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Enterprise 2.0: Objectives, Modes of Use and Control in Multinational Companies

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ABSTRACT

The adoption rate of Enterprise 2.0 platforms has been growing during the last years. It is estimated a potential to unlock between $900 Billion and $1.3 Trillion in annual value (in terms of Economic Surplus) from which two thirds will come from benefits of collaboration and communication (Bughin, 2012). These high expectations will be accomplished if companies are able to achieve the objectives established when these technologies are implemented. In order to achieve such goals, it is necessary that the ways employees use these platforms are aligned with the objectives. Management Control Systems provide tools and frameworks that allow the alignment of E 2.0 Modes of use with their stated Objectives.

The present work aims at analyzing these phenomena, undertaking a research project in which Enterprise 2.0 platforms are analyzed along three dimensions: Objectives, Modes of Use and Control Systems. In addition, it is analyzed how control systems orient the modes of use toward the objectives.

A literature review has been carried out, providing a deep understanding of research dimensions, giving theoretical structure to the project. Simons' (1995) model of control systems has been chosen to classify approaches of control seen in the literature and in the empirical experience.

The methodology adopted is a Case Studies analysis. Five Multinational Companies have been studied in order to understand the following issues: objectives to be achieved when E 2.0 technologies are implemented; How employees actually using these platforms? ; The alignment between mode of use and objectives. How firms control employee modes of use and orient them toward the achievement of objectives?

Results show that companies are setting objectives for Improving Social networking, Internal Communication, Collaboration and Knowledge management. In general, the modes of uses are aligned but often limited due to low levels of employee participation. It is seen that companies that are able to embrace advantages coming from each Control System provided by Simons and invest accordingly in creating Enterprise 2.0 related roles are having better results in terms of participation and contribution. This leads to managerial implications in terms of planning control systems and allocation of resources in the creation of specific roles for control.

Keywords: Enterprise 2.0, Management Control Systems, Social Networks, Social technologies, Social Media.

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Negli ultimi anni il tasso di adozione delle così dette piattaforme di "Enterprise 2.0" è cresciuto notevolmente. Secondo Bughin (2012), si stima che dall'utilizzo di queste piattaforme si potrebbe liberare un potenziale di surplus economico tra i 900 Miliardi e 1.3 Trilioni in valore annuale, del quale i due terzi saranno legati a miglioramenti nella comunicazione e nella collaborazione. Tali aspettative, tuttavia, si potranno realizzare solo se si viene a creare sinergia tra gli obiettivi prefissati dalle aziende durante l'implementazione di queste piattaforme e il modo in cui i dipendenti lo utilizzano. In particolare, il tema risulta interessante nella prospettiva del Management Control System, che offre strumenti per verificare l'allineamento tra obiettivi delle imprese e l'utilizzo di queste tecnologie.

La presente tesi si propone di studiare l'argomento, seguendo un percorso logico-temporale e analizzando: Obiettivi, Modi d'uso e Sistemi di Controllo. L'analisi della letteratura su ognuno di questi tre aspetti, ha consentito di sviluppare una struttura teorica al progetto di ricerca della tesi, che è stato ulteriormente arricchito da uno studio empirico in cinque aziende multinazionali.

La metodologia utilizzata è quella dei "Case Study": i dati sono stati raccolti tramite interviste dirette, questionari e documenti interni alle aziende e ci hanno consentito di valutare come le piattaforme di "Enterprise 2.0" vengano utilizzate dai dipendenti, se tali modi d'uso siano in sinergia con gli obiettivi prefissati, e come effettivamente le imprese controllino che questo accada e eventualmente orientino i dipendenti.

I risultati ottenuti dimostrano che le aziende scelgono di implementare queste piattaforme prevalentemente per creare "Social Networks" all'interno dell'azienda, per migliorare la comunicazione, il "Knowledge Management" e infine, per trarre benefici dalla maggiore collaborazione.

Tali obiettivi sono coerenti, in linea generale, con le modalità d'uso delle piattaforme, sebbene a volte il loro raggiungimento sia fortemente penalizzato dallo scarso coinvolgimento e partecipazione degli impiegati. Inoltre le imprese che sembrano ottenere risultati migliori in termini di partecipazione, sono quelle che sfruttano i sistemi di controllo così da pianificare investimenti per attuare miglioramenti e che si avvalgono di figure professionali prevalentemente finalizzate alla gestione di tali piattaforme.

 Parole Chiave: Enterprise 2.0, Sistemi di Controllo di Gestione, Social Networks, Social Teshnologies. Social Media.

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1 Introduction

Social networking sites and, more in general, social technologies have revolutionized habits of people: traditionally, consumers used the Internet to simply expend content: they read it, they watched it, and they used it to buy products and services. Increasingly, however, consumers are utilizing platforms such as content sharing sites, blogs, social networking, and wikis, to create, modify, share, and discuss Internet content (Kietzmann *et al.*, 2011). This phenomenon, no longer regards only personal usage, but it can significantly impact firm's business growth and allow significant value creation.

The interactive features on the Internet and blogosphere have become a staple in society, with two-thirds of the world's Internet population having visited a social networking or blogging site, and the time spent on these sites growing at more than three times the rate of overall Internet growth (Nielsen, 2009).

Bughin (2008) stated that one key rationale for adopting social technologies is to leverage new dimensions of collaboration that can form the basis for a new source of competitive advantage. First mover companies have gained measurable business benefits, including more innovative products and services, more effective marketing, better access to knowledge, lower cost of doing business and higher revenues (Bughin, 2009). In a follow up Bughin *et al.* (2012) stated that the implementation of social technologies in companies has a potential to unlock between $900 Billion and $1.3 Trillion in annual value[1]. The use of these technologies for improving communication and collaboration corresponds to two-thirds of this value.

These findings are supported by statistics revealing increasing adoption of social technologies across different industries and it is expected to keep this trend as practitioners and academics are able to better understand its benefits and implications.

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[1] McKinskey Global Institute defines Value as economic surplus, not net present value

% of respondents[1] whose companies use each technology

2011, n = 4,261
2010, n = 3,249
2009, n = 1,695
2008, n = 1,988

Social tools and technologies currently used by companies

Social networking
- 50
- 40
- 28
- 23

Video sharing
- 38
- 33
- 31
- 27

Blogs
- 41
- 38
- 32
- 29

Microblogging
- 23
- 19
- 12
- N/A[2]
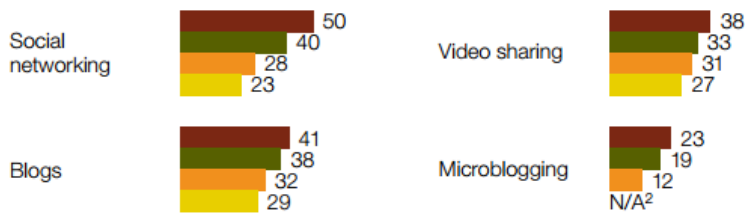
[1] Respondents who answered "don't know" are not shown.
[2] Microblogging was not offered as a technology in the 2008 survey.

FIGURE 1: RISING ADOPTION RATES, BUGHIN 2011

% of respondents (n = 4,261)

Companies using at least 1 social-technology tool

Industry	Value
High tech, telecommunications	86
Business, legal, professional services	77
Public administration	74
Pharmaceuticals	74
Retailing	69
Transportation	69
Health care, social services	67
Manufacturing	64
Financial services	64
Energy	62
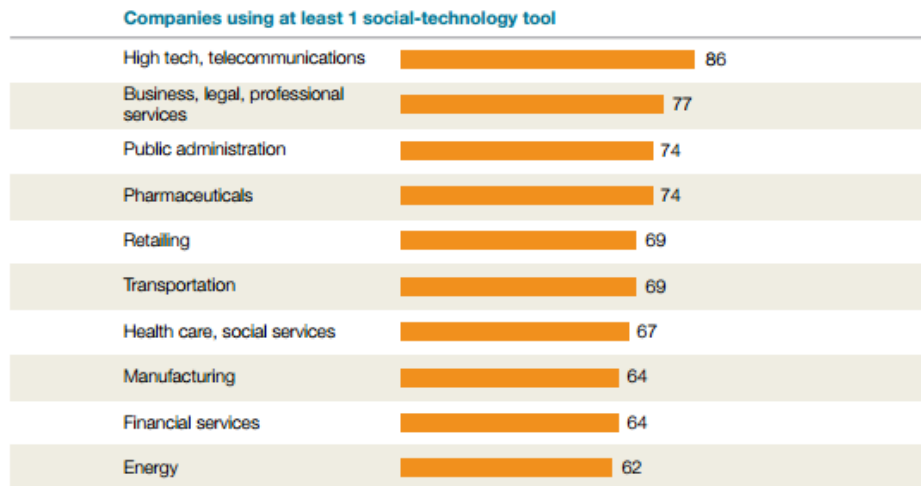
FIGURE 2: ADOPTION RATES ACROSS INDUSTRIES, BUGHIN 2011

However, despite positive trends showing increasing adoption rates and a stronger awareness of potential value which could be created by using such technologies, Enterprise 2.0 projects have sometimes turned out to be a failure. There are two main reason to explain that.

First, a deep understanding of the phenomena should encompass several disciplines as Organization Theory, Management Control, Business Strategy, Human Resource Management and Psychology.

Second, social technologies have begun to be used by enterprises just recently, therefore researches on the topic are still poor and lack of systematical approaches. The following thesis is an attempt to address this issue.

Complexity of the topic and scarce research have often led companies not to have clear goals and comprehensive methods for adoption, implementation and control of Enterprise 2.0.

Miller *et al.* (2011) for example, addresses the need of defining clear objectives to pursue with the implementation of these technologies, while Bughin (2008, 2009, 2011) reports that just few studies have showed measurable benefits. In fact, unless the Enterprise 2.0 community focuses on addressing specific business problems and measuring the operating impact, implementing social software within the enterprise will be difficult.

In the light of the previous considerations, the present thesis will seek for a structured framework that could help companies in tackling the challenge of becoming an Enterprise 2.0. The framework will follow a logical flow, starting from the goals sought during implementation, moving to the evaluation of actual uses, until the control of alignment between the two perspectives.

Therefore, it has been questioned which are the objectives being pursued right now by companies, what is that make them need these new platforms.

1. Which objectives are being attempted to be achieved when E 2.0 technologies are implemented?

Furthermore, it has been taken the point of view of employees, to understand if they are willing to use these platforms, if they perceive value from them and whether they are interested or not in integrating these set of technologies to their work routines.

2. How are employees actually using these platforms (modes of use)? Are these modes of use aligned with the objectives?

This question opens two possible paths which are not necessarily mutually exclusive There should be corrective actions to perform in the case that these aforementioned uses are not in line with the objectives and also, there is the need of incentive employees to participate and widespread the initiative, (Due to its nature, these technologies are spread with word of mouth).

3. How do firms control employee's modes of use and orient them toward the achievement of objectives?

The development of multiple case studies in multinational companies belonging to different industries will provide rich and different information to answer the questions mentioned above from different perspective. Therefore, the answers will set the base for a conceptual framework of control for Enterprise 2.0 platforms that allows firms to align employees' modes of use with business objectives in order to achieve a coherent implementation.

1.1   Objective

Derive from case studies analysis a conceptual framework of control for an Enterprise 2.0 platform that supports the alignment of its modes of use with business objectives in order to allow a coherent implementation.

1.2   Research focus

The Social Media Ecosystem: Larson and Watson 2011
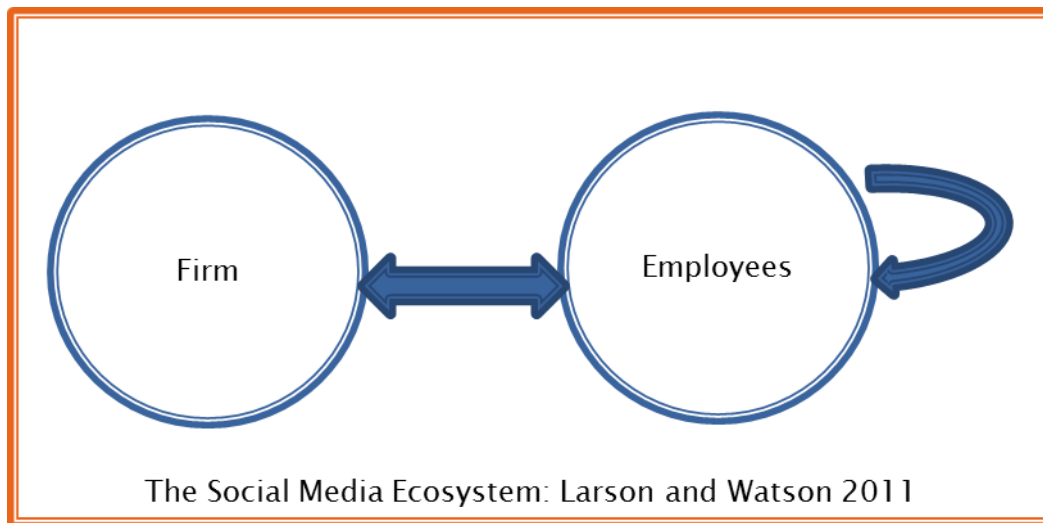
FIGURE 3: RESEARCH FOCUS

Coherently with Larson and Watson (2011), "…Future studies seeking to examine additional effects of social media interactions among other stakeholders in the ecosystem should carefully specify definitions of each group of interest…".We will give a special focus to our study as social media used within the boundaries of the company (not external holders as Investors, Suppliers, Customers, Government, others), in-house developed, or provided by external vendors as Yammer, (Not twitter, facebook, Flickr, etc.). Forthcoming references in the literature review are intended to have an accordingly focus. When we refer to Enterprise 2.0, we intend to follow McAfee's (2006): "for the usage of web 2.0 on organizations' intranets and extranets, and to convey the impact they can have on business".

1.3   Research questions

1- Which objectives are being attempted to be achieved when E 2.0 technologies are implemented?

2- How are employees actually using these platforms (modes of use)? Are these modes of use aligned with the objectives?

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3- How do firms control employee modes of use and orient them toward the achievement of objectives?
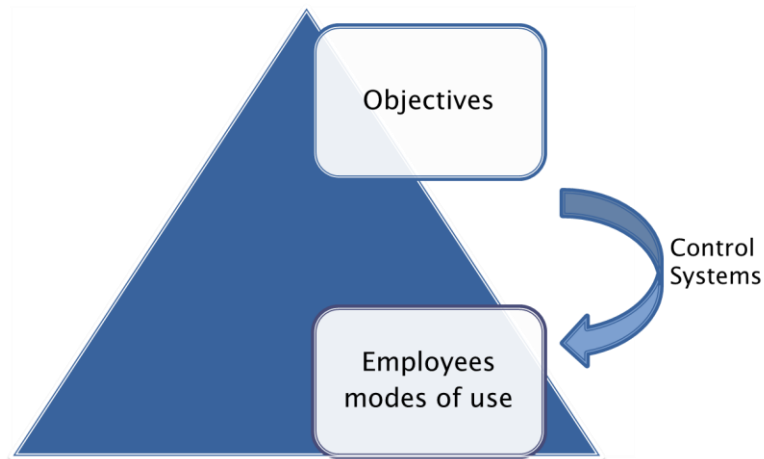
FIGURE 4: RESEARCH QUESTIONS' FRAMEWORK

1.4 Structure of the thesis

The thesis is organized as followings:

1. Chapter 1 provides an introduction to the topic and justifications that reason why it has been decided to focus on this subject. Furthermore, it clarifies the objectives of the thesis and the research questions that have been addressed.

2. Chapter 2 discusses the state of the art either in the perspective of practitioners or scholars. It encompasses the research found in the literature which analyzes objectives, modes of use and control systems of Enterprise 2.0.

3. Chapter 3 describes the methodology implemented and the approaches carried out to collect and analyze the data, in order to achieve thesis objective and respond to research questions.

4. Chapter 4 presents the five case studies and includes analysis and discussion of research findings. Each of the case studies is described following the framework in three dimensions (objectives, modes of use, control) that has been proposed in literature.

5. Chapter 5 draws the conclusions and includes a comparison of the five case studies among each other, highlighting the gaps between actual results and the models presented in the literature. The chapter concludes with clear answer to the research questions.

2 Literature Review

The goal of this chapter is to collect the state of the art on Enterprise 2.0 in a structured manner: the idea is to provide theories and arguments on different aspects of Enterprise 2.0 by following a logical and temporal flow. Besides, this chapter includes theoretical studies as well as empirical researches, models proposed by both practitioners and scholars.

Outline

1. First it will be given an overview aimed at defining basic concepts and E 2.0 tools.

2. Then the process of E 2.0 adoption and implementation will be discussed in terms of objectives of the initiative and decision levers to be considered during implementation: the goal of the chapter will be to align the implementation around the identified set of opportunities.

   2.1 What are the emerging needs; motivations leading managers to Enterprise 2.0 adoption; which benefits are expected.

3. At this point the focus will move to the employees' point of view. The scope of the chapter will be to assess whether these user perspective are aligned with the objectives of the implementation. It will be discussed why employees use E 2.0 tools (Motivations for use), the way they actually do it (Modes of use).

4. It will be analyzed how companies adopting Enterprise 2.0 try to control the modes of use of the employees in order to verify whether they are aligned with the objectives of the initiative.

5. To have a clearer picture of the Enterprise 2.0 adoption and deployment process, it will be provided a chapter in which will be discussed:

   - Implementation strategy;
   - Implications and risks of E 2.0;
   - Organizational requirements for the implementation;

- Incentive systems for motivating employees' participation
- Enterprise 2.0 and organizational business process: extent to which social media can change organizational processes

6. Finally, the literature review findings will be summarized according to the proposed framework.

2.1   Overview

2.1.1 Definitions

As new technologies emerge and become relevant, scholars and practitioners play a key role for their diffusion and implementation. In their attempt to standardize knowledge for diffusion, often different scholars provide different terminologies that address equivalent technology. That is the case of social media and web 2.0.

This set of concepts may be traced to the moment in which developers and end users started to utilize the web in a new way, conceiving new platforms and applications (Web 2.0). In this new paradigm, content and applications are continuously modified by users in a participatory and collaborative fashion. E.g. Wikipedia. This content which is publicly available, created and modifiable by end users is known as User Generated Content (UGC). Finally, the term "Social media" appears referring to a group of applications that can be built upon the ideological and technological foundations of web 2.0 and allow the creation and exchange of user generated content." (Kaplan, 2010)

Some other authors have coined similar definitions for referring to this technology. They differ in the extent of the definition. Bughin *et al.* (2012) defines Social technologies IT products and services that enable the formation and operation of online communities, where participants have distributed access to content and distributed rights to create, add, and/or modify content. Farkas (2007) defined social software as tools that: (1) Allow people to communicate, collaborate, and to build communities online. (2) Can be shared, reused or remixed. (3) Let people learn easily from and capitalise on the behavior and knowledge of others. Social Software include a wide variety of tools such as: Instant Messaging (IM), Blog, Microblog, Wiki, Social

Networking Sites (SNSs), Social Bookmarking, etc. Scholars and practitioners often refer to these tools also as Social Media, Web 2.0 or Enterprise 2.0 tools.

This technology became relevant from a managerial point of view as practitioners started to adapt this kind of technologies into their routines. Andrew McAfee (2006) started to study this phenomenon as a student introduced him to the usage of wikis in a bank. Then he wrote case studies of successful and unsuccessful implementation about blogs and wikis at the bank, and he proposed the term Enterprise 2.0 for the usage of web 2.0 on organizations' intranets and extranets, and to convey the impact they can have on business. The author identified 6 components of Enterprise 2.0: Search, Links, Authoring, Tags, Extensions and signals, creating the acronym SLATES. Corso *et al.* (2008) provided a more detailed definition, "E2.0 is a set of organizational and technological approaches steered to enable new organization models, based on open involvement, emergent collaboration, knowledge sharing, internal/external social network development and exploitation".

In the present thesis, to avoid misunderstanding and confusion, it has been decided to adopt only the term Enterprise 2.0, referring to the definition proposed by McAfee (the usage of Web 2.0 on organizations' intranets and extranets). Therefore, organizational social medial tools will be addressed as Enterprise 2.0 platforms.

Summarizing:

Concept	Definition	Author
Web 2.0	"New paradigm, content and applications are continuously modified by users in a participatory and collaborative fashion"	Kaplan, A. M., & Haenlein, M. (2010).
User Generated Content	"Content which is publicly available, created and modifiable by end users"	Kaplan, A. M., & Haenlein, M. (2010).
Social Media	"Group of applications that can be built upon the ideological and technological foundations of web 2.0 and allow the creation and exchange of user generated content"	Kaplan, A. M., & Haenlein, M. (2010).
Social Technologies	"IT products and services that enable the formation and operation of online communities,	Chui, M., Manyika, J., Bughin, J., Dobbs, R., Roxburgh, C., Sarrazin, H., Westergren, M. (2012)

	where participants have distributed access to content and distributed rights to create, add, and/or modify content"	
Social Software	"Tools that: (1) Allow people to communicate, collaborate, and to build communities online. (2) Can be shared, reused or remixed. (3) Let people learn easily from and capitalize on the behavior and knowledge of others"	Farkas, M. (2007)
Enterprise 2.0	"The usage of web 2.0 on organizations' intranets and extranets"	McAfee, A. P. (2006)

TABLE 1: USEFUL DEFINITIONS

2.1.2 Main Enterprise 2.0 platforms

Users inside and outside companies attribute meaning to the functionality offered by a technology that can alter the identity of a technological artifact, such as a search platform or a discussion forum, change work practices such as information seeking (Faulkner *et al.* 2009). Many scholars have been thinking of social media as the other side of the coin of information technologies development, as a consequence of new features available, but the deep and complex impact that Enterprise 2.0 tools have had on organizations has made the distinction pretty clear.

The difference between Enterprise 2.0 platforms and Information Systems can be summarized in the concept that for Social Software "Sociality, not functionality, is the key concept"(Bouman et al, 2007). These differences are showed in the following table.

Trait	Social software	Traditional IS
Source of contributions	Users generate content corporately [6]	Content is created by predefined roles
Flexibility of content	Dynamic and rich content [40]	Relatively static and limited content
Structure	Loosely defined, bottom-up [37, 6]	Well defined, top-down
Organization	Mostly decentralized [40]	Mostly centralized
Voluntariness	Knowledge sharing is voluntary [33]	Mostly mandatory
Interaction	m:n relation [10]	1:1 or 1:n relation
Ease of use	High (intuitive) [33, 40]	Relatively low
Degree of governance	Low [1]	High
Quality assurance	Peer feedback, unstructured [40]	Standardized procedures

TABLE 2: INFORMATION SYSTEMS VERSUS ENTERPRISE 2.0 TOOLS , FAULKNER *ET AL.*

Moreover, complementary to figure 6, Bughin *et al.* (2012) has proposed some characteristics that make social technologies powerful and help to explain their potential impact:

- Social is a feature not a product: Social features can be applied to almost any technology that could involve interactions among people.

- Social technologies enable social behaviors at an internet scale: Social technologies allow interactions with the scale, speed and disruptive economics of the internet. Therefore, they provide the opportunity to reach out messages, signal common interests and engage in collective actions in a mass scale.

- Social technologies enable new forms of content creation, distribution and consumption: All members are able to contribute content which is distributed freely and instantaneously, with little or no mediation between producers and consumers, asynchronously or synchronously.

- Social technologies can be disruptive to existing power structures: Social technologies enable people to coordinate and engage in collective action to create a unified, powerful voice that can have a significant impact on existing power structures. One example of this can be seen in recent Turkish protest which used social media as the main communication channel.

- Social technologies enable unique insights: It allows marketers and product developers to engage directly with thousands of consumers to monitor unprompted and unfiltered conversations. This can generate more genuine and timely insights into consumer trends and preferences

In general terms, Enterprise 2.0 platforms have a broad range of applications and are used both by customers and enterprises. As following it is proposed an overview of the most common ones:

- Instant messaging: is a communication tool, which offers an instantaneous transmission of text-based messages from sender to receiver. It may address point-to-point communications as well as multicast communications from one sender to many receivers (group chat). (Giuffrida *et al.* 2013)
- Blog and Microblog: Weblogs (blogs) - frequently modified Web pages in which dated entries are listed in reverse chronological sequence - are the latest genre of Internet communication to attain widespread popularity, yet their characteristics have not been systematically described (Herring *et al.* 2004). They are equivalent of personal web pages and can come either in the shape of a sort of web-diary, describing events of the author's life, or as a collection of comments regarding a given topic. Blogs are usually managed by one person only, but provide the possibility of interaction with others through the addition of comments. Microblogging is a new form of communication in which users can describe their current status in short posts distributed by instant messages, mobile phones, email or the Web (Java *et al.* 2007). Twitter, launched on 2006, is probably the most famous microblog nowadays.
- Wiki: are systems for collaborative publishing (Bughin 2007). They allow many authors to contribute to an online document or discussion. can serve as a knowledge repository, a means for staging a project, a coordination mechanism, and a shared workspace (Krogstie *et al.* 2008).
- Social Networking: A Social Networking Service (SNS) is an online website that focuses on facilitating the building and reflecting of social networks or social relations among people, who may share common interests and/or activities. A SNS consists of a representation of each user (often a profile), his/her social links, and a variety of additional services. (Giuffrida *et al.* 2013)
- Social Bookmarking: is an emerging type of a Web service that helps users share, classify, and discover interesting resources. (Yanbe *et al.* 2007). They allow users to save and archive entire pages, generating a sort of personal internet.
- Podcast: allows rapid delivery of media content, primarily audio or video to the end user (Savel *et al.* 2007). Multimedia are usually distributed by through programs that aggregate them, like ITunes or Spotify.

