of the platform by colleagues that forced them to duplicate their work, in order to put the data inside the system (Interviewee 4).

Furthermore, the expectations and their degree of satisfaction regarding the usage of the platform, are a key element enabling the adhesion in the long term:

> *"I was not sure about the benefits, but it surprised me……I always prefer to talk with people but I have to admit that it is easier to communicate in Podio"*
>   *(Interview 7)*

Finally, one of the most important elements affecting the engagement of employees, which can often cause the failure of the enterprise social media implementation, is a deficiency or, worse, a lack of training supporting people of an organization during the implementation (Jones, 2012). Especially in organizations like the ones investigated and composed by people having different and opposite ways to approach social technologies, this element should be held in high consideration. All the interviewers agreed or strongly agreed about a training plan to understand the functionalities of the platform and to be able to use it better. The necessity of having a good training phase that helps its usage is a thought shared not only by interviewees, but also by the general respondent of questionnaires, as shown in the following graph:
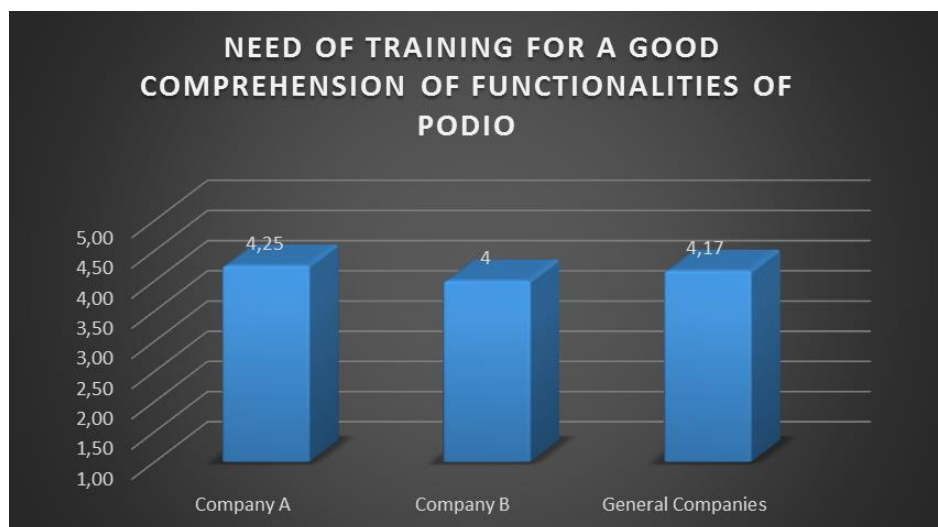
Fig. 26 Training needs for Podio

Here it is possible to see the high request of training asked by people in order to improve their understanding of the social media platform.

Discussing the theme of the training with some employees of the companies, the arisen element was that, despite the efforts by part of the management on it, there were still some units of the organization not engaged in the training, which do not create the right condition for a good adoption as suggested above:

"I know colleagues that were disappointed with Podio, but I think it depends on the way it was implemented in the organization, or better, the lack of implementation……we are still half way!" (Interview 4)

The experiences shared by the interviewees show that sometimes a lack of implementation, combined with a lack of support by the management as previously mentioned, may lead to a refusal of the usage of the technology, in this case Podio. To avoid this, managers tried to give support to their colleagues through external help, nominating a support company for the development of Podio, and through people of the organization as "experts" able to answer employees' issues regarding the platform.

COMPANY CULTURE

According to Denyer et al.(2011), the social technologies may be accepted by members of an organization from the technological side but also from the social side. Reaching only one of the two targets could not be sufficient for the organization to have a successful implementation of the enterprise social media.

In the cases analysed, there was a general agreement regarding the presence of an open and collaborative environment in their companies. The presence of offices with no more than 15 co-workers, all in a same open space, enables collaborative behaviours (Interviewee 6) and fosters social relationships (Interviewee 1). A shared open and collaborative culture, which is also fundamental for knowledge sharing as explained deeply in the next chapter (4.2.3), needs to be combined with a kind of "culture of Podio", which means to move all the work activities on Podio step-by-step, "because you could do and manage everything on Podio" (Interview 8). The cultural elements that emerged supporting the culture of Podio were trust and transparency. While trust affecting a positive use of the platform was more difficult to investigate, because it is closely linked with interpersonal relationships among colleagues, transparency appeared a key factor in

ESM usage. Transparency was also stated as a key factor for an increased collaboration among co-workers, because all information inserted on Podio becomes visible to all. In addition to communications and comments left in workspaces on Podio that are visible by all, another important feature of this platform is the possibility of chatting freely with all colleagues, and also with managers and bosses (Interview 7), knocking down the hierarchical barriers that often limit communication.