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- Mash-up: are Web sites that take dynamically changing pieces of information from completely different sources and combine the data into an integrated user experience, one that continues to change and grow as the underlying information changes. For example, the group behind housingmaps.com created a mash-up that took the listing of apartments for rent on Craigslist and mapped them onto a Google map of each city (Maloney, 2007).
- RSS: is an XML file that summarizes information items and links to the information source, informing users of updated blogs or Web sites they are interested in (Murugesan, San 2007). It also allows rapid delivery of media content, primarily audio or video to the end user.
- Virtual Game Worlds: Virtual worlds are platforms that replicate a three dimensional environment in which users can appear in the form of personalized avatars and interact with each other as they would in real life (Kaplan, 2010).
- Virtual Social Worlds: allows inhabitants to choose their behavior more freely and essentially live a virtual life similar to their real life. As in virtual game worlds, virtual social world users appear in the form of avatars and interact in a three-dimensional virtual environment; however, in this realm, there are no rules restricting the range of possible interactions, except for basic physical laws such as gravity. This allows for an unlimited range of self-presentation strategies, and it has been shown that with increasing usage intensity and consumption experience, users of virtual social worlds–or ''residents,'' as they prefer to be called–show behavior that more and more closely mirrors the one observed in real life settings. (Kaplan 2010)

Table 3 summarizes the different tools.

Enterprise 2.0 platform	
Instant Messaging	Communication tool, which offers an instantaneous transmission of text-based messages from sender to receiver.
Blog and Microblog	Frequently modified Web pages in which dated entries are listed in reverse chronological sequence.
Wiki	Tool for collaborative publishing related to a defined topic.
Social Networking	Online website that focuses on facilitating the building and reflecting of social networks or social relations among people.
Social Bookmarking	Web service that helps users share, classify, and discover interesting resources.
Podcast	Tool that helps users gather and aggregate multimedia content.
Mash-up	Web application that combines data from different sources into a single integrated tool.

RSS	Application that informs users of updated blogs or Web sites they are interested in.
Virtual Social Worlds	Platforms that simulate real worlds, in which users interact with each other.
Virtual Social Games	Similar to the previous ones, but they haven't any kind of rule or restriction in the way players can interact.

TABLE 3: ENTERPRISE 2.0 TOOLS

All the above mentioned tools enable some common functions that are perceived as valuable, that can be seen as the building blocks that compose the architecture of an Enterprise 2.0.

McAfee (2006) calls them SLATES principles and he describes them as the six components of the Enterprise 2.0 technologies. A SLATE is an acronym for Search, Links, Authoring, Tags, Extensions and Signals.

- Search is a successful shared experience that allows users to find the information/knowledge/person they are looking for. Search, including navigation elements and keyword based search facilities, plays an essential role in retrieving previous work.

- Link refers to the ability for a large group of people to forge links within the system from one document to another. Links are an excellent guide to what's important and provide structure to online content: in this structure, the "best" pages are the ones that are more frequently linked to.

- Authoring tools support content creation, satisfying the desire of people to write for a broader audience. This content can be complemented with additional information in the form of Tags. The content can be cumulative (On blogs individuals' posts and responses accumulate over time) or iterative (on wikis people do and undo each other's work).

- Tags in turn offer the opportunity to browse and retrieve content that was created (blogs, wikis) or introduced (bookmarks, images, etc.) before. Tags are particularly useful because they allow to categorize the content in the so-called folksonomies and provide a way to keep track of the platforms or pages visited by knowledge workers.

- Extensions refer to supporting applications such as recommender systems which estimate what users want to find and recommend it to them, based on categorization and pattern matching.

- Finally, Signals refer to technologies like RSS which makes it possible for users to stay on top of what is going on in the enterprise. By means of instant e-mails or notifications the user gets updated on topics of interest.

2.2   Objectives

2.2.1 Rational behind adoption

2.2.1.1   *Emerging needs and objectives of the initiatives*

An organization can be seen as a social institution composed by social entities guided by common goals, designed as systems of structured and coordinated activities that interact with the external environment (Jones G., 2012). These social entities' behavior is affected by the external environment, which unavoidably affects their opinion, and thus, their way of approaching daily life. Today's world is characterized by phenomena as globalization, big data, attention economy (Davenport, 2001) and ICT that have an impact on social entities and therefore, on organizations.

Enterprise 2.0 tries to respond to these emerging needs by setting up objectives. Six dimensions of the new context have been addressed by Corso *et al.* :

- Open belonging: People increasingly feel as "members" of extended dynamic networks rather than organizations. Through Enterprise 2.0, it is possible to supply secure and selective access to information, tools and connections that go beyond the company's boundaries.
- Social networking: People increasingly need to develop and maintain the network of relationships that is becoming very important for their professional efficiency (Cross *et al.*, 2005). Enterprise 2.0 provides platforms enabling social networking features supporting development and management of relationships. The most popular social network, Facebook, has reached more than one billion users, according to its own website.[2]
- Knowledge networks: Workers must be able to build their own network to have access to knowledge and information from different sources, both implicit and explicit (Dearstyne, 2007).
- Emergent collaboration: people need to create cooperative settings in a fast, flexible way, even outside formal organizational patterns. Enterprise 2.0 enables people to do this through faster and richer opportunities for interaction, both of synchronous and asynchronous nature which enable to overcome geographical and time barriers. A significant example about asynchronous collaboration

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[2] https://www.facebook.com/facebook

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is Wikipedia: people decide to share their knowledge and make it publicly available without any personal profit.

- Adaptive configurability: in response to the endless changes taking place in corporate policies and strategies, people need to quickly reconfigure their own processes and activities. Technologies such as SOA, BPM, mash-ups, SaaS and Rich Internet Applications (RIA) can give the companies and sometimes, the users themselves, the tools they need to re define and adapt their processes in a dynamic, flexible and personal way that can hardly be given by any traditional technology.

- Global mobility: people spend an increasingly large share of their time far from the workplace and often in a state of mobility. New ICTs enable them to be connected in any place and at any time of day through their own network of tools, thus making their workspace and working time more flexible.
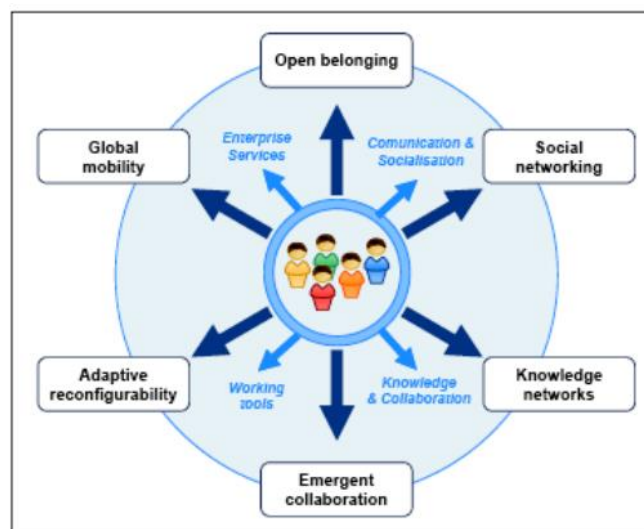
FIGURE 5: THE SIX DIMENSION OF ENTERPRISE 2.0, CORSO *ET AL.*

The table below shows through which objectives companies attempt to address the aforementioned emerging needs :

Dimensions	Objectives
Open belonging	Making people increasingly feel as "members" of extended dynamic networks rather than organizations
Social networking	Develop and manage employees relationships

Knowledge networks	Improve knowledge access and knowledge sharing
Emergent collaboration	Improve collaboration
Adaptive configurability	Increase flexibility and respond faster to changes
Global mobility	Allow easier communication

TABLE 4: LINK BETWEEN NEEDS AND STRATEGY

2.2.1.2   Benefits

Understanding the benefits that Enterprise 2.0 platforms might bring to the organization is crucial, when taking the decision to adopt such a tools. Scholars and practitioners have carried out several researches to find measurable benefits.

Practitioners' findings:

Bughin (2008) studied several case studies of companies using social technologies and specifically mentioned benefits in collaboration, -Omnicom's advertising agency Unit 7 boosted revenue by 25 – 30 per cent through a deployment of collaboration tools between account and creative teams- and open innovation, P & G doubled its innovation rate via this platform, and more than one-third of its innovation throughput now involves an external collaboration component.

In a follow up, Bughin *et al.* (2009) performed a survey for 1088 companies fall in three categories: Internal purposes, customer related purposes and working with external partners/suppliers. In the first category, most companies reported increasing speed of access to knowledge, reducing communication costs and increasing access to internal experts, with a median improvement between 20% and 35%. In the second category, the benefits were increasing marketing effectiveness in terms of awareness, consideration, conversion and loyalty and increasing customer satisfaction, with median improvements falling in a range from 20% to 25%. Finally the benefits regarding the work with external partners/suppliers were the increasing speed of accessing to knowledge and reducing communication costs with median improvements falling in a range from 20% to 25%.

In the third follow up, performed in 2011, Bughin and Chui found that the benefits measured in previous years remained relatively constant for internal purposes and with a slightly increasing trend for external purposes. The results are summarized in Figure 6.

% of respondents reporting at least 1 measurable benefit at their companies

2011
2010
2009

Top 3 measurable benefits of technology adoption, by use

Internal purposes[1]		Customer purposes[2]		Partners, suppliers, and external-expert purposes[3]	
Increasing speed to access knowledge	74 / 77 / 69	Increasing effectiveness of marketing	69 / 63 / 54	Increasing speed to access knowledge	65 / 57 / 53
Reducing communication costs	58 / 60 / 56	Increasing customer satisfaction	47 / 50 / 44	Reducing communication costs	61 / 53 / 50
Increasing speed to access internal experts	51 / 52 / 44	Reducing marketing costs	43 / 45 / 39	Increasing speed to access external experts	50 / 40 / 43

[1]In 2011, n = 1,949; in 2010, n = 1,598; in 2009, n = 1,008.
[2]In 2011, n = 2,227; in 2010, n = 1,708; in 2009, n = 956.
[3]In 2011, n = 1,142; in 2010, n = 1,008; in 2009, n = 686.

FIGURE 6: MEASURING BENEFITS 2009-2011

In the same survey they state, "Companies are beginning to find that social technologies have enormous potential to raise the productivity of knowledge workers. Social technologies promise to extend the capability of such high-skill workers (who are increasingly in short supply) by streamlining communication and collaboration, lowering barriers between functional silos, and even redrawing the boundaries of the enterprise to bring additional knowledge and expertise in *fully networked enterprises*".

The expression "fully networked enterprise" comes from the studies of Bughin and Chui (2011) who provides clusters of companies depending on the nature of their social media interaction:

Fully networked enterprises are defined as those with an average improvement greater than 10 percent when Web 2.0 is used to interact with employees, customers, and external partners. Externally networked enterprises are those with a greater than 10 percent average improvement when Web 2.0 is used to interact with customers and external partners. Internally networked enterprises are those with an average improvement greater than 10 percent when Web 2.0 is used to interact with employees.

Companies, depending on their organization type, and "how networked" they are, report different level of benefits. As it can be seen in the Figure 7, fully networked companies, which have the highest adoption of social technologies by the employees and the strongest integration of such tools in the daily workflow can achieve the highest level of benefits.

Figure 7 table:

| | | Organizational type, based on social technology benefits | | | |
		Developing n = 2,413	Internally networked n = 224	Externally networked n = 365	Fully networked n = 101
Improvement in benefits Mean %	Internal benefits	2	18	8	26
	Customer benefits	1	3	13	21
	Partner benefits	1	2	11	24
Extent of social technology usage % of respondents	% of employees	39	37	43	48
	% of customers	26	37	54	51
	% of partners	40	48	55	64
Integration % of respondents	Very or extremely integrated into day-to-day work of employees	18	49	45	80

FIGURE 7: BENEFITS RELATIVE TO DIFFERENT NETWORKING LEVEL
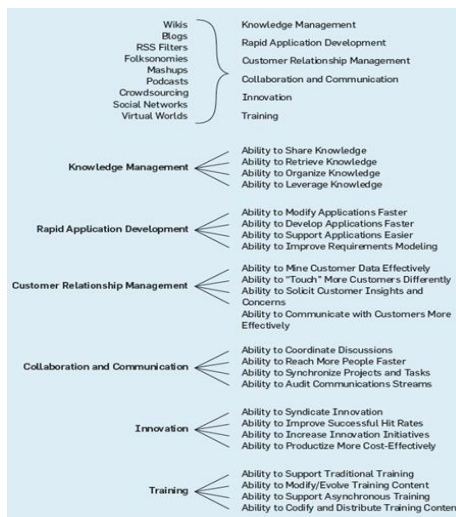
FIGURE 8: IMPACT METRICS ON 6 PERFORMANCE AREA, ANDRIOLE

Looking ahead, Bughin *et al.* (2012) in an extensive and exhaustive research of social technologies have estimated that the implementation of social technologies in Companies has a potential to unlock between $900 Billion and $1.3 Trillion in annual economic surplus. The use of these technologies for improving communication and collaboration corresponds to two-thirds of this value. It is estimated that knowledge workers productivity could be raised by 20% to 25%. Finally, it is intended that consumers will harness most benefits: Today's $40 Billion in consumer surplus in 2010 would potentially rise to $76 Billion in 2015.

Scholars' findings:

Another interesting research, made by Andriole (2010), focuses on six areas: knowledge management, rapid application development, customer relationship management, collaboration/ communication, innovation, and training. It analyzes them in terms of both corporate deployment trends and business impact and it is based on interviews, surveys and direct observations.

The research provides a framework to report systematically how Enterprise 2.0 tools are supposed to enhance business performance and to which extent the expected results have been realized. Figure 8 outlines the impact metrics used: the social tools and the six fields considered. A summary of research findings is showed in the following table (Figure 9): social technology are slowly entering the organizations, the majority of applications are entering organizations in areas where expectations can be managed, costs are low, and tool integration and interoperability (with existing applications and infrastructures) are manageable. Besides most of these tools are used for internal application and the reason is due to security and privacy issues.

	Internally Focused Applications	Externally Focused Applications
Collaboration/Communication	The majority of Web 2.0 technology applications are in this area. Viewed as "safe," they allow companies to pilot them while testing impact on security, infrastructure, total cost of ownership, and intellectual property.	Early adopters pilot Web 2.0 technologies outside the corporate firewall to establish alternative communication and collaboration patterns with employees, suppliers, clients, and customers, permitting improved communication.
Knowledge Management	KM is a natural result of deployment of wikis, blogs, podcasts, and RSS filters. Formal KM tools are giving way to more informal Web 2.0 tools, a trend expected to continue.	KM will support externally focused organizations (such as those in the consulting and retail industries) before internally focused organizations formally adopt it, slowed by concerns over security, privacy, and intellectual property.
Rapid Application Development	Mashup and related technology is gradually replacing more traditional RAD technology. As more and more components, application programming interfaces, and widgets are published, more RAD progress will be made.	RAD tools and techniques will formalize for technology vendors and technology-driven companies and industries, as more and more components, applications programming interfaces, and widgets are published by direct publishers and third-party hosts.
Customer Relationship Management	CRM applications are slow to absorb the extensible abilities of Web 2.0 technologies internally and especially externally. It will take time for Web 2.0 technologies to be integrated with and extended from existing CRM technologies.	CRM is a natural partner for Web 2.0 technologies, especially such tools as RSS filters, podcasts, mashups and blogs. There are countless ways to leverage Web 2.0 technologies on behalf of customers and suppliers, but, due to deployment anxiety, such applications will lag.
Training	Companies increasingly use wikis, blogs, podcasts, and RSS filters for training and education. Their ease of use and participatory nature appeal to a growing number of companies. Relatively low cost helps.	Third-party training and education providers will leverage Web 2.0 technologies, integrating them into the already substantial online training and education industry. The tools will then be sold back to customers to improve learning of all kinds.
Innovation	Web 2.0 technologies have little impact on the innovation process. There are spotty innovation applications of crowdsourcing for R&D and selected applications of folksonomies, RSS filters, and mashups, but the area is generally not affected.	Web 2.0 tools, techniques, and especially attitudes will alter the innovation process in many industries by facilitating direct communication and collaboration among creators and buyers of new products and services, thus shortening the innovation life cycle.

FIGURE 9: SIX PERFORMANCE AREAS INSIDE AND OUTSIDE ORGANIZATIONAL BOUNDARIES

Furthermore the study shows which area of interest has the highest benefits in terms of expected as well as actual data: Communication and Collaboration and, to a lower extent, Knowledge Management are the

most impacted, but it can be seen that the before mentioned areas turned out to be less important with respect to respondent's estimation.

Consistent with Andriole (2010), Giuffrida and Dittrich (2013) highlight communication, collaboration and knowledge management as areas benefiting the most from Enterprise 2.0. In their study, in which they performed a systematic mapping study of social software for supporting global software development, after an exhaustively and systematic literature review of existing social technologies, they reported benefits in communication, collaboration and knowledge management among team members. In particular, Enterprise 2,0 tools are mainly used to exchange work related messages, for articulation work, to coordinate projects and meetings and to negotiate colleagues' availability for discussions. Moreover, Enterprise 2.0 software perform the role of sharing organizational knowledge in an informal manner – Wikis and Blogs are frequently used as knowledge repositories and shared workspaces. It has been observed that in SE, Social software is well known for improving the quality of communication, increasing sharing of knowledge and speeding up of development. Thus, in their study they analyzed the impact of the social dimension when implementing these technologies. Despite the fact that the primary use of workplace E 2.0 software is for work discussions and not for social purposes, Enterprise 2.0 software do go a long way in fostering social relationship among employees. Social software can lead to spontaneous, informal conversations between team members and even go so far as to facilitate and maintain awareness among colleagues and to build stronger working relationships. Furthermore, Enterprise 2.0 tools enables distributed developers to maintain both a general awareness of their entire team and to gain detailed and comprehensive knowledge of people they plan to work with.

Corso *et al.* (2008) analyzed 70 case studies of Enterprise 2.0, and provided various emerging models of implementation patterns. There is impact on processes, contributing to improving performance (efficiency and effectiveness), innovation and change; knowledge, by supporting the creation of new knowledge and disseminating encoded knowledge and connections by enriching relationships, providing tools for mutual help and exchange.

Table 6 summarizes the findings reported in the state of the art, providing the evidences for each area of impact.

Understanding these technologies in terms of how they can potentially create value for companies and consumers, focusing especially in those supporting collaboration, communication and knowledge management, (which are stated to account for the most value creating potential) might result extremely

useful for scholars and practitioners seeking to harness the benefits of this already established phenomenon.

Reported Benefits	
Communication and collaboration	• Represents the area that is benefiting the most from Enterprise 2.0 platforms. (Andriole 2010, Giuffrida and Dittrich, 2013) • E 2.0 tools are used to exchange work related messages, for articulation work, to coordinate projects and meetings and to negotiate colleagues' availability for discussions. (Giuffrida and Dittrich , 2013) • Omnicom ' s advertising agency Unit 7 boosted revenue by 25 – 30 per cent through a deployment of collaboration tools between account and creative teams (Bughin, 2008) • Social technologies promise to extend the capability of such high-skill workers (who are increasingly in short supply) by streamlining communication and collaboration, lowering barriers between functional silos, and even redrawing the boundaries of the enterprise to bring additional knowledge and expertise in "fully networked enterprises" Bughin and Chui (2011).
Knowledge Management	• Social software may perform the role of sharing organizational knowledge in an informal manner(Giuffrida and Dittrich , 2013) • Represents one of the area that is benefiting the most from Enterprise 2.0 platforms, after Communication and collaboration. (Andriole 2010) • E 2.0 tools supports the creation of new knowledge and disseminating encoded knowledge and connections by enriching relationships, providing tools for mutual help and exchange (Corso *et al.*, 2008).
Socialization	• Enterprise 2.0 software do go a long way in fostering social relationship among employees. (Giuffrida and Dittrich , 2013)
Open innovation	• P & G doubled its innovation rate via this platform, and more than one-third of its innovation throughput now involves an external collaboration component. (Bughin, 2008) • Enterprise 2.0 contributes improving innovation and change(Corso *et al.*, 2008).

TABLE 5: REPORTED BENEFITS

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2.3   Modes of use by employees

2.3.1 Modes of use by employees and motivations

The previous section has attempted to illustrate the potential impact of Enterprise 2.0 tools on organizational functions or cross-functions at a higher level, therefore in the perspective of the managers involved on its planning and implementation.

Although it is clear that social media is very powerful, many executives are reluctant or unable to develop strategies and allocate resources to engage effectively with social media (Kietzmann *et al.*). In the present paragraph it will be explored   how users have actually responded to this new wave of technology, examining how employees are actually using Enterprise 2.0 platforms, describing different user motivations and the corresponding uses. This will serve to help assess whether these modes of use are aligned with the objectives of the implementation.

First of all, it should be remarked that while the studies on the public use of social media platform is broad and abundant, only little research has been carried out so far to investigate the usage within corporate boundaries.

Among the few scholars to investigate on the topic emerge Richter and Koch (2008), that have identified six modes of use of E 2.0 platforms, which they call basic functionalities:

1. Identity management: means managing the availability of identity information and represents the extent to which users reveal their identities in a social media setting, for instance filling in information and setting access rights (who is allowed to see what). This can include enclosing information as name, surname, interests, qualifications, competencies. Kaplan *et al.* (2011) explain that the presentation of a user's identity can often happen through the conscious or unconscious 'self-disclosure' of subjective information such as thoughts, feelings, likes, and dislikes.

2. Expert finding: as a possibility to identify implicit knowledge, In this context one has to distinguish between the possibility to search the network according to different criteria (e.g. name, interests, company) and the possibility to pro-actively receive recommendations of interesting contacts. In another paper, Richter and Riemer (2009) refer to the same concept, stating that E 2.0 platforms

facilitates the work-driven search for experts and knowledge bearers in order to help get on with their work where.

3. Context awareness: is the awareness of a common context with other people. This can be information about common contacts, about common interests, about common experiences, common hobbies. This context can contribute to create common trust among the users, since personal information in the people profiles provided them with background knowledge of a person which goes beyond what typically emerges from email or phone conversations (Richter and Riemer, 2009, call it Building personal context).

4. Contact management: combines all functionalities that enable the maintenance of the (digital) personal network. Richter and Riemer see it as the opportunity to keep in contact with one's existing personal network and adopt the expression Fostering existing relationships. This can be a mean to achieve socialization: building informal relationships, interacting with more experienced people, might be an effective way to share the same knowledge asset, the same vision, share ideas and know-how. Examples for functions enabling contact management are tagging people, access restrictions to profile.

5. Network awareness: users become aware of the activities (and/or the current status and changes of the latter) and situational presence of others in the personal network through messages left on personal message boards or through communication.

6. Exchange: combines all possibilities to exchange information directly (e.g. messages) or indirectly (e.g. photos or messages via bulletin boards). It is related to knowledge sharing, also updating a blog or a wiki regarding a particular issue can be seen as a form of exchange. Regarding easiness in exchange knowledge and opportunity of facilitating communication, in McKinsey report (2012), it is described an interview with IBM Software Group's knowledge management Consultant, Luis Suarez, that compares E 2.0 tools with respect to traditional ones, in particular he reduced the amount of e-mail received by 98% by means of tools such as wiki or blogs.

In a follow-up study Richter and Reimer (2011) highlight three potential modes of use:

1. Recruiting and Professional Career Development: users on such platforms actively engage in building and maintaining a professional contact network with the aim to advance one's career opportunities; businesses might use E 2.0 platform to recruit new expertise, since information about competencies are supposed to be reliable.

2. Relationship Facilitation in Distributed Work Contexts: since knowledge workers are often involved in several distributed projects, E 2.0 platforms might facilitate communication and information transfer among virtual teams. Such platforms can be used to support the creation and maintenance of social structures containing social capital and as channels for information transfer between individuals.

3. To engage with consumers: advertising by facilitating targeted approach, product development by including customer in the design process and through market intelligence, by observing and analyzing the data and content generated by users.

Modes of use	
Recruiting and career development	• Marketplace for the exchange of skills • Advancing career opportunities • Hire and recruit business professionals
Relationship Facilitation in distributed Work Contexts	• Facilitation of internal network building, social encounters and group work • Creation and maintenance of social structures containing social capital and as channels for information transfer between individuals • Creation of a common basis for communication even between distant co-workers
Engage with customer	• Advertising • Product development • Market intelligence

TABLE 6: MODES OF USE BY RICHTER AND REIMER (2011)

While Richter, Koch and Riemer have investigated the modes of use, DiMicco *et al.* (2008) have empirically studied motivations for participate on an enterprise 2.0. He states: "Beyond the desire to share on a personal level we identified two additional themes of benefits: career advancement and the ability to convince others to support ideas and projects. We have labeled these three motivations as caring, climbing and campaigning".

• Caring is related to building new relationships, maintaining former ones, sharing interest as a source of personal satisfaction;

- Climbing is seen as the possibility through profile management, inserting comments on posts allows visibility to promote themselves and connect strategically for eventual career advancement;

- Finally campaigning is referring to employees using the platforms to solicit support for their ideas and to drive traffic to their project web pages, which they saw as means to move forward with their ideas.

2.4   Controlling Enterprise 2.0

Enterprise 2.0 platforms have many capabilities and great potential. The flexibility of use provides opportunities for knowledge workers to introduce them into their work routines and achieve more productivity, better communication, easier access to internal experts, start collaborative projects with colleagues or even increase its own social network. Though, the organization will hardly benefit if it is not able to focus its usage into specific business objectives. Without the ability to define and measure the consequences of social media strategies, it is difficult for firms to align their social media initiatives with organizational goals and ultimately create business value (Culnan *et al.* 2010).

For responding such a question, emerges a management discipline that contains instruments able to aid organizations into the achievement of its objectives.

Management control systems provide information that is intended to be useful to managers in performing their jobs and to assist organizations in developing and maintaining viable patterns of behavior. (Otley 1999).

MCS provide a means for gaining cooperation among collectives of individuals or organizational units who may share only partially congruent objectives, and channeling those efforts toward a specified set of organizational goals (Ouchi, 1979; Flamholtz, 1983).
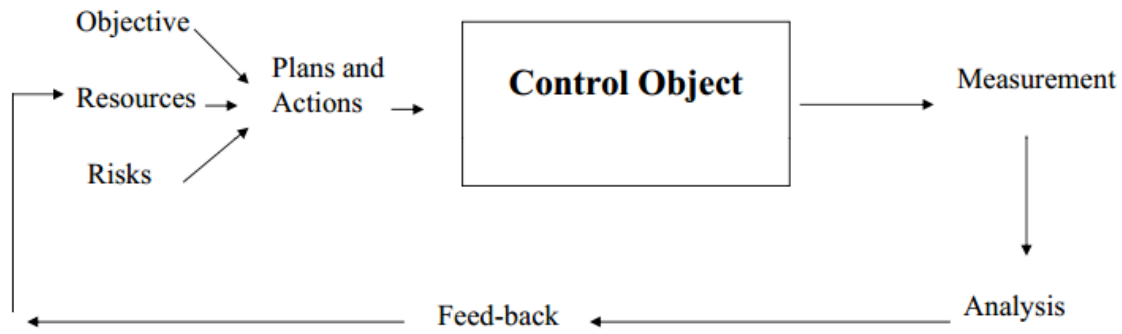
FIGURE 10: MCS LOGIC SCHEME3

In this case, the control object represents Enterprise 2.0 modes of use. These modes of use, should be guided by clear objectives, and further measured and analyzed in order to be able to provide useful feedback, so improvement and learning can be achieved.

Different perspectives have aroused to tackle this big challenge. Practitioners' standpoint is that you cannot manage what you cannot measure. Supplying organizations with pragmatic, theory-driven metrics will enable managers to evaluate the consequences of social media uses in relation to overall business performance, allowing them to manage social media strategies from positions that are less reactionary and more grounded in established knowledge or theory. From an academic standpoint, in order for our accumulating knowledge in this emerging domain to advance from observation and description to theory development and testing for the purposes of explanation and prediction, we must have a foundation of theoretically justified measures (Larson-Watson 2011).

In order to analyze this particular challenge using MCS logic, we will focus in the approaches of measurement and relevant metrics currently available in the literature, which may allow managers to orient employees' actions towards the achievement of objectives, by following the framework proposed by Simons (1995). The author proposes four control levers: Diagnostic control system, Beliefs systems, Boundary systems, Interactive control systems, each of them has a distinct purpose for managers attempting to harness the creativity of employees.

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[3] Slides from Management Control System Course, by Michela Arnaboli, (2012)

2.4.1 Diagnostic control systems

Diagnostic control system allows managers to ensure that important goals are being achieved efficiently and effectively. These systems allow managers to monitor objectives and measure the progress of individuals, departments or production facilities toward the achievement of strategically important goals. Periodically, managers measure the outputs and compare with present standards of performance. One of the main purposes of diagnostic control systems is to eliminate the manager's burden of constant monitoring. The idea is that, having set up the goals and having provided employees with performance targets, on which their evaluation will be based, the employees, in order to get the agreed rewards, will be truly committed and will be working diligently to meet goals.

Just few authors have suggested these kind of metrics for the topic of controlling the alignment of objectives and modes of use of Enterprise 2.0 platforms. They have mainly focused on measures aimed at marketing purposes, for example controlling these platforms to extract information regarding customers' opinions or feedback. Nonetheless, at least some of them, can be adapted to our context, considering as "customers" the users, that are the employees

Key performance indicators: are the set of indicators which a company considers KEY in monitoring and predicting its business PERFORMANCES[4]. There are two ways to define KPIs, one from Value tree, based on the Net Cash Flow of the company, the other as a consequence of critical success factors definition.

In fact, the methodology requires the set-up of clear objectives, and for each of them the analysis of few performance dimensions were the company (or part of it) should excel in order to succeed. KPIs will constitute metrics allowing to measure whether such CSF are being achieved.

Mattern et. Al (2012) provides three levels of Key performance indicators that should be developed to address three different issues:

1. Level 1, Basic Scorecard: Establish a basic KPI system to measure reach, engagement and sentiment of a company's social media effort on each platform. (Operating)

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2. Level 2, Business case logic: Create business cases to assess specific activities, like campaigns, or decisions like platform choices. This means, create ad-hoc metrics, that permits compare the benefit generated by the platform, with a similar mean already existing in the company, which would lead you to the same benefit. For example, one way of calculating the value of a contribution in the internal platform could be calculating the time saved by communicating in a way, one too many, instead of one-to-one, as in traditional mail. (Ad-hoc)

3. Level 3, Social Media GRPs (Gross Rated Points): Benchmarking approach, establish a "common currency" in order to make social media comparable across platforms and to other channels, as well as to assess company performance relative to competitors. (Benchmarking)

Altimeter group (2010), in turn, proposed the "Social Media Measurement Framework", which starts from four business objectives that serve as a foundation for effectively measuring social marketing using an objective-based methodology, and continues with the identification of KPIs measure if goals are achieved and monitor them over time.
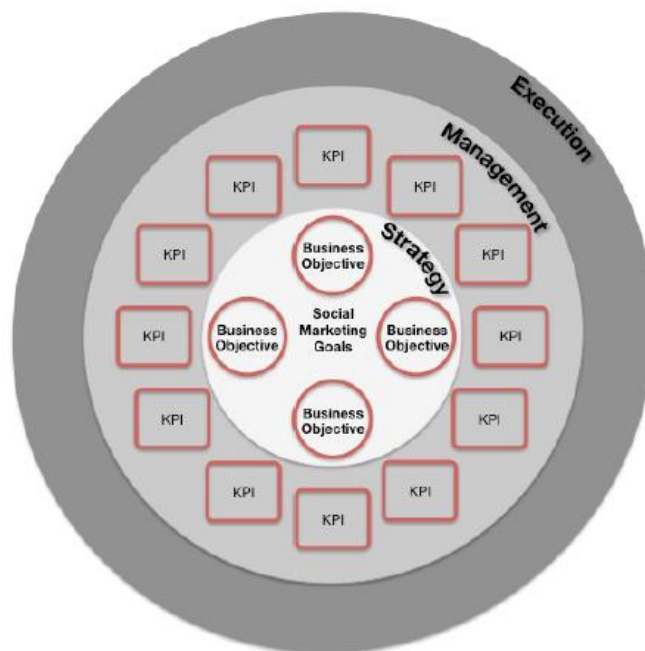
FIGURE 11: ALTIMETER GROUP'S COMPLETE SOCIAL MEDIA MEASUREMENT

The authors, Owyang and Lovett, found four business objectives (Foster dialog, Promote advocacy, Facilitate support, Spur innovation) each of them linked to three dimentions corresponding to the KPIs.

To be coherent with the research focus underlined in the first chapter of the thesis and to avoid misleadings, the focus will only be on the metrics regarding tools used within corporate boundaries, for internal purposes.

- Audience engagement: it helps understanding user's ideas, comments and feedbacks and is measured as the proportion of visitors who participate in a specific topic by contributing comments, sharing or linking back.

$$\text{Audience engagement} = \frac{Comments + Shares + Trackbacks}{Total\ views}$$

- Facilitate support: it can be either in the perspective of customers that have opportunity to easily report their service issues and get fast response, or in the point of view of employees that can receive support, advices or learn from best practices of their collegues. It is measured through three KPIs:
    - Issue Resolution Rate: is the percentage of customer services inquiries solved satisfactorily using Enterprise 2.0 channels.

$$\text{Issue Resolution Rate} = \frac{Total\ number\ of\ issues\ resolved\ satisfactorily}{Total\ number\ of\ service\ issues}$$

    - Resolution Time: is the amount of time required to produce a human-generated response to customer service issues posed in Enterprise 2.0 platforms.

$$\text{Resolution Time} = \frac{Total\ inquiry\ response\ time}{Total\ number\ of\ service\ inquiries}$$

    - Satisfaction Score: is an indexed score indicating the relative satisfaction of the users asking for support.

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$$\text{Satisfaction Score} = \frac{Customer\ feedback}{All\ customer\ feedbaks}$$

Return on Contribution (ROC)

The core definition of ROC, proposed by Muller *et al.* (2009) is the ratio of the number of people who benefit in this way from a resource (i.e., through rational consumption of that resource), divided by the number of people who create or contribute to that resource. Then, they characterize users as originators and consumers. Originators are seen as authors of content and Consumers as entities benefits from the created content. It can be considered as consumption reading or viewing a determined content.

$$ROC = \frac{Number\ of\ consumers}{Number\ of\ originators}$$

The authors calculated the metric for a determined application during a period of time in order to assess the growth over time. Their results highlight the usefulness of the metric for tracking barriers to usage, and sense opportunities to intervene so as to enable or facilitate greater participation and system adoption. The implication of their results might interest community managers or people monitoring adoption rate of Enterprise 2.0 platforms.

Balanced Scorecard

The Balanced Scorecard has been proposed as another method to measure Enterprise 2.0 performance.

Kaplan and Norton, inventors of this approach, define it as "a set of measures that gives top managers a fast but comprehensive view of the business and includes financial measures that tell the results of actions already taken. It complements the financial measures with operational measures on customer satisfaction, internal processes, and the organization's innovation and improvement activities- operational measures that are the drivers of future financial performance."

The logic is to define goals followed by the definitions of Critical success factors that are performance dimensions were the company (or part of it) should excel in order to accomplish the aforementioned goal. Finally, this CSF are achieved by Key performance Indicators that should have the characteristics explained in the previous section.

Balance scorecards have been especially addressed by practitioners, because they offer a cause- effect perspective and consider both financial and non-financial metrics. The Balanced Scorecard proposed here, , made by Person (2012) , differs from the classical model in four dimensions proposed by Kaplan, since it tries to adapt to the specific problem that encompasses a variety of factors, rather difficult to measure.

The author suggests a set of goals and the relative factors or activities to be addressed to achieve the goal and the necessary metrics for evaluation.

Goal	Social Business Activities	Candidate Social Business Metrics
Employee Engagement	Increase employee engagement via genuine dialogue and polyphonic communication channels. Overcome Generational Shift. Discussing!	Employee Satisfaction Surveys, Polls, Feedback from Social Media Channels (% Csat), CSAT on Generation – Y + Millenials + Boomers. Timkin's 5 I's: Inform, Inspire, Instruct, Involve, Incent.
Platform Usage	Using the social platform to collaborate, innovate and share	Core platform metrics, logins & actions: 'Contributing, Participating and Active' Users; content posting, number of discussions, blogs, wikis, documents created; documents, images, video uploaded; Groups, Communities & Spaces created. etc.
Innovation	Increase level of innovation via Innovation Wikis (e.g., Cisco I-Zone), Competitions and 'wisdom of crowds' gathering of info activities. Listening!	Number of ideas submitted, number of successful ideas turned into pilots, number of pilots entering the market as new products. Time to market ratios.
Increase Productivity	Increased productivity	% increase, contribution in $/£ per employee

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Information Flows	"Semantic analysis, Big Data techniques and better tracking in general will help us to develop better insight into the who, what, when, where and why of information flow. In other words, how much of the right stuff is getting to the right place in the right context and the right time? Can we depend on it and when? Can we juice the system? Can we game it? How?" Deb Lavoy – see below	TBC
Social Engagement	Connections, sociality of employees via Enterprise Social Networks, 2.0 profiles, Tagging across the Enterprise, Expert Locators, Silo Busting	Social Network Analytics, (NodeXL), Measure of Relations, Overcoming Geo/Time barriers with synchronous & asynchronous comms / collaboration = decreased travel budget. ratio of flights/meetings vs online engagement.
Learning	Social Learning, sharing of information, 2.0 Training, e-learning, EMS.	Cost of training, number of courses taken/passed, diversity of learning offerings, Customer satisfaction/CSAT Degree of 'Knowing what we know' better.
Sales & Turnover	Social Software as cumulative competitive Advantage. Increased Sales and Turnover + Productivity	Sales figures, sales generated per employee at employee cost (as above inc productivity).

TABLE 7: SOCIAL MEDIA BALANCED SCORECARD RUSSELL PEARSON, 2012

It appears clear that goals, activities and social metrics are very generic and not lack of empirical validation. Nonetheless can provide a cue for further research.

Performance measurement approach based in use cases

One interesting perspective for measuring an Enterprise 2.0 platform (an Enterprise Social networking site) is given by Ritcher et al 2013. In their work, there has been developed a measurement framework considering use cases of the platform according to two dimensions, usage and business value related to collaboration.

"Our approach helps companies in their strive to measure the success of these technologies and allows them to set objectives, to provide a control mechanism, and to measure the achievements."

For building their model, the first step was to define seven actions of collaboration the platform usage which can be defined as search, edit, rate, label, clarify, notify, and share.

Action	Description
Search	Search for specific content using different criteria
Edit	Modifications of content in order to create an up-to-date version of the content
Rate	Rate the content in terms of quality or suitability for the specific purpose
Label	Mark content in order to allocate it to a certain topic to increase retrievability
Clarify	Exchange different interpretations or opinions
Notify	Notify others about relevant content, which already exists
Share	Provide content in order to make it available to others

FIGURE 12: COLLABORATIVE USE CASES IN ENTERPRISE 2.0 PLAFTORM

After, they combined these actions with the two dimensions to be measured:
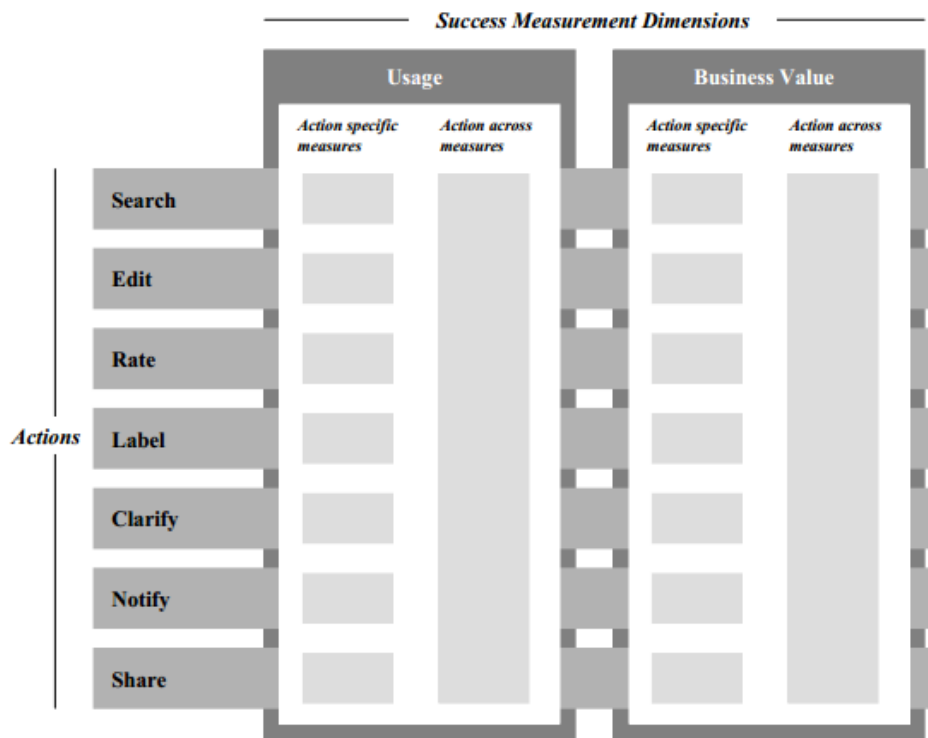
FIGURE 13: RITCHER *ET AL.* 2013 MODEL

Furthermore, they provided a set of exemplary metrics, some of them already tested in other projects undertaken by the research team.

Success measures	Measurement approach
Usage (action specific)	
[Search] Number of questions asked	Logfile analysis
[Edit] Number of document updates	Logfile analysis
[Rate] Number of useful or correct answers	Logfile analysis
[Label] Number of tags created	Logfile analysis
[Clarify] Number of answered questions	Logfile analysis
[Notify] Number of status updates	Logfile analysis
[Share] Percentage of users that publish information	Logfile analysis
Usage (action across)	
Total number of users	Logfile analysis
Percentage of active users	Logfile analysis
Degree of connectivity	Social Network Analysis
Number of content created	Logfile analysis
Number of page views	Logfile analysis
Average time per user and visit	Logfile analysis
Total number of groups	Logfile analysis
Percentages of different use practices	Content analysis
Business value (action specific; compared to status quo)	
[Search] Reduced time to find correct information	Process analysis, User interviews
[Edit] Reduced time worked with documents	Process analysis, User interviews
[Rate] Increased quality of published content	Process analysis, User interviews
[Label] Reduced time spent to organize content	Process analysis, User interviews
[Clarify] Reduced number of inquiries at 2nd level support	Interviews with support
[Notify] Increased degree of awareness of employees	User interviews
[Share] Reduced amount of emails	Logfile analysis, User interviews
Business value (action across; compared to status quo)	
Number of ideas	Content analysis
Increased employee satisfaction	User survey or interviews
Reduced travel costs	User interviews
Reduced time to solve a problem	Content analysis, Process analysis
Reduced time to onboard employees working in new roles	Process analysis
Reduced time to deliver a project	Content analysis, Process analysis
Degree of retained knowledge of people leaving the firm	User survey or interviews

FIGURE 14: EXEMPLARY MEASURES IN RITCHER *ET AL.* MODEL

2.4.2 Beliefs systems

Without a formal belief system employees in large, decentralized organizations often do not have a clear and consistent understanding of the core values of the business and their place within the business. When employees have no clear idea about organizational objectives they will tend to behave and react according to what they believe to be the acceptable behavior, and this might not be aligned with organization norms.

Beliefs systems empower individuals and encourage them to search for new opportunities, communicating core values and inspiring participants to the organization's purpose. They can also inspire employees to create new opportunities, motivating individuals to search for new ways of creating value. Belief systems can augment diagnostic control systems to give today's managers greater amounts of control, but they are only part of the answer (Simons ,1995).

Therefore communicating a clear vision and common beliefs will allow managers of Enterprise 2.0 to ensure commitment on platforms usage and control that the usage is aligned with business goals.

Frappaolo & Keldsen (2008) argue: "the difference that having the "right culture" can make to deployment of Enterprise 2.0 is fundamental. Availability of business goals and objectives aligned to collaboration, vision, and leadership focused on the value of collaboration, and a community thus inclined to sharing and open development, creates an environment in which Enterprise 2.0 is more readily understood and embraced".

In their research the authors have found that a shared vision plays a more important role than the age of the users, during the adoption of Enterprise 2.0 platforms. Besides organizations which have a corporate culture oriented toward Knowledge Management are more likely to succeed in Enterprise 2.0 deployment.

2.4.3 Boundary systems

Boundary systems establish the rules of the game and identify action and pitfalls that employees must avoid. The author recommend to never tell employees what to do, but just provide them with guidelines of what they should not do. This allows innovation, but within clearly defined limits. Unlike diagnostic control systems and belief systems, boundary systems are stated as negative terms or as minimum standards.

There are different points of view regarding this control dimension in the literature of Enterprise 2.0 social software. In fact, on the one hand, Wang *et al.* highlight the need of some sort of guidance aiming at enhancing the experience and achieving better results, like guidelines to control that users make a "proper" usage of these tools. These control systems can be employees trainings or norms to be respected.

On the other hand, other authors dispute this idea. Corso *et al.* underline the importance of a spontaneous use, as it would represent the best way to fully exploit its potential. On this regard, they say: "E2.0 governance will be emergent, open and collaborative, all the roles tend to move, at least in part, to the final user, who will decide what to do, achieve it and then handle it by himself".

To address this controversy, the best compromise between contributions completely informal or monitored and guided appears to be a boundary system, that suggests employees what they should avoid, while letting them free to make a spontaneous usage.

Simons (1995) states that beliefs systems and boundaries systems together transform limitless opportunity into a focused domain that employees and managers are encouraged to exploit actively. In combination they establish direction, motivate and inspire, and protect against potentially opportunistic behavior.

2.4.4 Interactive control systems

Interactive control systems enable top-level managers to focus on strategic uncertainties, to learn about threats and opportunities as competitive conditions change, and to respond proactively.

By means of interactive controls systems, managers regularly consult the opinion of their employees and participate in their decisions and focus organizational attention and learning on key strategic issues.

These systems have four characteristics that differentiate them from diagnostic control systems. First, they focus on constantly changing information that top-level managers have identified as potentially strategic. Second, the information is significant enough to demand frequent relevant attention from operating managers at all levels of the organization. Third, the data generated by interactive systems are best interpreted in face to face meetings of superiors, subordinates and peers. Fourth, interactive control system is a catalyst for ongoing debate about underlying data, assumptions and action plans (Simons, 1995).

A similar approach is provided by Mangiuc (2009). His research provides a pragmatic framework to assess the new investments for an Enterprise 2.0 project by a systematic questioning in order to quantify the benefits:

- What were the structure and the content of the business process before the new technologies were adopted?
- What are the structure and the content of the business process after the new technologies were adopted?
- How did the new technologies affect the employees' work?
- Do the employees have more time available for other tasks as a result of the new technologies' adoption?
- Did the adoption of the new technologies lead to a more efficient use of the employees' time resources?
- Did the adoption of the new technologies lead to an increase in the value of sales or the value of the turnover?

According to the author, getting pertinent answers to the aforementioned set of questions may provide a mean for the measurement of the success (or the failure) of an Enterprise 2.0 technologies implementation project, the control of eventual problems and the development of action plan to proactively solve them .

Then, the author proposes a classification of the benefits, named soft benefits and hard benefits, depending on how easy it is to define and measure.

In particular soft benefits should be evaluated based on a set of discussions with the employees, where the employees explains the real benefits of the new technologies' adoption they perceive. Once identified, the soft benefits may be used as "support" for the return on investment values computed from the hard benefits.

Hard Benefits	Soft Benefits
•Increases in the sales value, due to a more intense interaction with the customers; •Decreases in the technology costs (costs for the adoption of new technologies); •Increases in the efficiency of the marketing and advertising campaigns; •Significant savings in the costs of customer support services	•An increase in the employees' satisfaction •The easy recruiting of highly trained employees •The improvement of communication amongst employees

FIGURE 15: ASSESSING HARD BENEFITS AND SOFT BENEFITS

Such systematic questioning, with the consequent evaluation of benefits, represents only the starting point of Mangiuc's framework, and it can be seen as an interactive control system if:

1. The systematic questioning is done frequently as the project goes on, to keep track of the performance.

2. The information extracted from the questioning is relevant, as it controls factors as employee's satisfaction and controls outcomes as sales.

3. The data shown from the questioning are shown in meetings, so managers and employees are constantly informed.

4. It works for ongoing debate, being based on questioning, so it is possible that more than one employee has divergent opinion.

2.5 Surroundings factors influencing adoption

Foreword

An Enterprise 2.0 project usually envisages different steps, starting from the adoption decision and leading to the deployment and final usage by employees. Between these two extremes, there is the important phase of implementation strategy, strictly related to the objectives set-up, that answer to the questions: How do managers plan to design and build the Enterprise 2.0 platform in order to fulfill the goals? Which factors influence the an effective implementation?

Before going through the topic it should be made a short observation: the present section goes beyond the scope of the thesis, but it will be proposed anyways for thoroughness' sake.