INTEROPERABILITY

The barrier of the interoperability appears very hard to overcome. In this context, the interoperability is not only focused on the technical aspect of the issue, but also on the social one. Despite a huge presence of apps and web-based tools integrated on it, the incomplete adoption of the platform, for one or more of the mentioned reasons, can raise a lot of issues regarding an effective and efficient collaboration.

The situations linked with the interoperability of the system limiting its usage are two. In the first case, employees faced with colleagues that do not use Podio need extra efforts to be able to upload all information on Podio. A lack of updating of the system can create misalignment of information for the people they work with (Company A). In the second case (Company B), the major problem refers to the difficulty in managing the relationship with different customers not using Podio. Also in this case uploading of information can cause a double effort to do it.

SUMMARY

In order to give an answer to the second of the three research questions, according to findings in literature, I analysed the four main obstacles affecting a successful adoption of social media platform, in the present case, Podio.
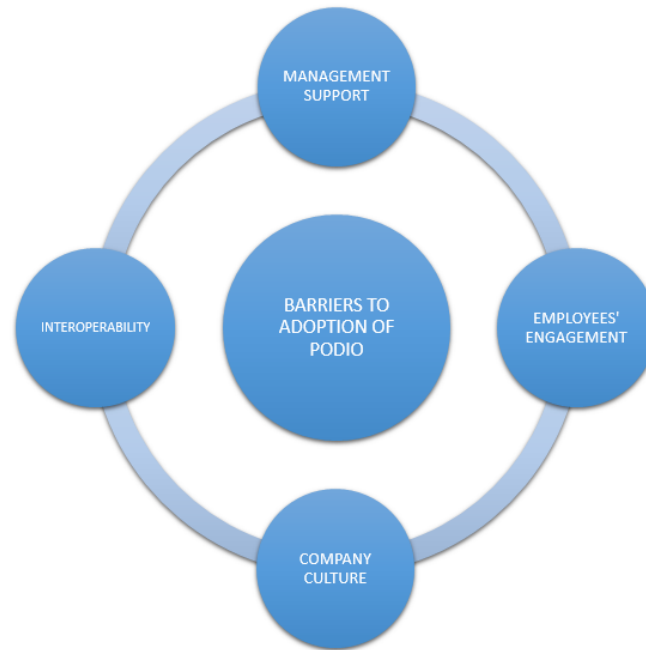
Fig. 27 Barriers to adoption of Podio

As shown in the fig 27, based on the results of my research, the four elements proved interlinked with each other. Indeed, there is an existing link resulting from the experiences shared, between the support furnished by managers and leaders of the organizations and the level of engagement by employees. Some of the interviewees (Interviewee 7 and 8) said that, despite a lot of time to learn how to use workspaces, procedures, task assignment and other features, there are different ways provided by the management to learn it. First, the presence of colleagues appointed by managers as "expert users of Podio" , able to give help and support to all those who required it. Second, the presence of demo, videos ,which explain how to resolve an issue that in the past caused trouble for employees and that can do the same for new members. Third, the external support furnished by support companies nominated by Podio or through the same Podio help centre. An active participation of managers combined with an active participation of colleagues allows the creation of a strong climate of collaboration and mutual exchange of help and useful information. It can contribute to increase the climate of trust and transparency strongly linked with the company culture. Transparency in employees' behaviour is also the result

of a transparency culture practiced through Podio and its features. All these elements need to be supported by technology, because the incompatibility between old and new systems can cause frustration pushing toward a desertion of the enterprise social media platforms. Concluding the analysis, I can argue that these obstacles can limit, or worst might derail, the adoption of a social media platform. Although the investigated organizations are still in the implementation phase, they seem to have understood the possible issues regarding its adoption, trying to promote solutions useful to tackle the problems. Generalizing the concept, it appears clear that the presence of these obstacles should be contrasted very soon by organizations. As a matter of fact its interconnections among barriers and the lack of one or few proposed aspects can be the cause of a failure. Therefore, managers, leaders, employees and organizations in general should keep in mind these elements and work to prevent one of them from becoming a cause of ESM failure.

4.2.3 ANALYSIS OF ENABLING FACTORS FOR KNOWLEDGE SHARING: THEIR LINK WITH BARRIERS AND BENEFITS OF ESM

Talking about knowledge sharing within organizations, we can consider the capability of an organization to leverage the general knowledge of its people that creates, uses and shares that knowledge. This exploitation of knowledge by individuals, teams or organizations, it is possible only when people have the possibility and the willingness to share their knowledge with others, and can use at the same time which ones shared by others to improve their one (Ipe, 2003). Thus, in order to be able to leverage the general knowledge in a company it is important that there are the conditions for workers to acquire it by others, combine it with the own one, externalize and share the new one with others. These conditions often are obstructed by the presence of barriers of various kind that affect an effective knowledge sharing among colleagues, by preventing the achievement of valuable benefits for the organization in terms of knowledge (Riege, 2005). According with different works of various authors (Okyere-Kwaye & Nor, 2011; Pia Nielsen, 2014; Riege, 2005; Zhang, Faerman, & Cresswell, 2006), are numerous the different factors affecting the knowledge sharing within organizations or teams. Furthermore, despite

some difference regarding which are exactly the specific factors limiting its benefits, they agree to categorize them in three main clusters:

- TECHNOLOGICAL FACTORS
- ORGANIZATIONAL FACTORS
- INDIVIDUAL FACTORS

Inside these clusters are been inserted some possible elements, specific for each category, which are been later developed through interviews and questionnaire in order to understand if the overcoming of these issues could bring toward a sharing of the knowledge within team or organization in general. The factors defined as such are been called enabling factors.

As reported in previous chapters, the adoption of Podio for companies and their possibility to obtain benefits from its usage, it is limited by the presence of barriers to its adoption. These barriers also avoid, or make difficult, the diffusion of knowledge and collaboration among co-workers.

The central concept that this part of findings wants to show, is that the merely crossing of the barriers for ESM adoption may be not sufficient to achieve its benefits whether the employees or the company do not understand the importance of knowledge sharing. If from one side, Podio and social media tools in general can represent the medium that make possible or simplify knowledge work, from the other side the sharing of information and of specific or general knowledge, represents the content and the goal of a social media platform implementation. According to the benefits previously listed, it is possible to see how most of them concern communication, collaboration, exchange of ideas, crowdsourcing and management of personal and general information, which are all elements strongly linked with information and knowledge sharing. In view of that, this research was based on the analysis of factors enabling KS. During the data collection are been obtained information about the elements that are deemed crucial for knowledge sharing by people of the companies.

TECHNOLOGICAL FACTORS

In this case, the technological factors are closely bound with the barriers of ESMs. All the elements avoiding the usage of social media platforms for work purpose limit inevitably the maximus exploitation of common and shared knowledge. The presence of a social media platform within the organization is a key element that, as already cited, improves collaboration, communication, exchange of ideas and so on. In order to allow knowledge sharing through technological factors, the research reported some element required to enable the technological side, such as:
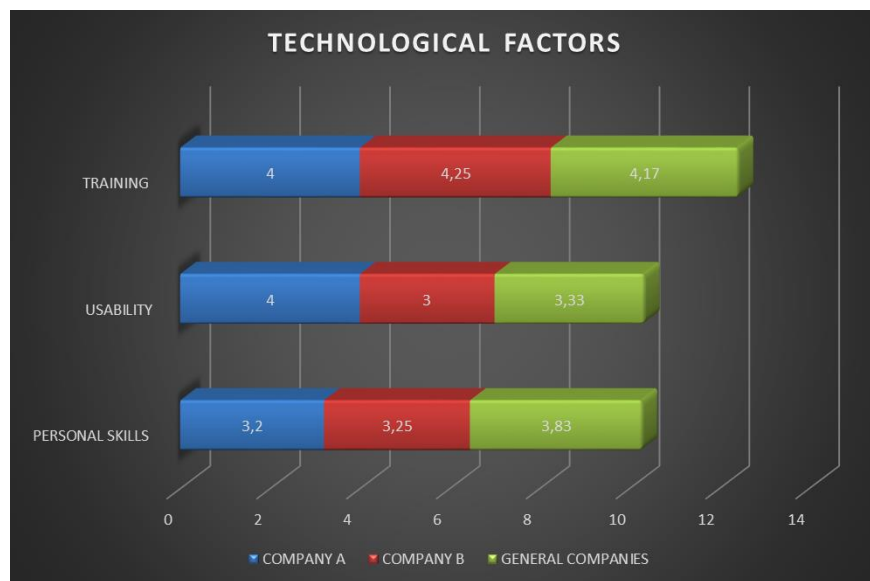