FIGURE 16: MAIN STEPS OF AN ENTERPRISE 2.0 PROJECT

Implementation strategies

Gilfoil *et al.* (2012) state that Enterprise 2.0 projects should consider the following steps:

- Review and align with industry or corporate goals: It must be aligned with a higher order entity or goal (E.g. Company's Vision)
- Develop clear goals, objectives and metrics: Clearly articulated goals and objectives

- Communicate internally program goals, measures and timeliness: Everyone in the company should be fully aware of what it is trying to accomplish, how it will be known if the program is successful, and when the program will roll out

- Roll out the program: Execute the S plan. Make sure that actions are implemented, and that due dates and quality deliverables are achieved

- Monitor and track the metrics: Review SM business process metrics regularly (i.e. daily, weekly, and monthly) as you would any other key business process metrics. Identify gaps between actual metrics and target metrics; identify potential corrective actions. Identify any issues in metrics collection or calculation.

- Make adjustments: Some SM programs (because of the difference between actual and targeted results metrics) may need tweaking or tuning after launch

- Continuously improve program, processes and metrics: Kaizen spirit.

Miller *et al.* (2011) have made a research in how some companies have implemented Enterprise 2.0 platforms and they have made the following categorization:

	Organization driven			Opportunity driven	
	Big bang	**T-Strategy**	**Functional silo**	**Exception focused**	**Process focused**
Description	Tool is rolled-out to the entire organization at one time	One division (or subset) uses the tool heavily, and the rest of the organization can also access the tool	Tool is rolled-out to one division only	Participants include only those individuals and associated groups required to handle the exception	Participants include only those individuals required to execute the desired process

FIGURE 17: IMPLEMENTATION STRATEGIES BY MILLER *ET AL.* (2010)

Organization-driven approaches

Participants are involved depending on their location in organizational hierarchy. The main advantage of these approaches is that it potentially involves a large pool of users, and its adoption might be high if in general the users are curious and interested in the usage of new technologies. On the other hand, the

disadvantage is that they do not focus on a specific business pain point, and too many of the intended users derive little tangible value from using the tool.

Users are involved because of their location in the organizational hierarchy.

Opportunity-driven approaches

An opportunity-focused approach involves only the employees and groups specifically needed to address the targeted opportunity. Securing participation from different functional groups and approvals from various senior managers across the organization can be logistically challenging; however, the potential for successfully driving business performance improvement is much higher with this approach.

While an opportunity-driven approach can either be exception-focused or process-focused, our research indicates that an exception-focused approach has the greatest likelihood of driving significant business performance improvements in the near-term. Because they all feel the current pain of the exception, this means, it is implemented to handle special cases; the intended users are motivated to participate in its resolution using the social software tool. Their successful use of the tool leads to increased organizational agility and improved business performance. On the other hand, the challenges to an exception-focused approach are that the smaller number of participants limits organizational transparency as well as opportunities for serendipity. Also, the targeted exception might not be fully resolved if all of the appropriate groups are not identified and included in the implementation. The tighter focus means that more care must be taken to get the focus right with an exception-driven approach.

2.5.1 Implications associated to Enterprise 2.0 implementation (Challenges)

McAfee (2006) proposes two "Ground rules" for Enterprise 2.0 implementation: It should be easy to use, so that all can be done with nothing more than a web browser and there should not be guidelines or preconceived notions about how work should be structured. McAfee encourages managers to:

- Build and encourage collaborators into the construction of a collaborative and receptive culture in which people feel free to collaborate and share knowledge.

- Foster the integration of technologies in order to develop a common platform in which SLATES principles can be harnessed to allow collaboration. Managers should take decisions regarding the degree of fragmentation evaluating the trade-off between communality and customization.

- Not set up guidelines or policies about how to work within Enterprise 2.0, these technologies shouldn't be formally set up in the work routine. Instead, people should be subtly encouraged to start using wikis or blogs expecting that others will eventually draw in.

- Provide support, People will be motivated to work and contribute as they perceive that their managers contribute with valuable content and promptly support enthusiasts in their possible inquiries. "One of the most surprising aspects of Enterprise 2.0 is that even though they're almost completely amorphous and egalitarian, they appear to spread more quickly when there's some initial structure and hierarchy".

Bughin (2008) is consistent with the argument of building a collaborative and a receptive culture. The competitive advantage will not emerge from Enterprise 2.0 technologies, but from adopting new business paradigms, with higher trust and looser control and a systematic eye to harness the contributions of the cluster of business and social networks the corporation is trying to emulate.

Corso *et al.* (2008) also highlights the importance of culture in their work. "The main difficulties in E2.0 implementation are not from a tech side, but from a cultural one: opportunities offered by E2.0 are not well understood, economic benefit identification and valuation are not easy and organizational change is required. Most of the companies manage their implementation projects in a purely technical perspective, without systematically facing the organizational and change management aspects". Moreover, in the aforementioned work it is provided a slightly contrary view, complementing McAfee's, regarding to the guidelines of implementation: The trade-off between encouraging people to be open and collaborative and at the same time the necessity of some sort of control to keep track of these technologies. "Particularly critical is the definition of governance – the organizational choices that determine the division of responsibilities and the key criteria to be followed in the planning and management of an initiative. Inadequate decisions regarding governance are often difficult to be modified and can jeopardize the development possibilities and project effectiveness. E2.0 governance will be emergent, open and collaborative. Traditional governance systems are put in crisis: all the roles tend to move, at least in part, to the final user, who will decide what to do, achieve it and then handle it by himself. Without appropriate governance, the risk is the proliferation of different and not-integrated ISs. The CIO will be faced with a dilemma: on the one side, the opportunity to animate and stimulate, which comes from the organizational

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line through new ICT tools' introduction, and on the other hand, the need to introduce standards and rules in order to not lose both control and role in front of a growing power from users."

Bughin *et al.* (2009) offer a new enabler, which is to integrate the tools into the flow of users' daily work. Thus, supports McAfee (2006) in three aspects: senior leaders modeling championing of using the technology as an important factor for implementation, culture favoring open collaboration and lack of internal guidelines for working with Enterprise 2.0. "We found that two aspects of management were particularly critical to superior performance: a lack of internal barriers to Web 2.0, a culture favoring open collaboration (a factor confirmed in the 2009 survey)." Thus it brings to light one factor for encouraging contribution and commitment, which can be building incentives in base of peer recognition and review rather than financial.

Andriole (2010) tackles the trade-off discussed in Corso (2008), stating that "there's also internal control and prudence versus flexibility, even liability". Also, it is shown in the study barriers and risk constraining wider implementation. In first place, companies are concerned about data security. Another important factor constraining adoption Enterprise 2.0 platforms is the existing applications portfolio in companies with substantial technology budgets.

Giuffrida and Dittrich (2013) find that some of the challenges encountered with regard to the usage of Enterprise 2.0 software concern the need of a critical mass of users to motivate others to contribute to and use the tool (consistent with McAfee, Corso and Bughin (2009). "Willingness of employees to use SoSo for reporting to their superiors or to modify each other's content in Wiki is very often dependent upon the structure of the organization. It appears mandatory to establish social conventions regarding the usage of SoSo in organizations or teams." It is consistent with Andriole (2010) as considering data security as an important barrier.

Denyer *et al.* (2011) provide an implementation failure case in which data were collected from three business unit from a large multinational telecommunication company implementing Enterprise 2.0. "The introduction of the technology alone is not sufficient to result in open collaboration and communication; rather more dramatic change of organizational culture is needed to overcome the barriers associated with organizational politics" (this is very similar to Corso et al (2008)). There was evidence of a rigid culture in which openness and knowledge sharing was not the case. Rather, it was seen that there was strong regulations on how to use Enterprise 2.0 (content and behavior), which led to low levels of demotivation and low levels of participation. There was lack of leadership by senior managers, or people with leading

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roles regarding with the usage of Enterprise 2.0. Finally, proposes the importance of complementing the introduction of these technologies with change management initiatives. This means to provide training in the usage of these technologies and ensuring that employees understand the objectives of Enterprise 2.0.

Bughin *et al.* (2012) state three kind of internal risks for adopters: First of all, there is a high concern in worker as there is the perception that workers may get distracted from their core tasks. Some companies have tried to overcome this issue by restricting the permitted content in the platform as just work related. Then, there is a concern dealing with proprietary information. Paradoxically, the speed and reach of content dissemination can be potentially threatening for the treatment of confidential information. The third one deals with brand reputation. This third point deals with the worry of employees sharing content that can be seen as negative as hostile complaints, attacks against management might certainly be negative for the company as well for the brand name. Some companies have taken an approach of monitoring content in order to mitigate that risk.

CHALLENGES (Enablers)	Encourage a receptive culture	McAfee (2008); Bughin (2008); Corso *et al.* (2008); Denyer *et al.* (2011)
	Foster the integration of technologies in work routine	McAfee (2008); Bughin (2009)
	Guidelines of implementation (E 2.0) Governance	McAfee (2008); Corso *et al.* (2008); Andriole (2010); Giuffrida and Dittrich (2013)
	Managers' Support and motivation	McAfee (2008); Brozozoski (2009)
RISKS	Worker's productivity	Bughin *et al.* (2012)
	Information Security	Bughin *et al.* (2012); Andriole (2010);
	Negative content against the company	Bughin *et al.* (2012); Corso *et al.* (2008);

<p style="text-align:center">TABLE 8: ENABLERS AND RISKS</p>

2.5.2 The importance of culture

As previously stated, the main requirement for an effective implementation of Enterprise 2.0 is to have or to promote a corporate culture. Enterprise 2.0 is not just about technology and tools, but it's also about culture of participation, inclusion, and sharing.

The culture of any kind of group can be defined as a set of values, beliefs and principles that form the basis for the group's management practices and behaviors (Denison, 1990, p. 2). Without the basic building block of a vision accepting open to collaboration, knowledge sharing, user empowerment and distributed decision making, it can't be built the frame of an Enterprise 2.0.

Bughin (2007) questions whether companies are willing to lose their hierarchical structures, before carrying out E 2.0 initiatives, he says "Successful implementation of enterprise 2.0 has started at the grassroots level, leveraging the design principle of collaboration and agility. In our survey, 45 per cent of early adopting corporations of Web 2.0 claim that a grassroots attitude was the clear catalyzer of adoption and sustained usage."

Richter & Riemer (2009) claim he necessity to introduce the new technologies gradually embedding the new tools with current practices. "The implementation of SNSs (social Networking Sites) on the Intranet is challenging as it can lead to a 'yet-another-platform' problem, whereby people are unwilling to adopt SNSs as a new medium. An essential success factor might be the incremental introduction of social networking features to already adopted platforms, thereby growing the new system from inside an existing one." This could avoid users to face completely new technologies at once and help them to get used more naturally.

Cook (2008), in turns, meditates on the how to get employees participation. He says "The value (and therefore the return on investment) in enterprise software was traditionally calculated on the assumption that everyone in the organization would use it. When they didn't, the answer was to throw more resources at communicating, convincing and coercing usage. This supply-driven approach of forcing adoption simply doesn't work with social software."

It appears clear that companies have to make sure that their employees are ready to embrace this new way of thinking, otherwise Enterprise 2.0 adoption will not unlock any of its potential value and cease to be worthwhile.

2.5.3 Incentive systems for motivating employees' participation

Incentive mechanism in the context of Enterprise 2.0 is a topic that has not been addressed in the literature and considered as an emerging managerial challenge by Corso (2008) and Bughin (2008). The most valuable contribution so far has been done by Joan Dimicco, who has undertaken a research in IBM social networking site, and has published several studied about a Gamification based incentive system he has designed. Next, it will be briefly described some issue related to motivation in online communities, the aforementioned work and the so called Gamification concept will be explained and pitfalls of the concept will be mentioned.

Motivation in online communities

Lui *et al.* (2002) studied incentive mechanisms in virtual community environment aiming to provide explanations for reasons why people get motivated to participate and contribute. Motivation can be classified into individual factors and interpersonal factors.

Individual factors:

- Extrinsic motivation
  - Rewards: something that is given in return for good or evil done or received and especially that is offered or given for some services or attainments
  - Personal need: the contribution one provides will benefit or be useful to oneself in some way.
- Intrinsic motivation can be in the form of altruism and reputation
  - Altruism: the behavior by someone that although not beneficial or perhaps even harmful to oneself, benefits others
  - Reputation: overall quality or character as seen or judged by people in general, or recognition by other people of some characteristic or ability

Interpersonal

  - **Liking:** is affection based on admiration, benevolence, or common interests while affiliation refers to member behavior that is driven by close connection to the group.
  - **Affiliation** refers to member behavior that is driven by close connection to the group.
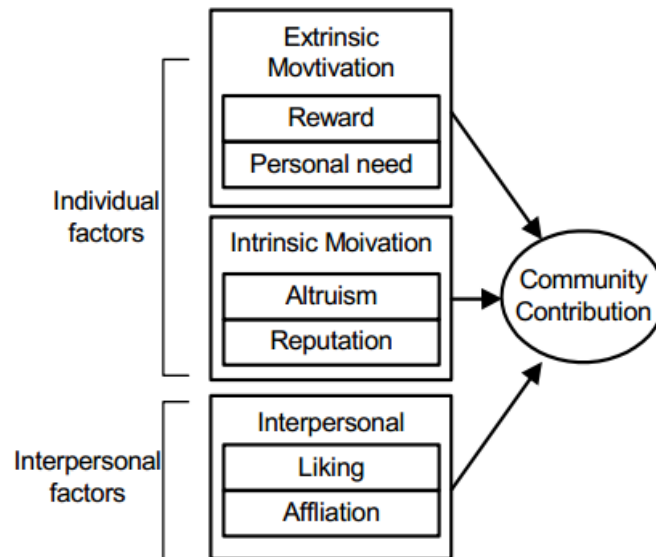
FIGURE 18: MOTIVATION FACTORS IN ONLINE COMMUNITIES, LUI *ET AL.* 2002

Furthermore, Lui *et al.* (2002) identified a contribution reward mechanism, which simply consists on providing a reward in a form that is valuable for the user, which can be proportional to the user's contribution.

Motivation mechanisms in an Enterprise 2.0 platform

Within the context of Enterprise 2.0 platforms incentive systems have been introduced in the platform design. Designers have added features to the platforms that encourage users to participate and contribute by reward mechanisms that tackle both extrinsic and intrinsic motivation: by adding rewards that increase their reputation within their colleagues.

Dimicco *et al.* (2008) showed that employees can be motivated to participate by an incentive system It was designed a point based incentive system for a social networking site in IBM. It granted points and status labels to user, serving to give users a sense of reward and enhance the reputation of the top users. Below, it has been summarized the approach:

FIGURE 19: DESIGN OF AN ENTERPRISE 2.0 MOTIVATION MECHANISM, DIMMICO (2008)

In a follow up study, Dimicco *et al.* (2008 - Follow up) expanded the sample and analysis time frame. In this study, it was confirmed that the introduction of a point based systems granting status level is successful for motivating users to participate. Furthermore, it was possible to obtain feedback from users, stating pros and cons of the system. As pros, users stated their motivation to contribute due to the point system, the system was good for helping to distinguish experts and newbies. On the other hand, cons were identified as perception of privacy violation due to the visibility of the points and concerns that the points system didn't reflect the quality of the contributions. In a more recent study, Dimicco and Thom (2012), studied the patterns of user activity in an enterprise social network service after the removal of the points-based incentive system. The removal of the points system made a significant negative impact on the user activity of the site, and the analysis suggests that contribution of content significantly decreased after the deactivation of the points system. In addition, it is stated that the kind of incentive systems can embody certain values, such as competitiveness. This implies that it may be more or less consistent with a determined organizational culture.

Gamification

This kind of point mechanisms incentive systems can be classified as a "Gamification", a modern business practice that uses game mechanics and game design elements to measure, influence and reward target user behaviors. It takes the essence of the game characteristics like – goals, rules, playfulness, elements of fun, feedback, reward and promotions - applies them to solve the real-world business problem. These game mechanics when applied in the non-gaming context, work as a catalyst for making technology more engaging by influencing user behavior and social interaction methods. Maan, J. (2013). The key elements in which are based on are:

- Rewards and incentives: Consists on promotions and incentives to their employees. It encourages desired behaviors in employee-facing environment

- Badges: badges demonstrating different level of achievements when participation milestones are reached.

- Leaderboards: Assign leaderboards in different areas of domain expertise across business functions. helps people to know where they stand relative to their colleagues or peers thereby inculcating a spirit of competition

- Points systems and scores: points based on level of participation or contribution. The criteria for awarding points can vary. It usually includes speed of response, frequency of participation or learning continuum.

- Competition: Competition may take one or other form of several dimensions including speed, accuracy, creativity, strategic tactics, Knowledge and time.

- Level and reputation: the level of user engagement across the business value chain which becomes a basis for awarding the players once they reach a specified level

Nevertheless, Dimicco *et al.* 2008 (Follow up) and Vassileva, J. (2012) point out pitfalls of this incentive system. It may reward users contributing with trivial actions, thus devaluating the rewards. Also, often top contributors achieve top "levels" and they feel discourage to keep contributing as they do not find the system challenging anymore. (McDonald, 2010; Radia, 2010) emphasize the need of developing different types of mechanisms that foster a sense of achievement rather than points and badges, that create intrinsic motivations rather than replacing them with extrinsic rewards.

2.5.4 Social media and organizational business processes

New applications as well as a shift in collaboration culture have led to the creation of massive amounts of information. With Enterprise 2.0 platforms, employees and partners generate information either directly or by forging links to the Web. Enterprise Enterprise 2.0 Software makes a much larger volume of actionable information available within organizations and the users can benefit from this flow of information. However, as its amount can be overwhelming for human processing and evaluation, there is the growing challenge of keeping track of it and making it manageable and useful. (Christidis *et al., 2012*).

As mentioned before, empirical evidence reveals that the intranet radically changed its role from a predominantly unidirectional top-down channel for communication (increasing reach and richness of communication (Huang *et al.*, 2012) and information – the first era – to a new (virtual and dynamic) working environment, a creative, open working space focused on workers, their needs, specific working conditions and interactions with others – the second era. (Corso *et al.*, 2008).

The new era, the Enterprise 2.0, calls for a broader vision of organizational model evolution, which includes the design of an adaptive model, which is based upon the SLATES principles.

In this context arises the necessity of creating an environment that can support the corporate processes by responding more easily to the ever-changing needs of the company and users. Corso *et al.* propose the concept of reconfigurable enterprise, where the most of the change is played by BPM tools in order to adapt the process flows to the real life of the company or to combine contents and results from different systems (by data and business mash-up). To make it clear, the BPM tools aim at giving companies as well as users the instruments to redefine and adapt their processes in a personal and flexible manner.

It is straightforward, indeed, that Enterprise 2.0 on the one hand makes the company change faster, and this arises the need of such a BPM tools, on the other hand can be used to support business processes and activities.

In the fifth annual survey on the way organizations use Enterprise 2.0 tools, Bughin *et al.* (2012) asked about current and future uses of such technologies for a range of business processes and found that the greatest number of respondents say their companies use these tools to scan the external environment for new ideas.

Respondents reported that different technologies are better suited to specific types of business processes, as it can be seen in Figure 4 that gives a percentage of companies that use at least one Enterprise 2.0 technology in order to perform some processes. Social networking and blogs, in particular, are used most heavily in externally focused processes that gather competitive intelligence and support marketing efforts.

Francesca Lombardo   *Politecnico di Milano*   *Carlos Nuñez*

% of respondents[1] whose companies use at least 1 social technology in given process
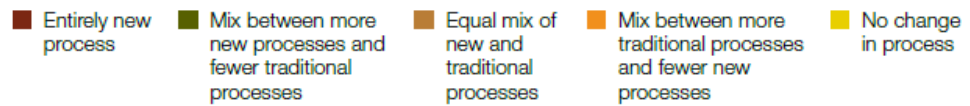
How companies are using social technologies

	Total, n = 3,103	Social networking, n = 1,728	Blogs, n = 1,322	Video sharing, n = 769	RSS, n = 642	Wikis, n = 809	Podcasts, n = 502	Micro-blogging, n = 654
Scanning external environment	75	40	29	11	14	9	8	13
Finding new ideas	73	36	29	11	10	12	7	13
Managing projects	55	19	12	11	5	17	4	5
Developing strategic plan	43	16	11	8	4	8	4	5
Allocating resources	30	10	5	4	3	4	2	2
Matching employees to tasks	29	11	4	4	2	5	2	3
Assessing employee performance	26	7	4	3	2	3	1	2
Determining compensation	20	6	4	2	1	2	1	1

Legend: 20–40% | 5–10% | 10–20% | <5%

[1] Respondents who answered "other" are not shown; <10% of respondents use tagging, rating, mash-ups, and prediction markets for any of the tasks and are not shown.

FIGURE 20: HOW COMPANIES ARE USING ENTERPRISE 2.0 PLATFORMS, BUGHIN

Besides, according to the report, respondents expect Enterprise 2.0 technologies to modify many of their organizations' current processes, as long as barriers to use, like cultural obstacles, fall. Figure 5 shows to which extent these technologies are expected to impact on business processes.

Furthermore the report states that respondents affiliated with fully networked organizations are the likeliest to believe that greater process change will occur in their own organizations. In larger numbers than respondents in other clusters, they think that E 2.0 technologies will lead their companies to adopt entirely new processes under current conditions and to do so even more aggressively if all constraints were removed.

Extent to which social technologies can change organizational processes

Legend: Entirely new process | Mix between more new processes and fewer traditional processes | Equal mix of new and traditional processes | Mix between more traditional processes and fewer new processes | No change in process

At respondents' companies:

Process	Entirely new	Mix more new	Equal mix	Mix more traditional	No change
Scanning external environment	20	17	46	4	13
Finding new ideas	18	17	48	6	13
Managing projects	10	11	45	8	25
Developing a strategic plan	9	9	42	8	31
Allocating resources	8	7	36	9	38
Matching employees to tasks	8	7	35	11	39
Assessing employee performance	7	7	32	11	44
Determining compensation	5	4	26	10	56

At an organization with no technology-related constraints:

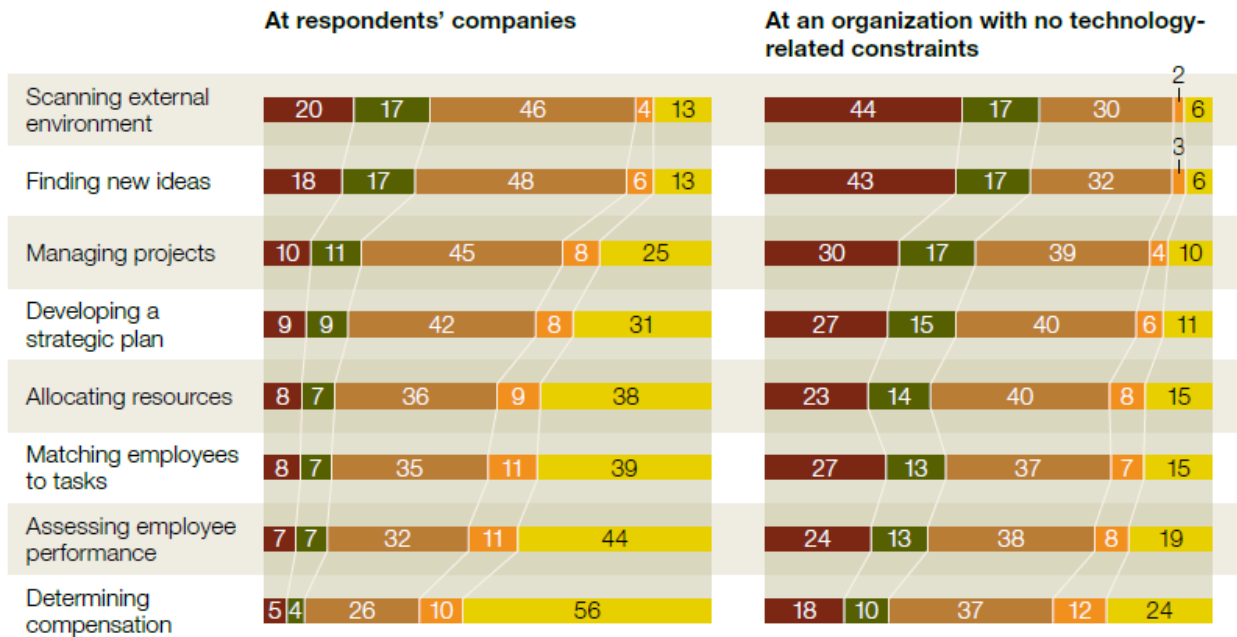| Process	Entirely new	Mix more new	Equal mix	Mix more traditional	No change
Scanning external environment	44	17	30	2	6
Finding new ideas	43	17	32	3	6
Managing projects	30	17	39	4	10
Developing a strategic plan	27	15	40	6	11
Allocating resources	23	14	40	8	15
Matching employees to tasks	27	13	37	7	15
Assessing employee performance	24	13	38	8	19
Determining compensation	18	10	37	12	24

FIGURE 21: EXTENT TO WHICH SOCIAL MEDIA CAN CHANGE ORGANIZATIONAL PROCESSES, BUGHIN

Then, it is mainly seen that Enterprise 2.0 drives the creation of entirely new business process and the integration with existing ones. Bughin *et al.* (2012) followed up these set of analysis and extended them into ten "value levers", or key processes in which they expect social technologies may have most of its unlocked potential, which fall into four segments of the value chain and two enterprise-wide that create value across the enterprise by improving organizational productivity.

- Co-create products: Companies can embrace the collective behavior of people and their will to contribute to the user generated content companies for solving product development problems. It has been created the term of crowdsourcing (Howe, 2006), which represents the act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call. This can take the form of peer-production (when the job is performed collaboratively), but is also often undertaken by sole

individuals. The crucial prerequisites are the use of the open call format and the large network of potential laborers.

- Forecasting: Enterprise 2.0 technologies potentially offer sources of information at a high level of detail which may enhance market responsiveness. Based on information shared in social networks shared by consumers, companies may be able to respond to specific variations of demand. In some cases, it has been shown that data social media can forecast popularity even with 80% if accuracy. (Bandari *et al.*, 2012)

- Distributing business processes: Similarly to crowdsourcing, but instead of making an open call for a large pool of people, a company may use an Enterprise 2.0 platform to outsource a given business process to a third party.

- Market research and customer insights: Considering that Enterprise 2.0 platforms contains personal information about consumers and their social networks, companies may harness this in order to perform insights about specific groups for improving their marketing activities. Sentiment analysis, for example, deals with the computational treatment of opinion, sentiment, and subjectivity in text, has thus occurred at least in part as a direct response to the surge of interest in new systems that deal directly with opinions as a first-class object (Pang *et al.*, 2008).

- Marketing communication/interaction: Enterprise 2.0 technologies represent an easily accessible communication channel which may allow companies to convey direct messages and content to customers at a very low cost. The social nature makes possible users engagement through communities for sharing interests and concerns or interactive social media as games promoted by companies

- Generate and foster sales leads: By monitoring social platforms, companies can perceive signals of potential customers. In B2B sales agents can collaborate with one another through social technologies to improve cross selling, build referrals and research relevant contacts in new prospect companies.

- Social commerce: Social features enabled by these technologies as suggesting or reviewing can facilitate selling processes.

- Customer service: Some companies have created the role of social media manager for monitoring and responding customer inquiries in social media platforms. An Enterprise 2.0 platform can act as a dedicated customer service channel, taking or supporting workload of analogue channels as call centers or traditional e-mail. Furthermore, the knowledge generated by questions and answers can be potentially a continuously increasing knowledge repository. Embracing social features, some

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companies let other consumers answer other's inquiries and so other consumers rate those answers.

- Collaboration and communication: Enterprise 2.0 tools can be used to facilitate collaboration and co-creation, reduce the time spent in unnecessary in-person meetings and help share internal knowledge and best practices. E 2.0l technologies can enhance collaborative work across dispersed locations. Employees can initiate projects, form teams and complete their tasks while being able to connect a face to a name for more "human" contact.

- Matching talent to roles: Internal social networking sites displays employee's particular expertise towards diverse topics, which allows other employees to find internal expertise when required. From an external point of view, sites as linkedIn serve companies as a low cost recruiting tool.

Table 5 synthetize these value levers.

TABLE 9: VALUE LEVERS, BUGHIN

2.6 Framework

It is possible to make a graphic scheme that highlights objectives, modes of use and control approaches that have been exposed during the literature review. This can be seen in Table 11 that summarizes the content of the state of the art.

There are three dimensions that correspond to Objectives, Modes of Use and Control.

Objectives are mainly based in Corso et al (2008) framework, described in figure 4, corresponding to six dimensions of Enterprise 2.0: Supply secure and selective access to information, tools and connections, Develop and manage employee relationships, improve knowledge access and knowledge sharing, Improve collaboration, Increase flexibility and Allow easier communication.

Regarding the modes of use of Enterprise 2.0 platform it can be recalled from above Richter & Koch (2008) research that proposed 6 modes of use for Enterprise 2.0 platforms: Identity Management, Expert Finding, Contact management, Context awareness, Network awareness and Exchange.

Objective	Mode of use	Control System
Open belonging: Making people increasingly feel as "members" of extended dynamic networks rather than organizations	**Context awareness:** awareness of a common context with other people **Network awareness:** users become aware of the activities and situational presence of others in the personal network	**Diagnostic control systems:** monitoring objectives and measure the progress of individuals, departments or production facilities toward the achievement of strategically important goals
Social networking: Develop and manage employees relationships	**Identity management**: includes enclosing information as name, surname, interests, qualifications, competencies	**Beliefs systems:** communicating a clear vision and common beliefs to have a clear and consistent understanding of the core values of the business
Knowledge networks: Improve knowledge access and knowledge sharing	**Expert finding:** facilitates the work-driven search for experts and knowledge bearers in order to help	

	get on with their work where	
Emergent collaboration: Improve collaboration	**Exchange:** combines all possibilities to exchange information directly	**Interactive control systems:** regularly consult the opinion of their employees and participate in their decisions and focus organizational attention and learning on key strategic issues.
	Relationship Facilitation in distributed Work Contexts: facilitate communication and information transfer among virtual teams.	
Adaptive configurability: Increase flexibility and respond faster to changes	**Recruiting and career development:** building and maintaining a professional contact network with the aim to advance one's career opportunities	
Global mobility: Allow easier communication	**Contact management**: keeping contact with personal network to socialize	**Boundary systems:** identify action and pitfalls that employees must avoid

TABLE 10: SUMMARIZING TABLE

It is not straightforward to understand the link between these three dimensions, in fact the mapping would not necessarily be 1:1, since several modes of use can lead to the achievement of a objective and, at the same time, more than one goal's accomplishment can be driven by the same modes of use. Similar considerations can be made with respect to control's dimension: one control systems can consider different modes of use and measure the achievement of more than one objective.

For example, for the case of Develop and manage employee relationships, the modes of use that could drive the achievement, would be those that would enable visibility among peers (Identity management); Being able to manage the personal network (Contact management); Being aware of the common context with others and the activities they are undertaking (Context awareness and Network awareness) and all those activities that allow collaboration and exchange of content (Exchange).

In addition, in an attempt to control these modes of use, it could be done strong emphasis to a set of beliefs that developing good relationships among peers and extending one's social network can eventually be beneficial for the company's performance and thus, employee's welfare. In this case a beliefs System Generating the right culture, vision, and leadership would be the control driver assuring the achievement of the strategic goal.

This exercise can be potentially done with each one of the objectives, modes of use and control approach provided by the literature, varying them and providing rationales that would justify the matching of a particular mode of use or a control approach to achieve an objective. This logic is useful to be aware that a control system will orient uses towards the achievement of objectives.
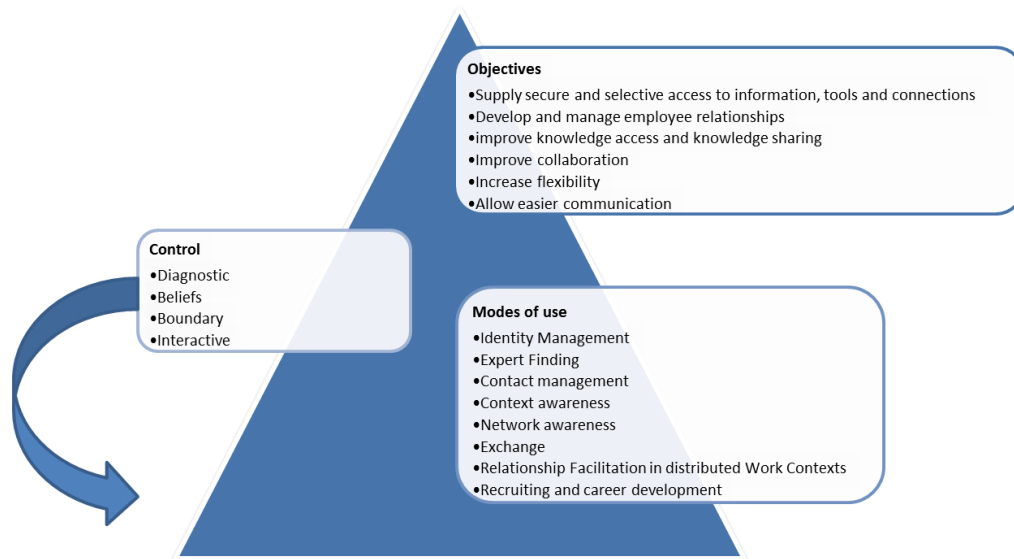

FIGURE 22: OBJECTIVES, MODES OF USE AND APPROACHES TO CONTROL PROVIDED IN LITERATURE

3 Methodology

3.1 Case study approach

It is planned to apply the case study research strategy in order to answer to the research questions. Analyzing real life contexts with a critical perspective acquired during the literature review will provide the opportunity to extract the necessary data for answering the research questions and the further achievement of the objective.

This approach is defined in the literature as, rich, empirical descriptions of particular instances of a phenomenon that are typically based on a variety of data sources (Yin, 1994). The empirical description of the phenomenon complemented with a structured critical analysis provides the necessary elements for the creation of a conceptual framework. This approach, might involve one or more case studies (Eisenhardt, 1989b).

The aim is to construct multiple case studies, focusing in analyzing three relevant dimensions:

- Objectives: Which are the objectives behind the implementation of the platform?
- Modes of use: How do employees actually use the platform?
- Control: What is the way company orient the uses towards the achievement of these objectives?

These case studies will be undertaken within multinational companies operating in different industries and using different platforms (Ad hoc and from public vendors).

Multiple case studies, indeed, provide a stronger base for theory building. Furthermore, Multiple cases are chosen for theoretical reasons such as replication, extension of theory, contrary replication, and elimination of alternative explanations (Yin, 1994).

There are three objectives for case study: Descriptive, Explanatory and Exploratory. Descriptive is relevant if the aim is to convince that a phenomenon is relevant. The purpose of an Explanatory case study is to understand why a phenomenon takes place[5].

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[5] Slides of Research Methodology Seminar, Politecnico Di Milano, 2012-2013.

For the ongoing thesis, the most suitable objective is Exploratory, which aims at understanding how a phenomenon takes place (how can an Enterprise 2.0 align its uses with the objectives).

The necessary source of data for the case studies will be obtained through interviews done to users of the platforms and/or people responsible for its control and implementation.

3.2   Data collection

3.2.1 Interviews

Interviews will be the source of data for our case studies. It is a technique used to understand the experience of others (Seidman, I., 2012). It will be embraced the knowledge embedded in people that are being currently involved with enterprise 2.0 platforms as users or managers.

Given the multi-dimensional research questions that have been posed, it becomes strategic to choose interviewees that provide different perspectives from the phenomenon. This is also said to be an effective manner to mitigate bias of having a "Response or personal" bias.

"A key approach is using numerous and highly knowledgeable informants who view the focal phenomena from diverse perspectives. These informants can include organizational actors from different hierarchical levels, functional areas, groups, and geographies, as well as actors from other relevant organizations and outside observers such as market analysts" Eisenhardt(2007)

Therefore, it can be identified two types of interviewees:

- People using the platform
- People with visibility over the usage of the platform (community managers, project leaders)

For both type of interviewees it is intended to ask questions regarding the three dimensions (Objectives, Uses and Control). It is expected that people with visibility over the platform will be more knowledgeable about the objectives and control and users might provide answers that may reflect more the usage by employees with a different hierarchical position, which may have or not the same knowledge about the platform and its objectives.

There are different types of interviews: Structured, Unstructured and Semi-Structured interviews. For the data collection, it has been chosen the approach of semi-structured interviews.

"Partially open-ended questions are brought to the interview situation in the form of a guide" (Flick, 1998 p. 94). The focus is gaining an understanding based on contextual information obtained. The questions are generally Open-ended, yet directed at obtaining particular information. It also can focus on describing

events, situations, people or providing information sought from asking a particular question. Normally, the goal is not to aggregate data across respondents, but rather exploring things like similarities and differences of ranges across voices.

It has been designed a questionnaire, that is showed in the Appendix, that provides an outline of questions that should be answered after each interview. Considering that there have been relatively few studies regarding the identification of modes of use, objectives and control, the flexibility given by semi structured interview with open ended questions can provide the opportunity of developing insights that could eventually confirm and complement these studies.

3.2.2 Internal Documents

For some of the case studies have been harnessed the information coming from internal sources such as booklets and intranet information regarding to the description of the platforms. These documents are principally intended to guide users into the usage of the platforms and have been used for complementing the data gathering in the interviews.

3.2.3 External Information

It has been used external sources as Yammer's (Enterprise 2.0 platform from public vendor used of the case studies) to extract information about the platform's features which becomes useful for the description and contextualization of the case study.

3.3   Case descriptions

Company Alpha

It is one of the world's leading organizations providing management consulting, technology and outsourcing services, with approximately 275.000 employees; offices and operations in more than 200 cities in 54 countries; and net revenues of $28.6 billion for fiscal 2013.

It has implemented an Enterprise 2.0 portal that embed several platforms, as People page, aimed at Social Networking, or Bogs.

Company Beta

Multinational company supplier of technology and service for the automotive industry, Industrial technology, consumer goods and energy and building technology comprised by roughly 360 subsidiaries and regional companies in some 50 countries. Its turnover in 2012 was 52,464 million euros and employs 305,877 people.

The company has recently implemented an ad hoc Enterprise 2.0 platform after a pilot testing it in small groups. Now the platform is being widely advertised internally and people have even received trainings for its integration in employee's work routine.

Company Epsilon

International organization headquartered in Milan, Italy, composed by approximately 200 employees. Founded in 1999, it is now the leading supplier of cross-media publishing solutions, with customers in the media and financial sectors. Currently it has subsidiary companies in France, UK, Germany, USA and Australia.

The company currently uses Yammer, an Enterprise 2.0 platform to which companies can subscribe by payment in the website.

Company Delta

Company Delta is a German global banking and financial services company, very well-positioned with a presence in over 70 countries operations, significant regional diversification and substantial revenue streams from all the major regions of the world... With total revenues of 33,22 Million euros in 2012 and 100,996 employees.

It uses an ad hoc Enterprise social platform, called my-DB, that has been implemented at global level on March 2012.

Company Gamma

This system regards a Sales Business unit of a Multinational Automotive Technology Company that serves several subsidiaries of a multinational automotive customer. Therefore, its employees, approximately 100, are geographically dispersed in 6 countries: India, China, Brazil, Germany, Italy and United States. Most of these people know their peers, but have never had a direct contact and there is low awareness regarding the operations of colleagues serving other branches than their own.

In the following table it is showed how information were found for each case study:

Company	Enterprise 2.0 Platform	Data Gathering		
		Interview's Role	Internal Documents	External Documents
Company Alpha	Ad Hoc Platform	5 Analysts	Podcasts with interviews of managers who carried out the project	N/a
		Junior Consultant		
		Consultant	Internal Guidelines	
		Executive Consultant		
Company Beta	Ad Hoc //B.Connect	Community Manager and Enterprise 2.0 project Implementation Team Member	Internal Guidelines	N/a
		Technical Sales Employee		
		Technical Sales Intern		
Company Epsilon	Yammer	Marketing and communication manager	N/a	Yammer Website
Company	Ad Hoc "my-DB"	Manager responsible		

Delta		for driving adoption of collaboration platforms		
		Community Manager		
		6 Employees		
Company Gamma	Yammer	Responsible for platform's internal promotion	N/A	Yammer Website

TABLE 11: DATA GATHERING METHODOLOGY

4 Results

The present chapter is aimed to present the results of interviews and reviews to internal documents in the form of Case studies. It is based on the perceived facts and it is not intended to provide judgment. Further analysis is to be done in the conclusion chapter.

4.1 Case Study Company Alpha

4.1.1 Overview

Company A has implemented several Enterprise 2.0 features, embedded in its social portal.

The initiative was expected to generate benefits to the company increasing efficiency of employees and having a faster response time to client needs: Enterprise 2.0 technologies would every-day work easier and collaboration improved.

When an employee is hired, he/she gets a username and password through which it's possible to access to the social portal and any of the Enterprise 2.0 technologies.

The Company's Portal, itself, integrates information and knowledge, content, learning, workforce management, and performance management in a single virtual desktop; besides it provides links to other platforms oriented toward others specific scopes, "Platform People" , "Knowledge Exchange" or "Blogging".

The legacy portal was implemented on 2010 and was quite successful, but the continuing 'consumerization of IT' created higher expectations regarding the characteristics of the portal, especially among younger employees using Google and other versatile portal interfaces in their personal lives. Therefore on May 2012 the portal was improved and built as a set of modular web parts capable of integrating internal and external data into a planned layout that could be modified by the user.[6]

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[6] "Portal: A personal window on our world" Internal Document 2012.

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As it can been seen in the picture (Figure 25), showing the portal home page, through Company's Portal several functions are enabled, like customizing the content that appears on the main page, receiving relevant RSS news feeds, scheduling tasks, quick links to email or other enterprise services. Other significant tools, embedded in the portal are:

- Find Sites: is a search engine allowing the improvement of search speed and relevancy. It allows people to look at results asynchronously, as soon as hits surfaced , rather than waiting for the entire search to complete. It is also possible to rank properties for content, So content owners can conduct a fresh inventory of content and they can understand which fields in their content matter for relevancy, and where changes are needed. The tool also provides set up type-ahead suggestions that favor content, which appear as the user types a query and geographic tagging for content that is geography-specific.

- Get support: allows employees to get help for technology and bureaucratic issues. It offers a section with general information about the company, policies , security, careers, sales etc. grouped by topic, and a section where it is possible to download software or receive any kind of support. For example it might be related the devices provided by the firm (Personal Computers, Mobile phones,..) or to access to companies facilities, as WI-FI, hosting services. The page has also a forum and a chat, ensuring real time employees services.

- Lync Web Access: is the office communicator, allowing to find any Company's employee send instant messages or to move from IM conversations to either person-to-person or group based audio and video conferencing.

- People: is a social networking platform, where employees have a profile with information including work organization, skills, level, contact information, and office location. It is a sort of "Facebook" for the company, since users can expand their profiles with pictures, personal information and areas of specialization, find colleagues and get in touch with them. Users can constantly update their status through microblogging and display news feeds of people or groups they are following(Figure 26). People offers the possibility to participate to groups for sharing any kind of interest.

- Blog: each employee can create his own blog, integrate links, video and audio from any site. Different topics or key world are labeled with tags.

- Knowledge Exchange: is a portal that offers a single entry point for all employees worldwide to find knowledge assets and publish, share and promote their expertise and specific interests (Figure 27).

Employees can manage their own expertise profiles, upload contributions, collaborate using features such as "find an expert" and "communities of practice" tools, add attachments to a download cart and then download all or some in a single zip file, and connect to a global group of researchers who investigate areas and develop points of view for the firm.

Each community is focused on a specific topic and it gathers information on this subject in different forms: questions, discussions, blogs, wikis, links, shared folders for documents.
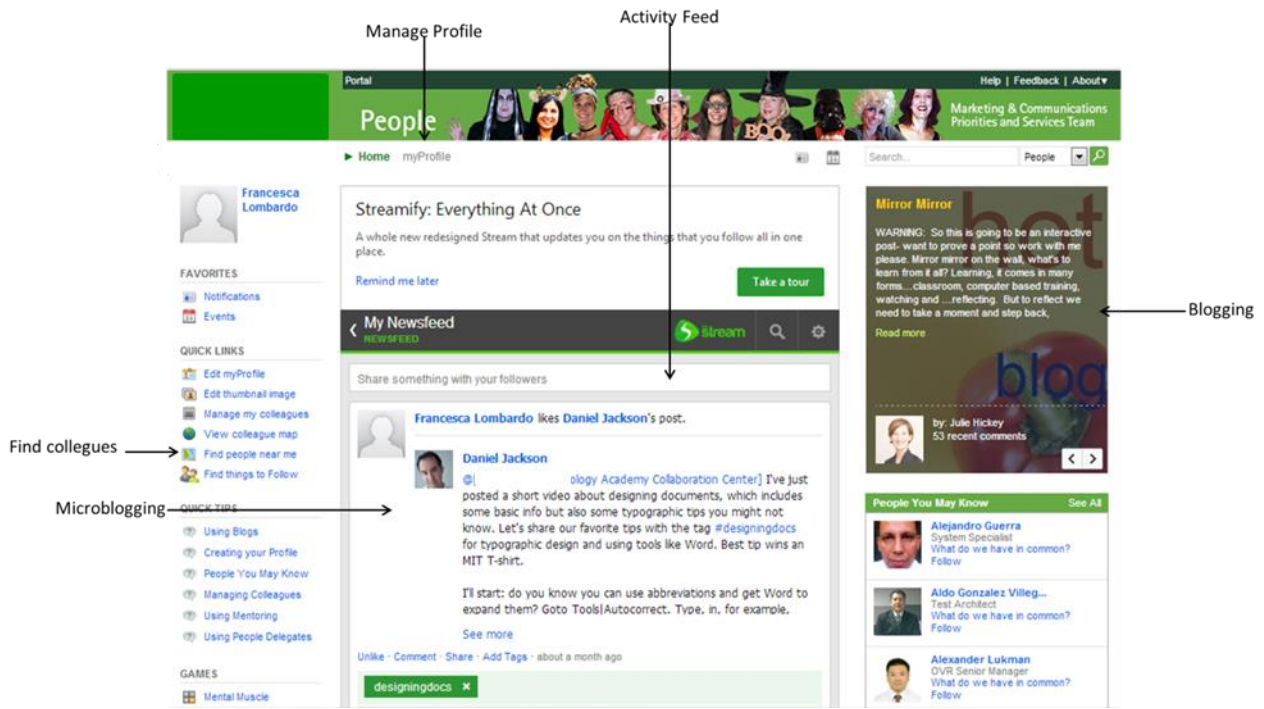

FIGURE 23: COMPANY'S PORTAL

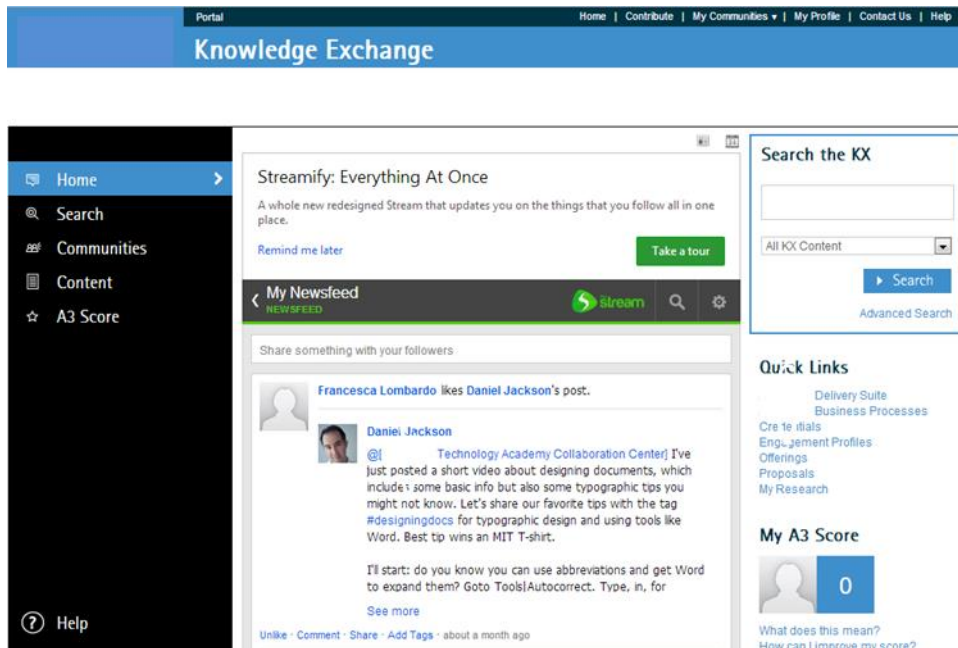**FIGURE 24: PEOPLE PAGE**

FIGURE 25: KNOWLEDGE EXCHANGE PORTAL

4.1.2 Objectives

To understand emerging needs leading to adoption of Enterprise 2.0 tools and objectives of the initiative, it should be first highlighted that the company implemented rudimentary kinds of social tools, yet in 2007. Such platforms have after been modified step by step and enhanced to fits users expectations and organizational and strategic changes.

For example, People page at the beginning comprehended just white pages where you could look up somebody's phone number and what hierarchical level they were. And now it is something in between Facebook and Twitter, its profile aggregates as much public Company's information as possible and users share their picture, expertise and other kinds of interests that are work related.

The key words representing the global pursue of the initiative are Collaboration and communication, in fact the initiative was called Collaboration 2.0.

> *"When I learned that we routinely were sending out millions of administrative communications to our employees on a daily basis, I knew we had to radically change our approach,"*(internal IT senior executive responsible for Portal, Publishing and Collaboration Applications.[7])

The different business objectives of the initiative are oriented toward a specific tool, in other terms each technology serves to achieve one or more strategic goals:

1. **Enhancing Communication:** through a unified communication area for instant messaging and videoconferencing (Lync Web Access). *"Telepresence high-definition videoconferencing, because we really wanted something that would help increase face-to-face interactions, while we are saving travel, so we can avoid having people lose productivity going through airports, traveling"*, said the senior executive in CIO Organization (Internal document, 2010).