Fig. 3 Enabling factor: Technological factors

From data acquired through interviews and questionnaires, it is possible to see that there is a general level of agreement about the three possible technological factors allowing the use of Podio and the consequent knowledge sharing through it. The valuations were added with a percentage of agreement of 82.8% for training, 68.8% for usability and 68.2% for personal skills. Based on these result seems to be appropriate define these three element as enabling factors for knowledge sharing regarding the technological aspect.

ORGANIZATIONAL FACTORS

Organizational factors allowing knowledge sharing can be various. Through my research, the main factors regarding the organization were the support of management and the presence of a knowledge sharing culture within the company. The results obtained regarding the rewards furnished by management for

knowledge sharing through Podio were uncertain. In this case, interviews of company B agreed with the partial presence rewards, also if as explained during the interviews, they refers to recognition and "paths on the back" more than material rewards. For company A, who are implementing the platform for 3 years, the absence of rewards by management seems to be not a limiting factors the knowledge sharing through Podio. Also for general companies, a medium level of rewards or recognitions by management in contrast with the benefits regarding KS shown in the previous chapter, it allow me to conclude that recognitions and rewards cannot be seen as enabling factors. On the contrary, the strong presence in the three cases of management support and knowledge sharing culture, it allow me to present them as enabling factors KS of ESM.
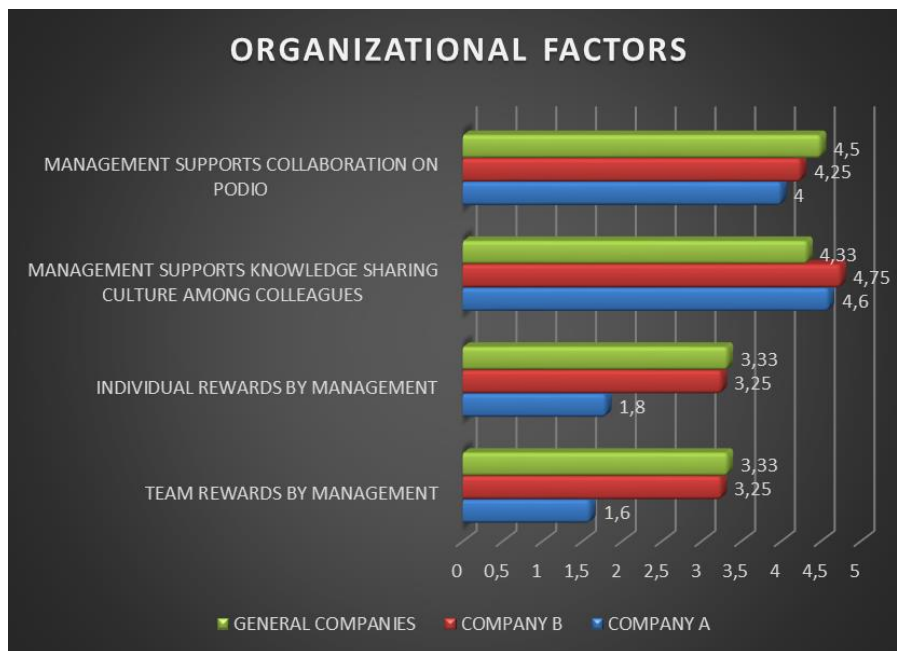

Fig. 29 Enabling factor: Organizational factors

INDIVIDUAL FACTORS

The principal factors allowing knowledge sharing within organizations through a social media platform are the individuals. Without the inputs supplied by them, the phase of generation, development, acquisition, storage and reuse of knowledge would be impossible. In order to create an environment that encourage collaboration, engagement, communication and sharing among colleagues, it is important create the necessary conditions. According to the results obtained, the

individual factor useful to enable knowledge sharing among employees in a teamwork are:

- **USEFULNESS:**

   Perceived usefulness of platform that allow people to communicate, collaborate and share knowledge. Moreover, lot of them agreed especially about the usefulness to exchange information and knowledge also if geographically separated, or to reuse information and knowledge stored such as FAQ, demo, details of company, contact and details of members or procedures.
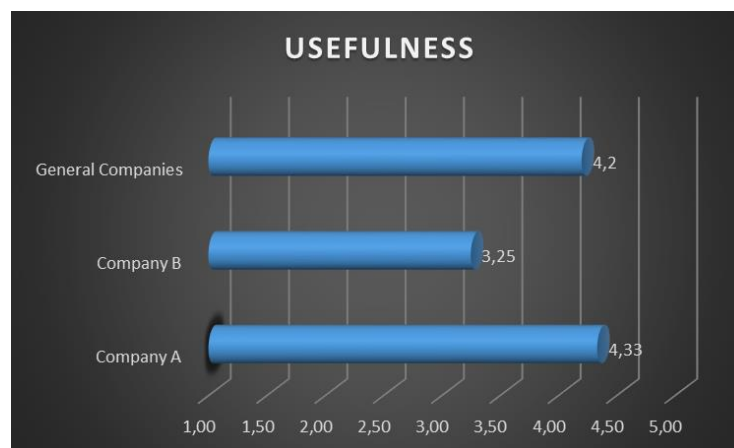
Fig. 30 Enabling factor: Usefulness

- **SOLIDARITY:**

   Understood as "be supportive" with others, share ideas, intentions and responsibilities among companions or colleagues the major part of interviewees told as they share their knowledge in order to help their colleagues. This element is supported by features of Podio which allow to insert a question or help request in any workspace of interest, waiting that someone else answer to it.
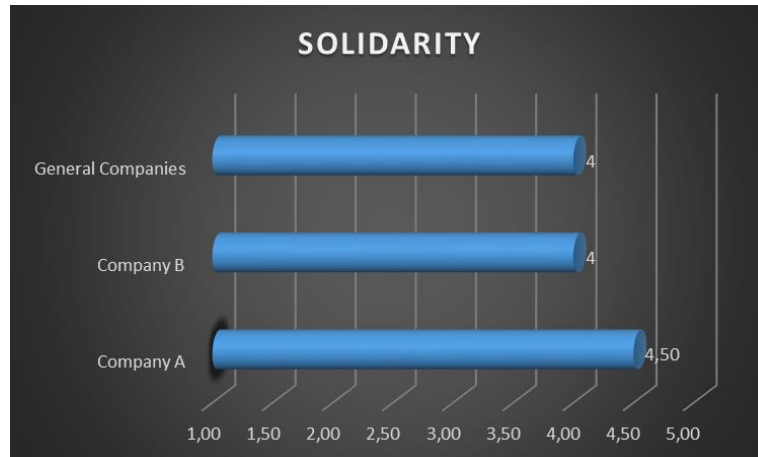
Fig. 31 Enabling factor: Solidarity

- **MUTUAL AID:**

  Most interviewees claimed that share information and knowledge with colleagues should not be unilateral. People are more engaged and willing to share if perceive that others are doing the same.
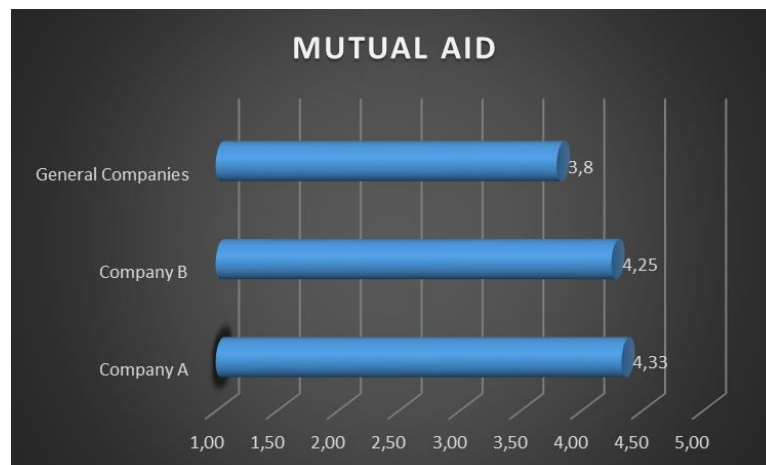
Fig. 32 Enabling factor: Mutual aid

- **NO FEAR OF USELESSNESS**

  Despite in some respondents the fear to share not useful information or to "loose the face" is not completely absent, I observed a general lack of fear regarding these worries that allow to share information and knowledge without the fear "to be judged".

Fig. 33 Enabling factor: No fear of uselessness

- **BE REFERENCE POINT**

  The last enabling factors I found through the research, was the willingness to be a reference point for own colleagues. This factor should not be seen as the desire to stand out above the others, rather to be someone whom to ask help for any problem.
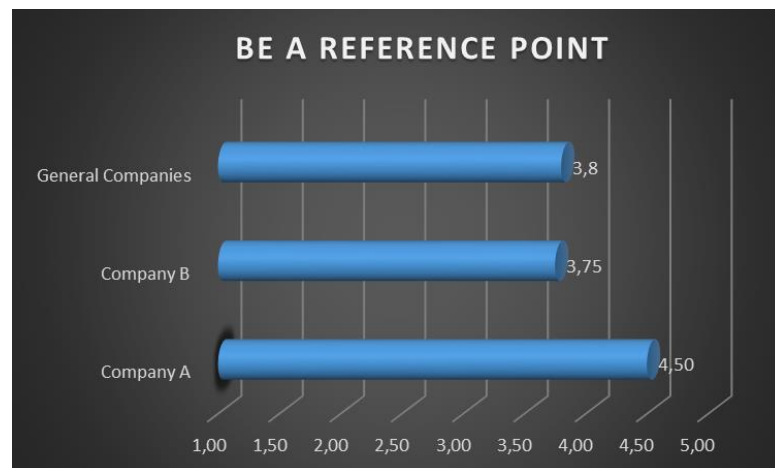
Fig. 34 Enabling factor: Be a reference point

SUMMARY

The last analysis has identified the enabling factors for knowledge sharing through a social media platform like Podio. Results shown as these factors can

be grouped in three different categories: technological, organizational and individual. The first one is closely related to Podio features and tools. The possibility to leverage these new technologies to solve collaboration and communication across distances or storage and increment general knowledge became a key factor. These key factors often need to be enabled in order to make the interaction easier. The technological enabler resulting from the research were training, usability and personal skills. They are complementary, because a lack of personal skills or usability of the technology can be improved by training. Vice versa, a strong presence of skills by individual or usability may require a lower level of training. The second key enabler is related with one of the barriers of ESM adoption that is support management. Also for knowledge sharing it is fundamental that managers create conditions and an environment where exchange of ideas and knowledge became easy, knocking down different hierarchical levels preventing a collaborative and participative environment on workplace for knowledge work.

The last analysis, that focused on individual factors, found five main enabling factors. They are usefulness, solidarity, mutual aid, no fear of uselessness and be a reference point. All these factors are claimed necessary by respondents in order to create the conditions to share own knowledge.

Finally, I can conclude saying that the sum of all factors for each category represent the general enabling factors useful to overcome the possible and different barriers affecting knowledge sharing among colleagues in a teamwork or, more in general, in a whole organization. The following figure shows an illustration of results of findings:

TECHNLOGICAL FACTORS
• TRAINING
• USABILITY
• SKILLS

ORGANIZATIONAL FACTORS
• COLLABORATION SUPPORT BY MANAGEMENT

• KNOWLEDGE SHARING SUPPORT BY MANAGEMENT

INDIVIDUAL FACTORS
• USEFULNESS
• SOLIDARITY
• MUTUAL AID
• NO FEAR TOF UNELESSNESS
• BE A REFERENCE POINT

Fig. 4 Summary of all the enabling factors for knowledge sharing

4.2.4 RESULTS

This work was developed with the aim to furnish results regarding benefits and barriers of enterprise social media platforms taking as subject of the research Podio. Moreover, the last purpose was also to discover which the enabling factors were allowing an effective knowledge sharing in a teamwork and among co-workers. As already mentioned before the analysis, the results are been inserted as final summaries in the end of each sub-chapter of analysis. Anyway, they were presented in a synthetized way below:

BENEFITS OF ESM	• **Improvement of collaboration and communication** • **Fast interaction and knowledge sharing** • **Transparency** • **Time savings** • **Improvement of collaboration across distances** • **Ideas sharing.**
BARRIERS OF ESM	• **Lack of management support** • **Lack of employees' engagement** • **Lack of company culture** • **Interoperability**

ENABLING FACTORS FOR KNOWLEDGE SHARING	• **Technological factors:**
	
	    Training - Usability - Skills
	
	• **Organizational factors:**
	
	    Collaboration support by management
	    Knowledge sharing support by management
	
	• **Individual factors:**
	
	    Usefulness - Solidarity - Mutual aid -
	    No fear to uselessness - Be a reference point

Table 8 Synthesis of results

5 DISCUSSION

5.1 CONCLUSIONS

This thesis work started exploring in literature the evolution of technological application within companies. From the use of the intranet to the new social media platforms, the change was not radically. It was, rather, gradual and oriented towards an increasingly request of flexibility by organization. Nowadays are even more the SMEs who decide to

use these platforms to increase their business through the improvement of knowledge work. Usually, when a company of any size, decide to approach with these enterprise social media, before to achieve the expected benefits, knows that it will have to face barriers affecting the maximum exploitation of ESM. On this direction, this work has investigated on the perceived benefits by co-workers using Podio, the specific social media platform I decide to take as case study. The entire subject involved in the research gave positive opinion regarding elements analysed. A little misalignment about some benefits of company B compared to other company had as partial reason the short period of implementation of the platform and the momentary partial exploration of all its features. Despite that, the analysis of the benefits gave the following results:

- Transparency and time saving

- Fast interaction

- Easy collaboration across distances

- Easy communication

- Easy knowledge sharing

Concerning the aspect related to the obstacles of ESM, I want to start saying that for many people every new technological introduction in a daily routine requires particular conditions to be accepted. Very often the lack of acceptance does not depend merely of feature of the system but rather of individual behaviours (L. BARALDI, 2004). In fact, precisely individuals are the main cause of barriers affecting the adoption of social media platform within companies and teamwork. As shown by results, three barriers on four depend of individual, be they managers or employees. The results of respondents gave me the possibility to categorize them in four lack, regarding:

- Management support
- Employees' engagement
- Company culture
- Interoperability

In the analysis was not only reported the situation referring to these categories, but in many case, also the actions taken by companies to fight them. In the analysis, I found as many barriers of social media was related with the barriers of the last analysis, which one of enabling factors of knowledge sharing. In fact, the enabling factors are key element that allow knocking down the barriers of knowledge sharing. Concluding, these enablers are an answer to difficulties to share knowledge by individuals and, as explained in previous chapter, regards three main aspects, which are:

- Technical
- Organizational
- Individuals

5.1 LIMITATIONS

Despite the several results obtained, the work present some limits such as:

1. One of the company, which participated to interviews, started the implementation of Podio for around seven months. Despite for some perceived benefit, in different occasions participants answered with a "could be, but for now it is still early to say", I cannot have the mathematical confirm that a major period of use and implementation can make able the employees of this company to achieve the same level of benefit perceived by employees of company A and the other ones.

2. Some of the benefits, obstacles and enabling factors were not included because, due to the liberty to talk openly in semi structured interviews, in many cases they were not mentioned by other colleagues. Therefore, due to the impossibility to re-approach again interviewees in order to talk about the new concepts arisen, single results were not included in the results.

5.2 FUTURE RESEARCH DIRECTIONS

This work analysed perceived benefits and barriers of social media platforms as well as the enabling factors that help to overcome the barriers of KS. In this direction, a possible development of the present work might be the analysis of enabling factors able to knock down the barriers of ESM adoption. The achievement of benefits for co-workers through a social media platform, cannot be separated from the ideal development and exploitation of knowledge. Unfortunately, knowledge work is limited by the presence of these barriers affecting usage of ESM platforms and a future step might be to address the research in that direction.

Moreover, it would be interesting to look further in the tangible benefits related with cost savings for companies using social media platforms. There is very little literature talking about the translation of perceived benefits by individual and companies in cost savings. The same enabling factors, in some case, need to economic efforts to be achieved (e.g. training costs) and the impossibility to compare it with material benefits, can put a brake on ESM adoption.

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