2. **Improve Knowledge access:** through Knowledge exchange portal, blogs, tags and folksonomies and most of all the new search engine. The Knowledge Management team's vision is to allow employees to find more relevant content much faster, translating into less time spent looking for information and more time spent delivering value to clients.[8]

3. *Social Networking:* to develop and maintain network of relationships.

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[7] CIO 24/7 Podcast Series No.1, 2010, Internal document
[8] Leveraging Knowledge to Better Meet Client Needs, January 2007, Internal document

"The final area we put into the global scope of our Collaboration initiative is the social networking. So we implemented People pages, which is our internal Facebook… Groups and communities. And all this allows you to have blogs and discussion forums."

4. **Provide services to employees:** through "get support section". On the one hand offering them software to make them available tools which support their work and increase their productivity, on the other hand managing efficiently technological and bureaucratic support to avoid time waste, increase employees satisfaction.

Objective	Tool
Communication	• Lync Web Access
Knowledge access	• Knowledge Exchange portal • Search Engine • Blogs
Social Networking	• People pages
Employees services	• Get support page

TABLE 12: LINK BETWEEN OBJECTIVES AND TOOLS

4.1.3 Modes of use

The research regarding employees modes of use has been carried out at a global level, by means of documentation provided by the company, and at a local level, thanks to interviews made to employees of one Italian headquarter. The reason behind that, was to have a wider understanding, since a limited number of interview on employees did not provide a broad picture of the different perspectives, being the Company international and composed of a variety of people having different culture, habits and approaches to work.

Documents report that Enterprise 2.0 tools have been a great success, in 2012 the company performed studies over the usage of these technologies and found out that:

1. **Knowledge access and knowledge sharing**: 96 percent of employees surveyed report they are using the portal to become more knowledgeable about the company and 89 percent say they use the portal to find information they need to do their jobs; there are about 500,000 people searches every month, resulted in richer search results; nearly 1,500 microblogs are sent on any given day,

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streamlining the exchange of information and decision-making across the organization; users share and promote innovative ideas, insights and points of view posting about 100 blog per day.

2. **Get support**: 91 percent of surveyed report that the portal help them has the applications and the tools they need to do their jobs.

3. **Social Networking**: 80 percent of surveyed say they use the portal to connect with other colleagues, many users have put up profiles, and are actively using discussion forums.

The interviews led to completely different findings: high cultural barriers are present and as a consequence participation is very scarce.

> "*I never use these platforms, unless I'm forced to do it. I don't have time to use them and I find them useless and dangerous, because information you get from them can be misleading and not accurate. I use just the Lync Web Access, when someone message me and I have to answer, but I try to avoid it and use emails. I believe it's an informal way to make formal conversation and that's dangerous.*"(Senior consultant at the company)

Other people interviewed stated they actually use only communication tools, as Lync Web Access.

Main purposes to use instant messaging tool are:

4. **Increase collaboration and facilitate communication**: *"It helps me reach colleagues that are in other countries. For instance, in my current project I'm working with a Spanish colleague, IM is for me the fastest way to keep each other updated and to share ideas.*"(Bus & Sys Integration Analyst)

- **Knowledge access and knowledge sharing (Supports mode of use 1)**: "*I use it to share knowledge and documents among colleagues*"

- **Social Networking (Supports mode of use 3)**: some employees use it to socialize and build relationships with colleagues, also for personal uses. "*I mainly use it to keep in touch with colleagues that now work in other projects, but used to work with me previously. Changing projects frequently gives us the possibility to get know lots of people, I think it's nice to maintain relationships especially with those people I got along very well .*"(Bus & Sys Integration Analyst).

Some other stated they also sometimes read some blog, to have more knowledge about what's going on in the company, but they never participate and give their personal opinion.

In a nutshell, it seems that in an Italian context, such technologies are not yet accepted, except for instant messaging tools.

4.1.4 Control

Firm's strategy doesn't envisage any formal control over the employees usage of the tools, the type of content they share and if users motivation is aligned with company strategy.

Interactive Control Systems

Only for the tool "Find Sites", it has been implemented an application representing a way to perform interactive control systems: a single-click user feedback mechanisms is utilized to track poor search results so that specific improvements could be made. These ratings and comments get scored and reviewed by the search team, and factored into ongoing improvement activities. A running scoreboard of fixes based on user input lets users know their feedback has impact (Figure XX).
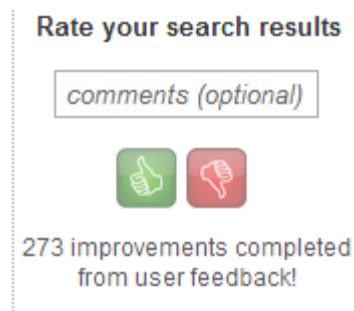
FIGURE 26: SINGLE-CLICK USER FEEDBACK APPLICATION

Boundary Systems

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Management believes usage of the platform should be spontaneous, in fact there are not guidelines or trainings to orient people on how to approach the tool: Sense of responsibility and commitment will play a crucial role in the way these tools are utilized.

> "*We believes our people should be interacting across the enterprise as intuitively as they do on Facebook and other social sites*," explains Chip Allen, who led the initiative for the CIO Organization. "*Our goal with this refresh was to create People environment where connections are second-nature and collaboration is effortless. We think we succeeded.*"[9]

> "*In pur intranet, when for example you are microblogging, you are microblogging as Chris Crawford. I'm microblogging as Kevin Dana. There's that lack anonymity that's critical to making sure people are thinking about the code of conduct for our Company, as well as their actions and how that is representative of them within the business.*" (Senior Executive in charge of social computing sector at the Company)[10]

Despite of that, the company provides policies attempting at clarifying which behaviors should be avoided.

These rules are based on firm's code of conduct and are listed as following:

- Follow our Code of Business Ethics: employees should respect the code as they do in any situation, whether communication is in person or by e-mail, or by Enterprise 2.0 platforms. Users should also follow laws, including those related to intellectual property, financial disclosure, confidentiality, and privacy laws.
- Be transparent: users should be honest about who they are, including using only your true identity and disclosing affiliations that others may view as affecting the opinions and information shared. Users should be careful to avoid the perception that they are providing an official company's position and should disclose their employment at the firm when posting something related to company's business, while don't need to mention it when performing personal activities in the platform.
- Communicate Respectfully: being the organization international, it gathers people with different backgrounds, business disciplines, culture and points of view. Usage of platforms should always be respectful of other people's ideas, beliefs, opinions, and expectations.

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[9] People pages: Connecting colleagues online for high performance, 2012, Internal documents.
[10] CIO 24/7 Podcast Series No. 3, 2010, Internal document.

"Never post content that is abusive, malicious, obscene, threatening or intimidating, or contains ethnic, religious, gender or other derogatory statements in any message or post that relates to the organizaion, our business, our clients, our alliance partners, or our people, including fellow employees, contractors, agents, or anyone else with whom you may work".[11]

- Be factual and provide context: communication should be truthful and supported by facts, statements on social media about firm's services should be made only if such statements are true and can be verified. Users are suggested to avoid discussing competitors on social media without providing sources and context.

- Protect intellectual property and confidential information: misuse or improper disclosure of intellectual property and confidential information, or that clients, can cause serious damage to business, reputation, and clients.

- Protect Privacy: it is referred to either personal privacy or the privacy of others. Everything users post may be viewable by anyone and could be copied and re-used without the knowledge or consent of the person who wrote it.

- Get permission to speak on behalf of the firm: only designated, trained spokespersons who have received prior authorization may speak on behalf of the firm.
  "Avoid creating posts that use the firm's name, logo, or official imagery in a way that creates the impression that your personal posts are endorsed by the company" [6]

In a nutshell, boundary systems, like the aforementioned policies, are another method adopted by the firm to somehow control that employees will make a proper usage of Enterprise 2.0 tools.

Company	Platform	Objectives	Modes of Use	Type of Control System
Company Alpha	• Lync Web Access	• Communication	• Knowledge Access and Knowledge Sharing	• Interactive Control Systems
	• Knowledge Exchange portal • Search Engine • Blogs	• Knowledge access	• Social Networking • Collaboration and Communication • Get support	• Boundary Systems
	• People pages	• Social Networking		
	• Get support page	• Employees services		

TABLE 13: SUMMARIZING TABLE

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[11] Company's website

4.1.5 Discussion

The Objectives of the company are long term oriented and, as remarked, they are oriented toward the global goal of improving collaboration. Only the objective "Provide services to employees" has a short term horizon, by addressing employees needs and problems in the immediate future, which lead to increase quality and timing of service offered.

The first observation regards the participation, because without participation every objective will never have a chance to be achieved. It should be reminded that Company Alpha has approximately 275,000 employees and clearly it is not easy to draw the attention of so many people having different culture, habits and way to work. As discussed in the previous section, at an international level, many people made the Enterprise 2.0 platform a support tool for their routine work, while in the Italian context that is still pretty far from reality.

It is therefore important to distinguish between the findings that have been derived from internal documents, that have a broad perspective, and those that resulted from interviews in one of the Italian subsidiary, which can't be representative of the whole community of users, but can provide a point view that was not highlighted in internal documents.

However, there is one dimension in which internal documents and interviews led to the same result: the company unified the communication area to enhance communication, most of the employees have really appreciated this innovation and they have perceived actual benefits from that, having the possibility to reach colleagues more easily and overcome geographical barriers.

Better communication have also, indirectly, helped users to increase or strengthen their network of relationships, either for working related or not-related purposes.

So, it can be argued that the mode of use "Increase collaboration and facilitate communication" is aligned with objectives "Enhance Communication" and "Social networking" (Figure 29)
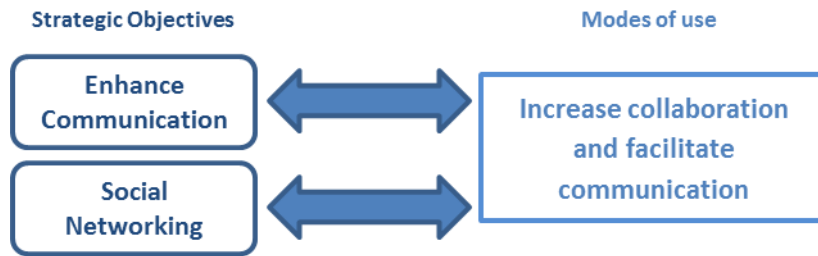
FIGURE 27: ALIGNMENT BETWEEN ONE MODE OF USE AND SEVERAL OBJECTIVES

With respect to the other objectives, the results gathered from internal documents show that they are being fulfilled and the way people utilize the platform corresponds to their expectations: Enterprise 2.0 platform has the tools to support their job and to retrieve useful information.

Regarding the control dimension, most of the effort to ensure a proper usage of the tool is done through the policies.

> *"The company is really strict about the rules to follow, and this is a consequence of our business. It is crucial to protect the privacy of our clients and we have to be legally prevent that information about our clients remains within the boundaries of the project and are not widespread throughout the organization."* (Senior executive)

Policies aim at guiding people in making a responsible usage of the platform, what is missing, though, is a form of control system related to objectives achievement, which could support a control of usage purely concerned with security issues.

Francesca Lombardo   *Politecnico di Milano*   *Carlos Nuñez*

4.2 Case study Company Beta

4.2.1 Overview

The company is evolving into a highly connected company; therefore, it has undertaken the project of implementing the Enterprise 2.0 platform "B.connect". The board of management decided to carry out the project and proceeded to organize a multidisciplinary team from fields of communication, information technology and organizational development that has built the platform in a way that fits the company needs, responds to its corporate goals and allows a quicker, more flexible, more direct and more efficient communication and cooperation among associates and with customers and other stakeholder groups.

> *"We need enterprise 2.0, to become a highly networked company", "This is the basis for us, to get prepared for the future, the world of data and analysis" (*K.P*., M*ember of the E2.0 project implementation team).*

The project team expects more than just implementing the platform inside the company. They are getting prepared for the challenges of the future, working with a long term orientation mindset.

> *"Enterprise 2.0 is not our main target" "We are preparing for the web 3.0 and Industry 4.0 (Internet of things and services)"* K. P

The platform is structured by a social networking site, that permits creation and management of profiles that allows expert finding and social networking and communities, in which knowledge is shared and stored in co-created business documents as wikis, engage in discussion in forums or share insights and feedback in blogs.

- Social networking site: People can create their profiles in which they upload a profile picture and share background information like previous working experience. It is possible to add tags to the profile according to expertise, interest or hobbies. The profile contains contact information as mail, telephone, role undertaken and related office or business unit. It is also possible to add an audio file in which people record the proper pronunciation of their name. People are able to search for colleagues and build their own networks. Micro blogging allows them to share status and share content.

- Communities: There are intended to be spaces for communication, collaboration and knowledge sharing. There are two kinds of communities, Open and Closed communities. Open Communities deal with topics that might deal with personal interests and/or hobbies. They can be created by anyone who has a justified motivation for building a community and has intention to manage it (thus, become a community manager). For example, there is a community for people interested in learning German, so it is shared content as vocabulary and didactic material. On the other hand, closed communities deal with content relative to a specific job. For example, there can be a closed community for a specific business unit, for a specific organizational area, for a specific customer group. The content managed in communities is done through the usage of wikis, blogs and forums.
    - Wikis: Employees are able to create collaborative business documents.
    - Blogs: The platform uses blog as a mean of providing insight of certain topics in which the author has certain expertise. Also, it is possible to post drafts of documents in order to look for colleagues' feedback.
    - Forums: Interactive virtual spaces in which topics are discussed.

The access to the platform is granted to all those employees who work with a computer. Then, the step that the employees should follow is to create a profile.

4.2.2 Objectives

The organization is getting prepared for the challenges of the future and is expected to become a "highly connected company" and the platform is expected to be one big step towards this mission. Furthermore, it is expected that ultimately the implementation will lead to assuring innovation and growth.

1 **Improve collaboration:** Increase efficiency and speed in collaborative processes and enable cross organizational collaboration.

    BConnect enables teams to connect across physical, geographical and business boundaries. This allows you to cooperate, communicate and co-create regardless of time or place (Internal document)

You need good collaboration, strong ideas, and open and transparent dialog. Digital technologies make this possible. Using BConnect, we are creating communities of associates that generate impetus for new ideas, organize the know-how available, and use this to build up knowledge on current and future business fields. (Internal document)

2 **Improve internal communication:** Enabling new ways of communicating overcoming geographical and organizational boundaries; extend dialogue so that everyone can better understand strategic decisions and changes and take part in shaping them.

3 **Improve knowledge access and knowledge sharing:** Through the Networking enabled by the platform and the new enhanced internal communication employees will engage in the platform for finding internal experts that will provide valuable insights and document exchange.

   BConnect allows users to easily identify experts across Band show their own fields of expertise. Associates can post and respond to information requests quickly and directly. Internal document

4 **Internal Idea management**: Embrace employees' creativity for problem solving, continuous improvement and development of new products and services.

4.2.3 Modes of use

Interviews and documents highlight that users have already started to engage with the platform. The interview with Interview with KP reveals that currently there are 70.000 that have successfully created a profile in the platform. The perceived uses of the platform have been:

1. **Communication and Collaboration:** Closed communities are being created and used in order to support some business processes. Integrating the information in communities allow to keep track of it and make it visible for everyone in a dynamic way (Constantly being updated) and allowing fast feedback. Blogs are being used for communication updates regarding to the business process and collaborative documents in Wikis are facilitating collaboration in a great deal.

"The closed community for the sales planning keeps me updated about the last updates of the status of the process. I can check deadlines posted by process owners, I can post questions that can be answered by those who have already encountered the same problems and the answers remain embedded in the platform to support further inquiries". -Interview to person from sales department.

"Recently I used the forum in order to receive an advice on the link between B.connect and Portal room. Indeed we are planning to create a big community between all the business unit in order to share confidential/general document dynamically. In these days we added also a link to B.connect in our intranet contact pages, so all people can have both formal and informal view on the person."-Interview to Technical sales intern

"Create a big team group avoiding several mail to everyone (just one post and all people can see)" Technical sales intern

"Organizing meetings in a collaborative wikis, everyone is allowed to fill in their own topics, ne is allowed to work in the wikis with us, I just post the link and share it with the others and everyone is working on that... I do not need that much e-mail anymore" KP

" you have the opportunity to have one place for all the information regarding the topic, so it's not necessary to have email in parallel, because nobody knows where the information is, when you commit yourself and your team to put the information in one community you know it's not necessary, everybody knows where to search for" KP

"Blogs replaces monthly BU report (58 pages)"-Internal document. Statement from early users

"Time-critical information is now available right away"-Internal document. Statement from early users

2. **Social networking:** The social networking site is allowing people to expand their own physical networks and get connected with geographically distant colleagues.

"My team is geographically dispersed. There are three people in the office in Milan, two colleagues working directly with the client and the project managers are in Germany. The social networking tool allows me to stay in touch with them and follow their activity." -Interview to person from sales department.

"I use the platform to improving my network, to really enlarge my network" *"To find experts, to ask questions, to get in touch with others with the same interests"* KP

"The platform let me Know the profile of other people and know what they do (Improve my knowledge about the organization)" Technical Sales Intern

3. **Accessing knowledge:** The platform is being used for embracing knowledge which is embedded in the organization in explicit (Blogs, wikis, documents) and implicit forms (experts).

   "A very valuable experience for me is to find an expert, I ask a question to my network and I am really amazed who answers" KP

   ".. for me it's possible to really search for the information I need and to really get updated, because I can follow people and communities… I can get informed by myself and I must not until my department has forwarded me an email…" KP

   "There is Worldwide availability of questions and answers" Internal document. Statement from early users

4. **Engagement:** The possibility to create open communities to share knowledge, information, hobbies or any other content which can be considered as useful, is engaging employees among them and with the company. Anyone can create a community as long as the person provides a formal request in which it is justified the existence of the community and the intention to further manage it, becoming a community manager. Trainings are provided in forms of blogs and there are schedule virtual meetings and workshops for the same mean.

   "I Also perceive the platform for personal use. I think is really important to use this tool not only for working purpose. It has to be a pleasure to use it" Technical Sales Intern

4.2.4 Control

The company has advanced in a structured way towards the controlling of uses of the platform. The data gathered highlights control that can be matched in the four approaches studied during the literature review.

First it is important to state that these efforts of orienting employees' usage of the platform are not seen as "Control". In fact, it is seen rather as a "not user friendly" word. The implementation team considers that in this phase of maturity of the project, it is very important to encourage users to use the platform, to motivate them without any pressure.

> *"Please, delete the world control. Control is not very user friendly in a E2.0 collaboration environment but we don't call it control. Off course we measure the success; we measure the activity on the platform. It is not for control, it is for get a better understanding how is it used what the users need to get in touch with the tool and use it in an efficient way." KP*

> *"We are allowed to try it out, to work with the tool at our own speed, without any control, and that's perfectly fine to get the people on board, because if you start controlling them, this is totally against the E2.0 idea, because you want to raise the personal motivation, you want to increase the involvement of the people and nobody likes to be controlled" KP*

Overall, the data gathered reflects the following efforts:

Boundary system

Besides of assigning people for the role of monitoring, it has been several materials that incentive people and orients them in the usage. This is exemplified in the internal documents that have been revised. These are intended to give information about the capabilities of the platform, provide example of the potential uses in their work routine in terms of "Social business processes" (Using the platform for organizing meetings, finding experts, getting support, communicate information, collecting and combining information, co-creating, evaluate options, find new ideas, support project management). Besides, there is a section stating "Do's and Don'ts" which aims at providing good practices in the platform.

> "Don't start unless sufficient resources and expertise are available"

"Don't start unless the core people you need are confident about the platform's benefits"

"Don't use mechanisms to "force" people to write regularly; motivation and feedback are more effective"

In addition, as the profile is created in the platform, users must agree a set of guidelines that punctually address important issues as confidentiality (Coherently with internal policies) and privacy policies. It is explicitly stated that the platform is not used to monitor conduct or performance, nor is it used for performance appraisal unless it is agreed in advance.

"Guidelines are very important for their own security, to know what they can do and what they cannot" KP

"A guideline could make easier using this tool for people who has no time to try and discover by themselves the potential of the tool. I lost a lot of time at the beginning because I had no idea about the using of B.connect and I didn't find a useful guideline. Some people may be bored by this thing and they may not use it anymore. So less stress, less lost time and much more appreciated tool with a 'easy and user friendly 'guideline" Technical Sales Intern

Beliefs system

It has been set up "Social Business Principles", which aim at creating the right culture that will eventually foster the adoption and expected usage among employees and eventually achieve the overall goal of becoming a highly connected company. These principles and mission are available for everyone in the platform. Furthermore, there have been shared in the communities documents explaining the meaning of Enterprise 2.0, the initiative of Bconnect, the goal pursued, the social business principles and practical examples of use that can benefit employees' daily business.

The social business principles that set the common values supporting the platform are:

- Listen and engage
- Collective intelligence
- Self-organization
- Exploration

- Sharing and learning

- Ease of use

- Transparency as default

- Recognition

Furthermore, there are workshops addressed specifically to managers in which they receive mentoring in social media know how, Enterprise 2.0 and they get informed about the ongoing implementation project, so they can support it and contribute to the accomplishment of the goal of building a "Highly connected company".

Interactive system

There are communities that are built to constantly share statistics regarding to the adoption of the platform and contributions from users. The aim of these communities, which are managed by the members of the implementation team, is to provide transparent, updated information in order to motivate people to keep contributing.

Furthermore, the community managers are being constantly supported with trainings, events and documents. They can get immediate feedback from the implementation team regarding the way they manage their communities.

> *"My title is Lead Community Manager. So I take care of all the community manager on Bconnect. I'm responsible the enabling. We have defined three different trainings to really enable the community managers to do their job. I am responsible for the network. I'm community manager for the use case owner and community manger community, I take care of workshops, I organize these meetings or these events for the community managers" "I'm doing a lot of presentations for that, to really show this important roles, because the community manager is one of the central role which we need to implement to really become an Enterprise 2.0 company, to really become a highly networked company". KP*

In addition, it is planned perform a survey across the whole company to find out what do people really think about the platform. This will provide valuable feedback in order to keep assessing the platform.

Diagnostic system

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As it has been mentioned above, in the introductory paragraph of Control, there is no intention to make people feel they are under pressure of achieving a certain objective. Rather, the intention is to motivate people to use the platform and to start perceiving benefits on their own.

"You will only use it if you have a personal benefit with that. If you don't use it it's ok for us" KP

Though, interviews and internal documents highlight that there is interest to create KPIs in order to measure success.

The implementation team is currently working on the development of a "Maturity model" that defines that the results coming from the platform will vary according to the maturity of the platform. The maturity depends on the capabilities of people towards the usage of the platform. These capabilities are defined in three dimensions: Culture, Leadership and processes.

"The maturity indicates how closely the usage of the platform is adapted to the social business way of thinking in relation to the preparation that was done" (Internal document)

As people begin to use the platform, contribute, communicate and engage, the more they develop skills in using the platform, the more they use it and integrate them in their daily business. Then, as the platform is used more in the daily routine by everyone, improvements in process start to appear. Finally, operational results turn into profitability for the company and that leads to growth. The more mature the platform will be and the impact will have a greater scope.

The different levels of metrics according to the maturity level and thus, scope of the results can be:

- Strategic and corporate: Metrics in terms of financial indicators (ROI), market share or growth.
- Operational: Metrics in terms of process lead times and cost savings
- Usage and usage related: Metrics in terms of usage rate of the platform, contributions, views, clicks, etc. Qualitative measures to find out employees' motivation and satisfaction

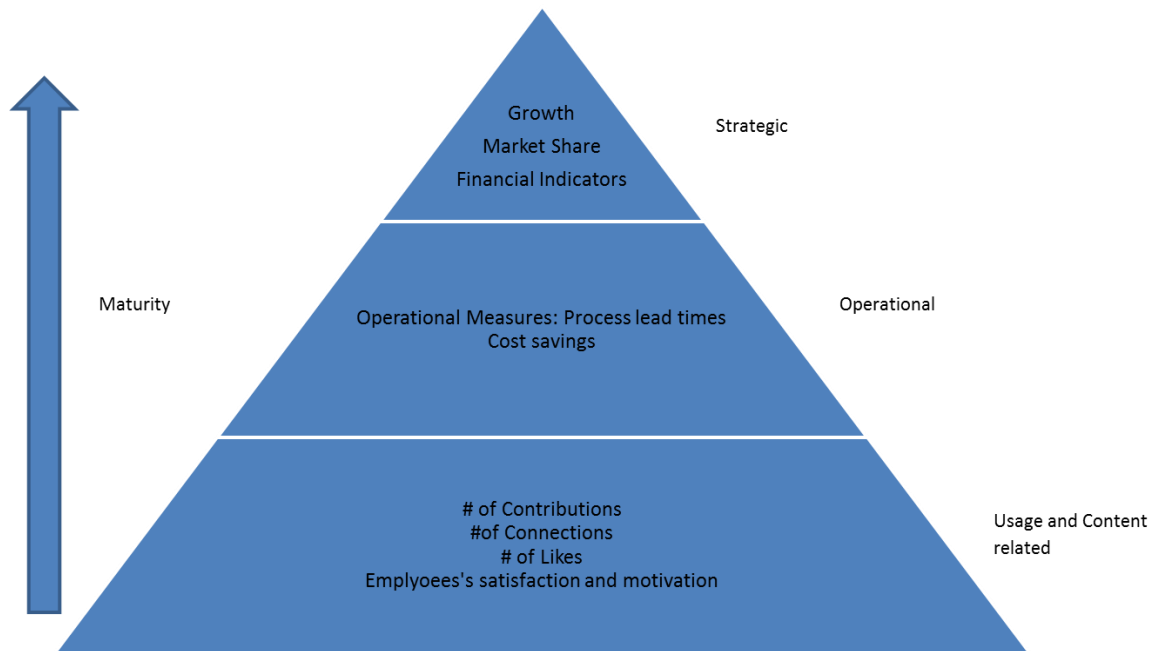It can be seen in a summarized way in the figure xxx:

FIGURE 28: MATURITY MODEL

Right now, the platform is at the lowest level of the pyramid. Most of the efforts focus on usage related metrics. The interview with the implementation team member states that one of the metrics used for this scope is Return on Contribution (ROC), the ratio between consumers and contributors or originators:

$$ROC = \frac{Number\ of\ consumers}{Number\ of\ originators}$$

This metric has been calculated since the pilot project started and there has been perceived rising level of contribution by associates.

At a community level, recalling what has been said before, if an employee has the initiative to create a community, he/she is named as "Community manager" and then, is encouraged to define the scope of the community and define "Success" for the community. At this point of maturity, this is done in order to make them realize the benefits and to motivate adoption rather than to control.

Finally, it can be said that there are ongoing efforts in refining the current metrics and in developing further KPIs in relation with Culture, Leadership and Processes, the dimensions driving the maturity of the platform. The underlying idea is to continuously improve in those dimensions in order to achieve a maturity point in which benefits will be evident for everyone. The time horizon is still unknown. The interviewee, Community manager expects that by 2016 70% of knowledge workers will be really connected.

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Company	Platform	Objectives	Modes of use	Type of Control System
Company Beta	• B.connect	• Collaboration • Improve Internal Communication • Knowledge Access and Knowledge Sharing • Internal Idea Management	• Communication and Collaboration • Social networking • Accessing Knowledge • Engagement	• Boundary Systems • Beliefs Systems • Interactive Systems • Diagnostic Systems

TABLE 14: SUMMARIZING TABLE

4.2.5 Discussion

The main goal of the company of becoming a highly connected company is being supported by the objectives that have been set. These objectives are intended to be long term oriented and its achievement is going to be addressed from different perspectives as the platform gains more "Maturity", according to the model that have been developed by the implementation team.

At this point the uses of the platform are contributing to the achievement of the objectives. This is perceived in the rising number of people creating the profiles in the platform, the rising number of communities that have been created and the benefits seen by early adopters and some business processes that are being slowly but consistently done more via the platform.

All the modes of use identified contribute directly or indirectly to the achievement of the objectives. There is not an exactly 1:1 corresponding. Although, it is possible that one specific use contributes in a greater extent. For example, the mode of use of "Accessing knowledge" might have a stronger relationship with the objective of "improving knowledge access and knowledge sharing", but it also contributes to the objective of "improving collaboration".

One interesting finding is that the modes of use can slightly vary according the hierarchical position. The interview with the implementation team member highlighted that the platform is being used for providing trainings for new employees. This kind of usage is not found at a lower hierarchical level.

The objective regarding internal idea management does not seem strongly supported by the gathered information. It is possible that due to the early stage of the platform, there are still few documented cases

regarded to this specific objective. It can be highlighted though, that in the guidelines, there is an item that recommends that if it is perceived by users that an innovation can result from a discussion via the platform, it is recommended to engage the discussion via email for security reasons. This evidences that the company expects the employees to engage in creative processes.

One of the challenges that the company will face is the reluctance of those employees who are not familiar with Enterprise 2.0 or with social media, considering that not everyone is familiar and open towards these tools. In addition, considering that most of the efforts are being undertaken at the headquarters, there is the risk of not promoting equally the platform can potentially discourage employees. For example, the aforementioned trainings are mostly done at the headquarters.

It is important to highlight that the company is allocating effort in developing the role of community manager, who represents a key figure in orienting users towards the right use. This role has the specific responsibility of defining success for each community and then, assuring their success by identifying the right practices and the right metrics. Also, it is a figure that is entitled with an implied leadership that is important because can potentially provide people support, feedback and know-how.

The company has been orienting the uses from different perspectives. First, there has been strong leadership supporting the initiative. The implementation team has been engaged in promoting the platform by scheduling trainings for top managers, constantly posting instructive material in several communities and especially by using the platform as their main working tool. In fact, the interviewee from the implementation team stated that she currently uses the platform to undertake more than 50% of her work routine and also has reduced the mail usage in about 90% "*That's one of the rule me and the team have, stop email...*" In addition, this beliefs system is supported by a diagnose system, which is intended to ensure the achievement of the objectives during the different levels of maturity of the capabilities of the people using the platform. Finally, the boundaries system offering guidelines of behavior and the interactive system immerse in constant feedback that is provided by the community managers complement beliefs and diagnose, thus providing a balance that is likely to enable the achieving of results. "Collectively, these four levers of control set in motion powerful forces that reinforce one another".

4.3   Case study Company Delta

4.3.1 Overview

The 29th of March 2012, for the first time at Company Delta, it was launched my-DB: a customized Enterprise 2.0 platform. Not only employees have the possibility to use the platform, but also anyone that has the single sign-on assigned, so, whoever for any reason has a Company Delta e-mail address.

Before the decision to build a new ad hoc platform, Company Delta experimented a standard Enterprise 2.0 tool, Yammer, but it was a failure, it didn't capture heart and mind of the majority of people of the bank. So, when John Stepper had to justify why he expected such big change after implementation of my-DB, he argued that the difference was in the platform and in the intuitive way my-DB was made.

> *"…The main difference is that the tool is ONE, everything is together"*

Hence, it is only one platform, where are embedded different features:

- Social Networking Site: allows people to create a profile, share information about previous work experience, skills, interests, expand it with a profile picture or an avatar, upload content or sites of interest, have a calendar to schedule events or activities and create bookmarks to classify or discover interesting resources. Users can chose which information to make available to whom, by managing privacy settings (Figure 30). Through the function "My stream", users can display posts of colleagues, groups (Figure 32) they are following or not following and update their status through microblogging, in order to share feelings, ideas or make people involved in initiatives or projects they are working at. It is also possible to see most commented news in the section "Todays Pick" (Figure 31). The section "My Tasks" provides RSS feeds, but notification are also linked to Company Delta e-mails.

- Communities of Practices: are collaborative channels oriented toward a topic, and allow employees to discuss, plan events and share knowledge or content, uploading files, podcasts, even making surveys. The revolution lays on the possibility that an idea, which before could be shared only through e-mail, can now develop into a fully funded program or a global event thanks to the Communities of Practice.

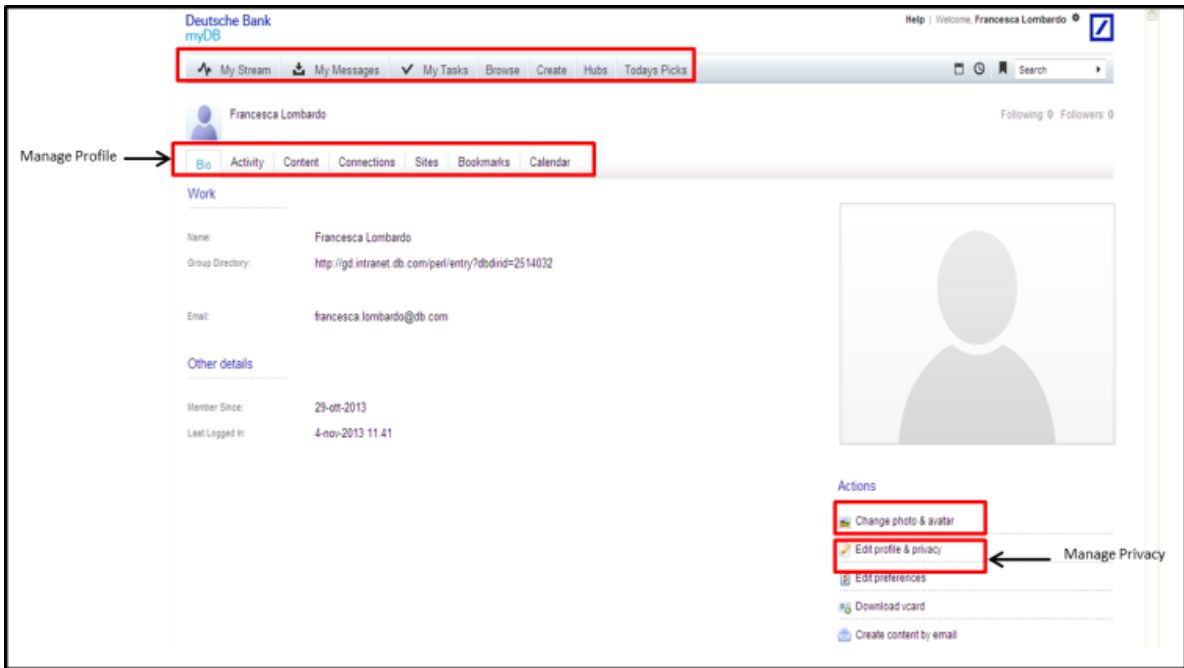In my-DB platform content can be easily retrieved or clustered with tags, based on folksonomies.

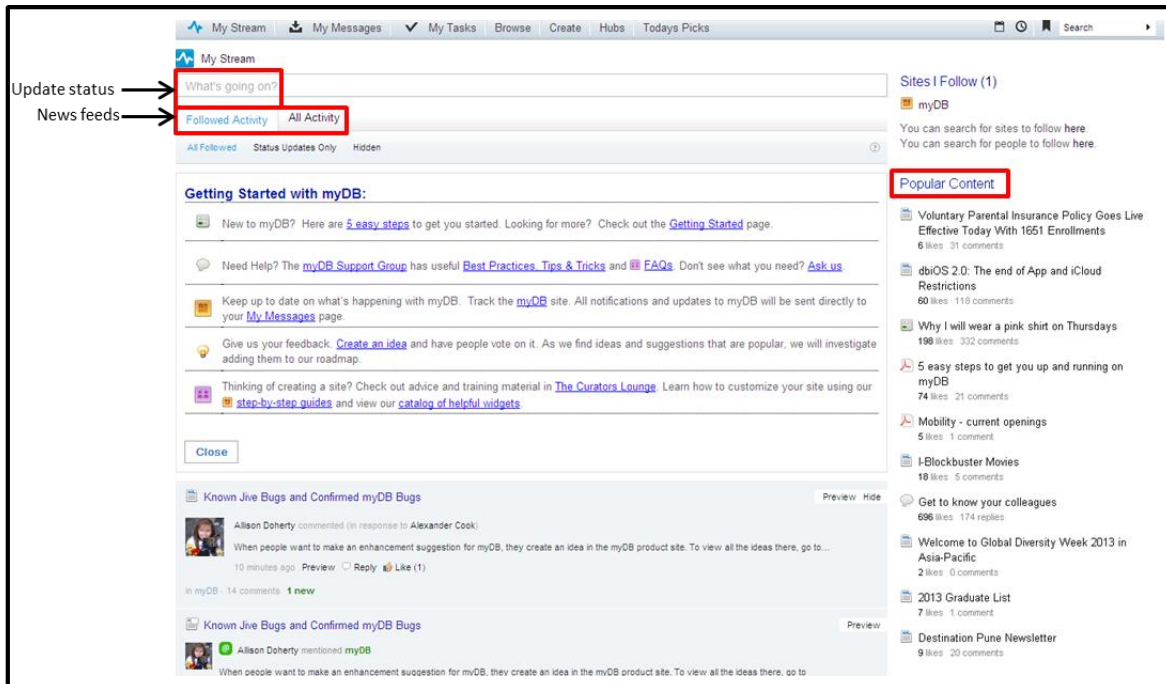**FIGURE 29: PROFILE PAGE IN MY-DB**
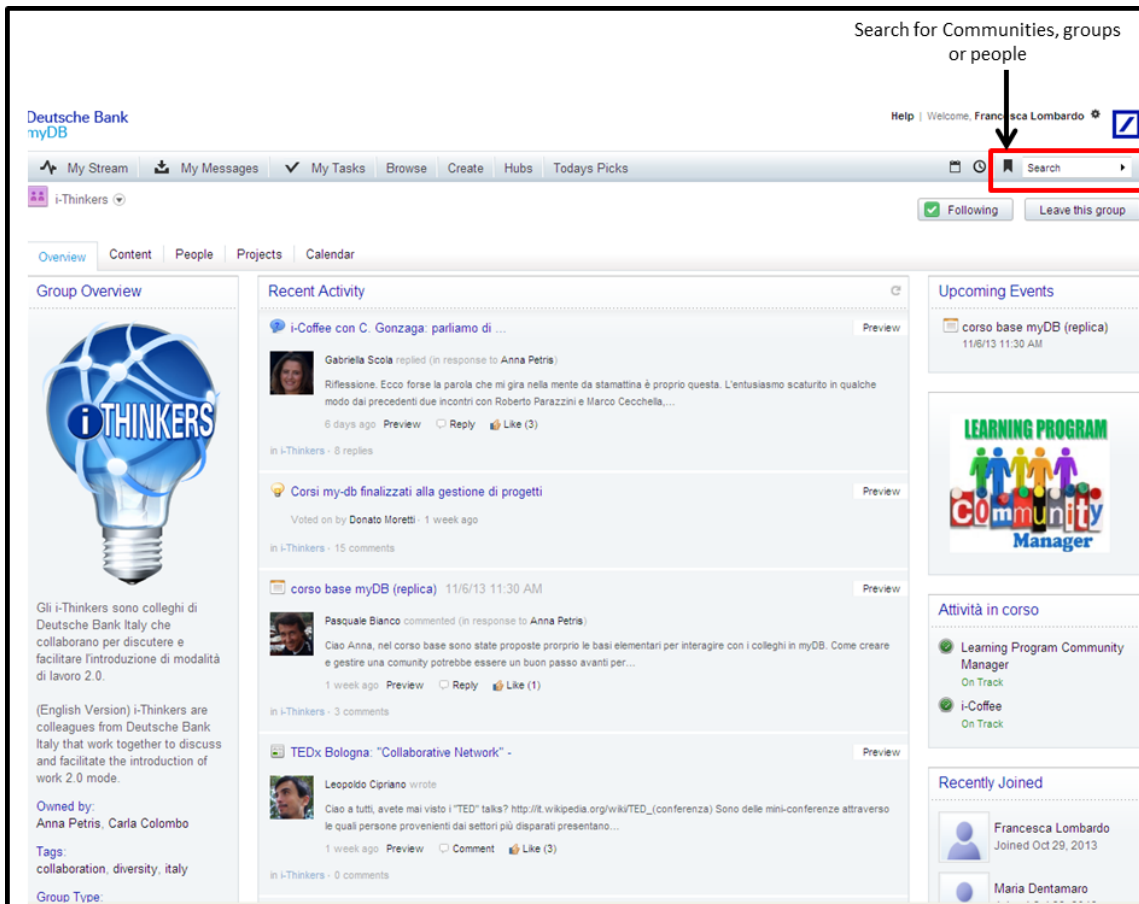

FIGURE 30: MY STREAM PAGE IN MY-DB

FIGURE 31: ONE OF THE GROUPS PAGES IN MY-DB

4.3.2 Objectives

The initiative of implementing an Enterprise 2.0 platform at Company Delta had really ambitious objectives, main goal is to revolutionize the way people work and build a culture of collaboration.

Indeed, the project was called "Collaboration" and it is through collaboration that the bank wanted to break down silos, reduce duplication, discover and share knowledge, and unlock cost savings potential.

> *"Collaborative social workplace is not seen as a trivial pass time, but it is a way of getting your work done"* (Internal Document)

> *"If we apply Social tools in practices in DB we can generate hundreds of millions of euro in value".* (John Stepper, manager responsible for driving adoption of collaboration platforms).

It is the perspective from which DB sees the usefulness of the platform that disrupts any paradigm: it's no longer about culture to encourage users toward the construction of a receptive culture in which people feel free to collaborate and share knowledge in Enterprise 2.0 tools, but it's about using spontaneously the tools, making them part of daily work routine (they refer to that as "Work at loud"), as most of people nowadays do with Social Network outside firms' boundaries, and bringing changes through this "borderless workplace".

> *"What is the point of my DB ? Applying normal things we do outside. The point is simply to make it easier to leverage content and people either: sometimes it's just about to have a better internet web page, no forms to fill-out, more user-friendly web presence, but sometimes you don't know exactly what you want, you just think about a topic and you want this information delivered to you: so, my-DB is also this subscription mall across the bank that says: any web-page, any person, any group any document I can subscribe to and get any content delivered to me, under my control, in easy to scroll facebook-like activity fill."* (J. S.)

The objectives are presented as four dimension of change:

1. **Communication and Cooperation:** people can Work out loud and contribute to each other's content, creating an open forum for exchanging ideas and eliminating duplication of work, sharing what is going on and giving feedback.

"Use of my-DB is not apart from everyday job, it's just work out loud! It means: tell everyone what you are doing, what you are working on. For sure, everything you do will be observable, but there will be no need for emails, no extra time spent."(J. S.)

"My-DB is extremely useful as a way to connect the dots across the firm, to get help, to discover people and content"(J.S)

"Most people and organizations are very pleasantly surprised by the amount of altruism unlocked by Enterprise 2.0." (Internal document)

2. **Enable Learning and Exchange Knowledge**: my-DB helps enable people to learn from each other, regardless of where they sit in the org chart or around the globe.

"*We learn from those around us and we are increasingly connecting with the subject matter experts who can tell us how things are done. As we all start to learn how to share our knowledge this learning will only increase. It is now easier to connect with people to get the knowledge that we need, when we need it.* (Internal Document)

3. **Social Networking**: being more open and transparent and actively link in with like-minded individuals allows to develop network of relationships:

"The scope is to look beyond silos or time-zone differences, whether you are discussing the latest in regulation, most efficient database query or topical women's issue."

"Following somebody it's not like "I'm tracking you", it's because our work may be connected. We might build a little bridge, I mean possible related projects, contents: it is good for the firm, it's your job you are doing. It is a fantastic tool to discover who does what and maybe connect work of different people. (J.S.)

4. **Develop Career:** helps employees creating or exploiting their career opportunities, whether because more opportunities are available, since communication is easier and information is shared, or simply it builds your personal reputation and 'brand'.

"B*y using these tools everybody can take control of his career in a way we have never really done before" "Building a profile network is the best way to shape reputation and in doing so, unlock opportunities"(J.S.).*

4.3.3 Modes of use

The interviews have demonstrated that people participation is pretty high and it is increasing at fast pace, this trend is shown in the table 15, which shows how my-DB users have considerably increased since the "go-life" at the end of march 2012.

The main modes of use highlighted during interviews are reported as followings:

1. **Open belonging**: some interviewed revealed that their sense of belonging increased either because my-DB make them feel more engaged to the bank or because they feel more connected: reading posts, news or what's going on at global level within the bank helps user increase their awareness and hence feel as a part of a whole community.

   "I feel more connected to Delta in total, my-DB helped me to increase my view of other parts within Company Delta. Especially outside of Finance or GTO, the parts I've worked in so far. I've always felt good working here, but with some initiatives and the engagement I've seen here on myDB, I often feel really proud to be part of it."(Manager)

   "I am in a situation where I can see what people are working on and what they're producing, hence feel more informed" (Employee).

   "MyDB has definitely and significantly improved my belonging to Company Delta, as illustration my spontaneous collaboration with two colleagues on Innovation which are geographically and organizationally distant " (Manager).

2. **Social Networking**: some use my-DB as a way to build relationship and socialize

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"The Bank is now a more human place for me, a place where you can connect with global colleagues and talk about work, challenges, frustrations, successes, seek help, or just meet new people." (Employee at Company Delta).

"I have learned a lot more of what's going on, what people are doing, and met with people I normally would not be being more active on MyDB" (Employee)

"I use my-DB to work out loud, making my work visible & discoverable in a way that helps others while further developing my network" (J.S.)

"A few times, some people did not like what I posted. But even those times turned into teaching moments where we could discuss our differences in an open and constructive way" (J.S.)

3. **Knowledge sharing**: many people reported their main satisfaction is to have the opportunity to share knowledge and have access to relevant information quickly and easily:

"I got into the habit of searching myDB first and I think it should make all other information repositories redundant." (Employee)

"I've found answers to questions I was searching for, I now search in myDB before I try other places (or support) because I find answers." (Employee)

" I have been able to share knowledge in terms of experience as well as in terms on-going activities which were relevant to be brought to the attention of other user." (Manager at Company Delta)

"By casual reading I've found so many things I didn't know that I needed to know and that have been useful in my work." (Manager)

Some interviewed pointed out at the fact they were able to solve their issues more easily by means of expert finding:

"*Thanks to my-DB I learned countless ways to make my work more productive and enjoyable. I've used myDB for research on nearly every Technology article I've written. Usually I find the information, but if I don't, I always find the person who knows where I suggest where to find the information*" (Employee)

"A couple of examples from my side regard some struggles I had, I posted a question and got responses from experts like G. G., another example is when I posted a question in the cyclismo group, I got the answers needed in minutes." (Manager)

"I posted something regarding an issue I had trouble to solve, in few days I had some people coming to me with solutions saying <<Hey I see you have a particular issue: I have a solution for you>> I though "That's where the magic happens"". (Employee)

"Just recently I posted a question regarding a tool I have to use for status reporting regularly. Not only was somebody able to help me out rather quick, but it also allowed for my colleague to pick up on it since he had exactly the same problem."

From interviews can be observed that employees have a strong interest and curiosity about the platform, it seems they believe in my-DB potential of improving the way they work.

	Total users	New users	# of Users Who Logged In During the	# of Users Who Logged In During
Week Ending Nov 1st	69,372	553	14,341	35,042
Week Ending Oct 25th	68,821	660	16,332	34,802
Week Ending Oct 18th	68,158	841	16,644	34,108
Week Ending Oct 11th	67,317	886	17,661	33,324
Disabled users who left the	66,462	-910	N/A	N/A
Week Ending Oct 4th	67,372	568	14,83	32,2
Week Ending Sep 27th	66,8	636	13,886	31,844
Week Ending Sep 20th	66,156	639	12,984	31,136
Week Ending Sep 13th	65,512	732	15,66	30,832
Disabled users who left the	64,801	-1,37	N/A	N/A
Week Ending Sep 6th	66,171	736	13,886	28,876
Week Ending Aug 30th	65,419	599	12,984	27,841
Week Ending Aug 23rd	64,814	511	12,995	27,847
Week Ending Aug 16th	64,301	528	11,691	26,929
Week Ending Aug 9th	63,77	516	12,252	27,321
Disabled users who left the	63,254	-844	N/A	N/A
Week Ending Aug 2nd	64,098	522	12,681	27,818
Week Ending July 26th	63,575	573	11,342	28,196
Week Ending July 19th	63,001	499	12,136	28,065
Week Ending July 12th	62,502	691	13,416	28,452
Disabled users who left the	61,806	-1,745	N/A	N/A
Week Ending July 5th	63,551	670	12,793	27,421

Week Ending June 28th	62,882	522	11,108	26,768
Week Ending June 21st	62,36	668	12,809	26,699
Week Ending June 14th	61,69	489	11,629	24,773
Week Ending June 7th	61,2	511	11,9	24,144
Week Ending May 31st	60,688	342	10,786	22,894
Week Ending May 24th	60,346	380	9,293	22,034
Week Ending May 31st	59,967	336	9,715	22,238
Week Ending May 10th	59,632	288	9,656	22,361
Disabled users who left the	59,344	-6,584	n/a	n/a
Week Ending May 3rd	65,928	404	9,321	23,928
Week Ending Apr 26th	65,524	653	9,714	23,382
Week Ending Apr 19th	64,871	663	9,709	24,465
Week Ending Apr 12th	64,208	858	11,585	27,274
Week Ending Apr 5th	63,35	717	8,788	27,209
Week Ending Mar 29th	62,633	1004	8,85	27,642
Week Ending Mar 22nd	61,629	1897	12,717	27,241
Week Ending Mar 15th	59,732	1560	12,508	24,316
Week Ending Mar 8th	58,172	1023	10,154	22,08
Week Ending Mar 1st	57,149	734	9,103	20,913
Week Ending Feb 22nd	56,415	836	8,522	20,851
Week Ending Feb 15th	55,579	653	8,642	20,668
Week Ending Feb 8th	54,926	601	9,354	20,64
Week Ending Feb 1st	54,325	713	9,178	19,335
Week Ending Jan 25th	53,612	707	8,185	17,858
Week Ending Jan 18th	52,905	670	8,602	16,235
Week Ending Jan 11th	52,235	703	7,109	15,712
Week Ending Jan 4th (2013)	51,532	335	5,185	16,303
Week Ending Dec 28th	51,197	163	2,815	17,236
Week Ending Dec 21st	51,034	673	7,002	19,837
Week Ending Dec 14th	50,361	590	8,54	20,127
Week Ending Dec 7th	49,771	790	8,282	20,874
Week Ending Nov 30th	48,981	721	8,478	21,719
Week Ending Nov 23rd	48,26	1268	8,5	22,706
Week Ending Nov 16th	46,992	929	8,804	22,935
Week Ending Nov 9th	46,063	1199	9,958	22,493
Week Ending Nov 2nd	44,864	1260	9,044	21,42
Week Ending Oct 26th	43,604	1195	9,656	20,12
Week Ending Oct 19th	42,409	1018	9,235	20,045
Week Ending Oct 12th	41,391	701	8,119	19,907
Week Ending Oct 5th	40,69	673	7,358	20,816
Week Ending Sept 28th	40,017	749	8,715	22,095
Week Ending Sept 21st	39,268	740	10,251	22,406
Week Ending Sept 14th	38,528	980	11,141	22,74
Week Ending Sept 7th	37,548	935	10,56	22,228
Week Ending Aug 31st	36,613	1348	14,801	22,068
Week Ending Aug 24th	35,265	923	10,218	21,909
Week Ending Aug 17th	34,342	1109	10,588	21,714
Week Ending Aug 10th	33,233	869	10,105	21,553
Week Ending Aug 3rd	32,364	1193	10,276	21,702
Week Ending Jul 27th	31,171	1038	N/A	N/A
Week Ending Jul 20th	30,133	1158	N/A	N/A
Week Ending Jul 13th	28,975	1204	N/A	N/A

Week Ending Jul 6th	27,771	1471	N/A	N/A
Week Ending Jun 29th	26,3	1703	N/A	N/A
Week Ending Jun 22nd	24,597	1459	N/A	N/A
Week Ending Jun 15th	23,138	1817	N/A	N/A
Week Ending Jun 8th	21,321	2658	N/A	N/A
Week Ending Jun 1st	18,663	1460	N/A	N/A
Week Ending May 25th	17,203	1649	N/A	N/A
Week Ending May 18th	15,554	1563	N/A	N/A
Week Ending May 11th	13,991	2041	N/A	N/A
Week Ending May 4th	11,95	1436	N/A	N/A
Week Ending Apr 27th	10,514	1954	N/A	N/A
Week Ending Apr 20th	8,56	1760	N/A	N/A
Week Ending Apr 13th	6,8	2893	N/A	N/A
Week Ending Apr 6th	3,907	1666	N/A	N/A

TABLE 15: STATISTICS ON MY-DB NUMBER OF USERS

Key of the table
- The chart displays the weekly growth of the total number of users that have signed onto myDB and accepted the myDB Terms and Conditions
- The "new users" count are the users who accepted the myDB Terms and Conditions during that week (Saturday through Friday)
- The N/A (not available) appears on the chart because unfortunately, we were not capturing that data from the beginning and there is no way for us to determine that after the fact.

4.3.4 Control

As previously discussed, the initiative of my-DB implementation is very ambitious. The team of managers who have carried out the project believes is crucial to validate expectations and assess the real engagement of employees, because without such engagement there will never be the change they would like to achieve.

Boundary Systems

In Company Delta, boundary systems are the firsts, and surely the most important elements to have people involved, but have a certain control on their actions. In fact there are trainings organized to provide guidelines for platform usage, mostly to increase awareness of the tools, to foster involvement and to inform users of my-DB policies.

In such dispersive environment, it's almost impossible to take control of content shared by people to verify either if it is respectful and if it is coherent with our expectation. At the beginning we were

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keeping an eye on it. But actually, it occurred to me only few times to see content inappropriate, for example when a colleague uploaded his CV in one of the communities, it turned out it was a mistake, he just uploaded in the wrong web-page." (Communities manager)

"We provide an overview, we try to tell people "Here is where you have to go for the right information, this is what you should not do"". J.S

Besides, guidelines are formalized in the platform as "Dos and Don'ts for using my-DB", which are not policies or a set of rules, but some instructions that might help people be more confident about contributing.

Most of this guide was taken verbatim from a blog made by Andrew McAfee published in Harvard Business Review[12] and wants to "help users simultaneously advance their own work, make existence and expertise better known throughout DB, and benefit the firm as a whole."

The document is divided in three parts, things to do, things not to do and grey area:

1. Things to do:
   - Make your work visible
   - Narrate your work
   - Share what works
   - Share what doesn't work
   - Point to others' work, and provide commentary on it
   - Comment and discuss
   - Ask and answer questions.
   - Vote, like, give kudos, etc.
   - Talk about social activities at the company
2. Things not to do:
   - Don't quote people or live blog events without asking first.
   - Don't be narcissistic.
   - Don't gossip
   - Don't be unsubstantiated
   - Don't mock others or launch personal attacks

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[12] http://blogs.hbr.org/2010/09/dos-and-donts-for-your-works-s/

- Don't discuss sex, politics, or religion

3. Grey area:

- Humor. We all like a good laugh, but we also all have different and deeply-held notions about the boundaries among funny, unfunny, and offensive.

- Self-praise. It's great to hear positive things about our own work, and the temptation to pass them on is strong. It's natural to want to celebrate a success, but try not to blow your own horn too loudly.

- Unsolicited complaints and opinions on topics far from your own work.

Diagnostic Control Systems

Besides, there are also metrics to try to have a better understanding on how people use my-DB. All the metrics related to that are listed in the table below (Table 16).

Some KPIs estimate the number of people using my-DB, others try to cluster people or content, according to factors as could be geography or divisions. or attempt to find most common activities (tags,groups), some want to verify if the key words representing the my-DB revolution are used, to have an idea of how much grounded are these beliefs in their mind and heart. These measures are gathered every year for the report of the state of Collaboration project, and serve to plan improvement actions to be able to bring the "Culture of Collaboration".

KPIs	
Total number of my-DB users, by month	Number of advocates
Total number of alumni users	Number of jobs posted
Divisional split of users, by month	Number of likes & bookmarks on jobs posted
Geographical split by month	Number of AMAs
Time of day of posts	Biggest groups on the platform
Likes by country	Most used tags on groups
Number of content created, by corporate title	Avg Number of @mentions per day, per hour
Content generated, by gender	Avg no of followers
Number of status updates, by division	Countries with the most myDB users per capita
Number of status updates, by corporate title	Number of groups created, by type
Number of docs, by division	Avg number of views for docs
Number of docs, by corporate title	Most read content
Number of photos posted	Busiest times on the platform

Number of times the word 'thanks'/danke etc is used	Number of updates
Number of times the word 'culture' and its translations is used	Number of edits to documents
Number of times the word 'change' and its translations is used	Number of people on the myDB tech team (supporting all my-DB)
Number of times the word 'collaboration' and its translations is used	Number of people in the Collab CoE (supporting all my-DB)
Number of times the word 'sorry' and its translations is used	Number of times 'report abuse' has been used
Most popular tags	Number of articles

TABLE 16: KPIS

Company	Platform	Objectives	Modes of use	Type of Control System
Company Delta	• My-DB	• Communication and cooperation • Enable Learning and Exchange knowledge • Social Networking • Develop career	• Open belonging • Social networking • Knowledge sharing	• Boundary Systems • Diagnostic Control systems

TABLE 17: SUMMARIZING TABLE

4.3.5 Discussion

My-DB platform has been implemented just a couple of years ago and it is still at early stage, but participation is increasing at a constant rate. The main goal, that is to change the way people work and build a culture of collaboration has a long term time horizon, but from interviews seems that the bank is moving toward this direction.

The modes of use seem to be perfectly aligned with objectives: people interviewed seem enthusiastic to share knowledge, have a fast answer to their problems thanks to expert support, which enable the objective of "Learning and Exchange Knowledge"; use the platform to build relationships and expand their network, driving the achievement of the objective "Social Networking". Besides, if employees create

relationships, share knowledge, content and help each other in solving providing expertise or information, indirectly, the objective of collaboration will be fulfilled. (Figure33)

Furthermore, the platform can exploit potential that wasn't foreseen or expected, at least in the formal objectives, this is the example of Open Belonging, working out loud had the consequence of make employees feel more engaged to the bank, since they were proud of achievements or projects described on my-DB wall
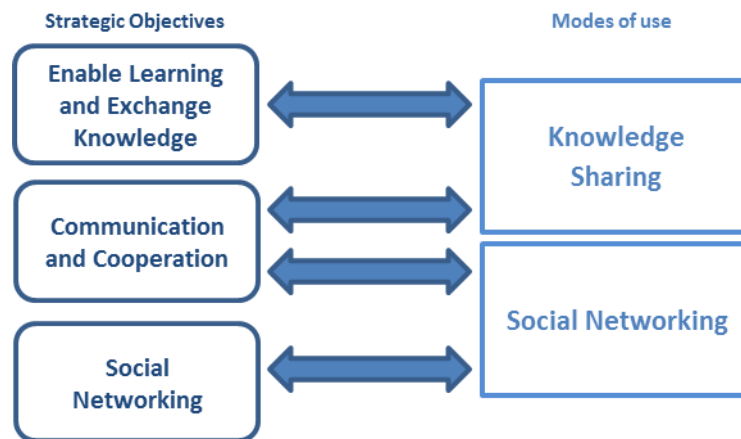

FIGURE 32: LINK BETWEEN OBJECTIVES AND MODES OF USE

The only objective that doesn't appear to be accomplished is Develop Career, none of the interviewed reported an intention of shaping his/her reputation through their posts or activities on my-DB, and neither glimpsed career development opportunities by using these platforms.

In general, the employees interviewed demonstrated a great satisfaction and the atmosphere of cooperation and freedom seemed to strongly motivate them. That might also be due to the fact that the platform help not only to overcome geographical boundaries, but also hierarchical ones. Any employee is able to discuss with managers at the top of organizational hierarchy and managers are willing to respond, as they perceive it as constructive way to confront and perhaps receive interesting ideas.

There are also managers responsible for adoption, like promoters, try to foster discussions, address people about where to find the right information.

For example, during the research, in order to interact with the international responsible of my-DB initiative, it has been utilized my-DB by simply tagging the name of the person: the answers have been almost immediate (without considering the jet lag between Italy and USA).

Regarding control, diagnostic control systems serve mostly to understand how and if people use the platform and whether some corrective actions are needed, while boundary systems try to provide guidelines. It should be remarked that the "Dos and Don'ts" don't have to be followed rigorously:

> *"Recommendations and guidelines are ok and they are already in place. However, I would strongly object against strict rules or such. I think common sense is a good filter that allows to distinguish what to post in a social network at work and what to keep outside."* (Communication Manager)

To conclude, management believes freedom is crucial to fully exploit Enterprise 2.0 potential, sense of responsibility will be enough to prevent the bank from any issue related to privacy or data security.

4.4 Case study: Company Epsilon

4.4.1 Overview

During the last years, Company Epsilon has been growing at a high rate, especially at the subsidiaries outside Italy and there was the perceived need of creating an internal communication channel that would contribute creates awareness of the company's activities and would keep people together.

> *"The initiative was born for the necessity of having an organizational network. As a company starts to grow, and more people arrive to the organization, there is a need of looking for new ways to achieve team building. This need becomes particularly important if these people are geographically distant"* F.E. , Marketing and Communication Manager at Company Epsilon

The Enterprise 2.0 platform that has been implemented in Company Epsilon is Yammer.

Yammer is a private social networking site. Its main functionalities include: Fostering work in groups, enabling knowledge sharing, internal communication and document exchange. Furthermore, it is available for usage in mobile phones. The Enterprise 2.0 tools identified in yammer are: Social networking site, instant messaging, micro blogging, tags, social bookmarking.

Some features of the platform can be listed:

- Social networking site: The platform allows identity management through the creation of a profile in which is written education background, work experience and personal interests. Adding this information allow the users to be searchable for other users in the network, allowing internal expertise search.
- Instant messaging: Allows seeing who is online and enables instant communication. The list is automatically sorted by the people you interact with most.
- Publisher: It allows sharing updates, adding documents, posting polls, liking someone or posting an event.
- Pols: Easily create a poll to survey coworkers and gather feedback from others to inform your decision-making.

- Events: Organize meetings and events, share them with coworkers and keep track of attendance. Events can be added to outlook.

- Groups: Creation of groups that can be for fostering collaboration and co-creation of documents or gathering together people with same interests.

- Files exchange: Share documents for receiving or post files that could be interesting for the colleagues.

- Feed: Tracks relevant conversations, files and projects happening across the company. Feeds let you quickly engage in conversations, @mention coworkers to loop them into a discussion and preview documents. Notes and more by adding a hashtag (#) before the word or by searching for existing topics.

- Mobile: Users are granted also access of the platform in their mobile phones, allowing them to be engaged with the company anytime.

Besides Yammer, there are two legacy tools, currently used: outlook e-mail and instant messaging tool.

Yammer is also integrated with outlook e-mail, in fact when people receive notifications in Yammer; they also get an outlook e-mail.
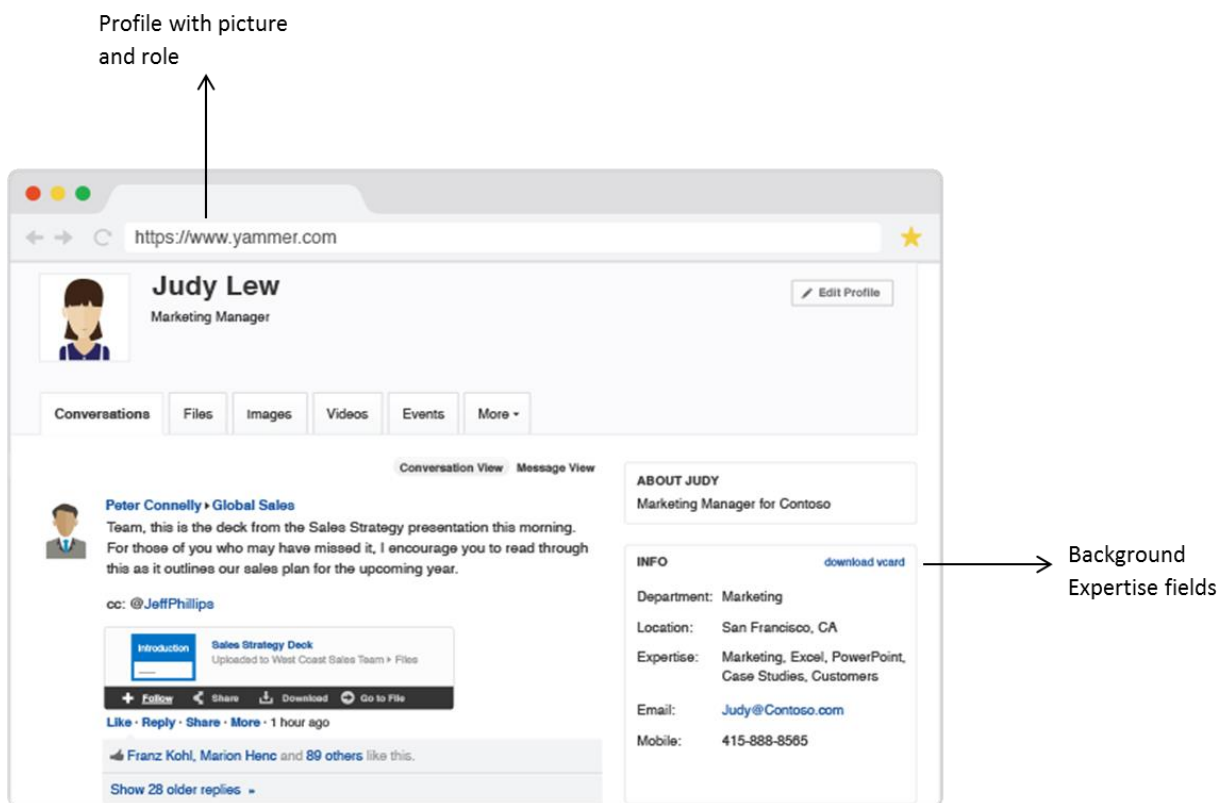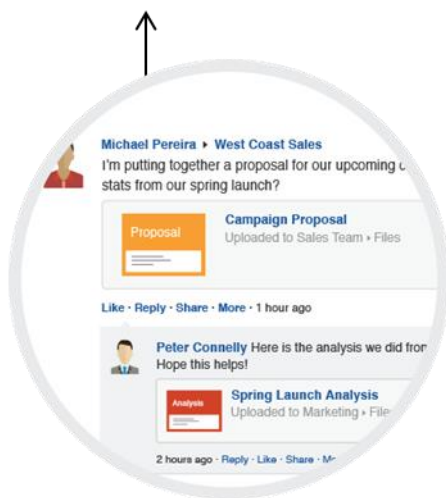

FIGURE 33: YAMMER FEATURES

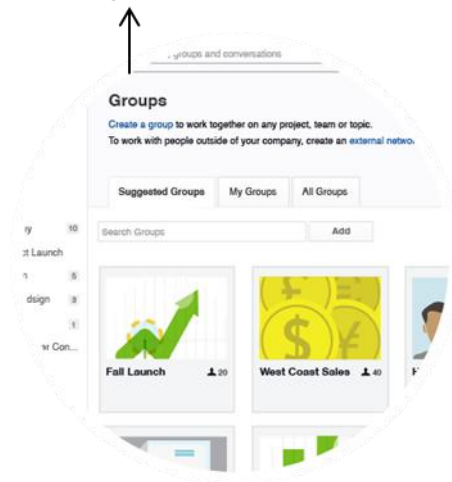Documents exchange

Allowing feedback

Groups feature

FIGURE 34: YAMMER FEATURES

4.4.2 Objectives

Yammer was introduced in the company around two years ago to respond to the challenge of maintaining connected the human resources due to the company's growth and expansion. As Company Epsilon started to have subsidiaries abroad, it became a need to have a common channel to grant networking means among employees and to keep everyone informed of results, activities and events.

The global goal behind the implementation of Yammer is Networking and Socialization. This goal is not written or widespread among employees. It is implicit in their expectation about the usage of the platform.

The platform has informal business objectives.

1. **Social Networking:** It is expected that people use the platform to interact with colleagues in other subsidiaries, to provide opinions about events, to participate in internal surveys and to share information of their projects' status.

> *"Employees have access to the platform as soon as they start working. When they are*
> *granted the internal mail, they receive an informative message communicating that they*

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can access yammer with the slogan "Stay in touch with the colleagues all over the world". F. E.

2. **Open belonging:** sharing content about projects' status or any event that happens in the different branches to make employee feel as "members" of extended dynamic networks rather than organization.

> *"The objective is to share what happens in the different branches: let's take the example of an employee that is in China for a special event organized by Company Epsilon, he publishes some picture to make its colleagues feel involved. The platform could be used also to promote some case of success of Mèthode (the main software the company is providing), this would encourage other employees do their best to achieve the same results in similar projects."*, F. E.

3. **Internal communication**: Receive feedbacks: it is also expected to gather people's opinions and feedbacks regarding to initiatives as changes in the website or getting them engaged in the creation of a new corporate logo

4.4.3 Modes of use

Interviews highlighted that the platform is used for sharing worth sharing content among colleagues. Information about results of a team, upcoming activities or special events, are typical examples of the content shared within the platform.

Furthermore, the platform is not used for a work scope. The platform is not intended to be used for exchanging work related documents or embrace groups features to develop a project.

> *"It is used for personal scope. Personal means that it is used informally. It's not used to deal with "serious" issues. For working purposes it is mostly used the internal mail"* F.E.

1. **Social Networking**: Active users stay in touch with colleagues in other subsidiaries embracing tools as the instant messaging. Sharing posts about experiences in trips let others know what the people are

doing inside the company. There have been done several initiatives by the marketing and communication department in order to foster team building.

> *"I used the chat to keep in touch with a colleague in Australia"*

> *"Those who use it really have fun, commenting posts and sharing photos"*

> *"I enjoy to post interesting content and people click on "Like" and start discussions"*

> *"We have organized contests and discussions in order to motivate people to participate in the platform" F.E.*

2. **Internal communication**: Getting people to know what is going on in the company. The interview has highlighted that people use the platform to post content about projects that they are doing, conferences where they assist or expectation of upcoming events.

> *"We participated in an event at Berlin last week and I posted a picture of the team"; "I posted the photo of a colleague presenting the company products in a conference"; "I thought it would be funny to post a riddle, that the answer would be the name of one of our product" F.E.*

3. **Providing feedback:** Embracing the platform and its reach to get feedback about some initiatives.

> *"Recently, the communication department deployed via yammer a contest for creating an enterprise slogan; it was posted a survey to gather feedback about the opinion of the new website" F.E.*

There is low participation. There are approximately 20 (10% of the workforce) active users of the platform who use it around 3 or 4 times per week.

4.4.4 Control

There is not a formal control of the uses or a person responsible for its monitoring. There are no guidelines referring how to use or not to use the platform, there is not feedback whatsoever from managers regarding the use of the platform and there are no metrics. "We wish Yammer participation was higher, but it should be spontaneous. You can't force people to use it", said Francesca Ellisse.

Within the framework of control of Simons (1995) there is a slightly tendency to a beliefs control system. Despite the low levels of active participation (10%), users are driven by the belief that the platform provides an expression channel that can potentially turn their routine into a more pleasant work environment.

Though, the management is interested in motivating employees to use the platform. This can be seen as there are initiatives as contests and surveys which may incentive users to participate. If the goal of the platform is socialization, these kinds of initiatives could be seen as slight effort to drive employees to engage more with the platform. In this way, the control is no longer about how people use such platforms but to assess whether they actually use them or not.

Company	Tool	Objectives	Modes of Use	Type of Control system
Company Epsilon	• Yammer	• Social networking • Open Belonging • Internal communication	• Social networking • Internal communication • Provide feedback	• Beliefs system

TABLE 18: SUMMARIZING TABLE

4.4.5 Discussion

As it has been described, the platform has been present in the company for two years. However, there is not a high usage rate; around 10% of the employees are engaged in the platform by posting content and interacting in a constant basis.

> *"I would estimate that that there are around 20 people who are really engaged with the usage of the platform and are constantly posting and exchanging information. If you consider that we are 200 people in total, this is a low number. However I must say that those 20 participate a lot"*

This low participation represents a limiting factor in the fulfilment of the objectives.

First, regarding to socialization, it is an implied restriction for socializing and keep in touch if not everyone use the platform. Active users will benefit from socialization and there will be stronger bonds among that

cluster of employees. Instead, the people outside of the cluster of active users will not get the possible benefits out of socialization. Similarly, the platform will not be able to establish a sense of open belonging among employees with such low usage rate.

Regarding to the internal communication, the low usage can be potentially more restrictive relatively to the other objectives because there is the risk of losing reach of the message due to the absence of representative audience within the platform.

> *"I would really like that it would be more diffused in the company, I could harness its potential to communicate important information for everyone. But I know that due to the fact that there is low participation in the platform, if I post something very important, it won't be seen by everyone. So in this case, this communication will be sent via mail"*

Then, the information reported in the platform is considered as less important, which may lead also to discourage people usage for the specific objective of internal communication and also the fact of knowing that at the end, the information will be sent via mail.

The interview highlighted that there is awareness of the low participation and there have been initiatives to incentive the usage of the platform as surveys, contests or events, which increases the participation, but not in a sustained manner.

Furthermore, the lack of control systems for orienting people's usage does not contribute to the fulfillment of the objectives. It has been identified a slightly beliefs system to incentive the usage of the platform for "stay in touch with colleagues all over the world", which is the internal slogan of the platform, but there haven't been identified more activities or strategies attempting to reinforce such slogan. In addition, there should be more than a mission statement for achieving objectives, as Simons (1995) states, "Beliefs systems are only part of the answer". It is needed further levers of control in order to lead employees' efforts towards the achievement of the objectives.

4.5 Company Gamma: Implementation and failure of a platform into an Organizational business unit

4.5.1 Overview

The business unit manager decided to implement yammer in order to have a common platform in which people could share information about their work and personal life.

> *"The principal motivation is that we are a big and subdivided team, especially in terms of geographical dispersion. From Torino, the Business Unit Manager has to constantly communicate with colleagues in India, China, Brazil, Germany and United States. He thought that Yammer could represent a useful mean to share work content (Procedures and relevant information) and to overcome geographical boundaries"* D.M., responsible of encouraging business unit members to join the platform.

The access right was acquired to yammer and it became available for those who requested access. Some people tried the platform while others were not interested at all in trying to get benefit from it. Finally, after approximately 6 months it was decided to desist with the initiative due to lack of engagement.

Social networking site, instant messaging, micro blogging, tags and social bookmarking are the tools that enable functions as creating groups, knowledge sharing, internal communication and document exchange. (See Company Epsilon case study for further description of yammer platform)

As it has been described in a precedent case study, Yammer offers several functionalities:

Groups: Creating groups for sharing common interests, this can be extended to the whole platform members by invitations and are available for those who look for them in the network.

Knowledge sharing: The platform allows creating a profile in which people can provide a profile picture, background information related to their experience and education and furthermore, tag themselves with labels of expertise in certain topic that allow others to find them.

Internal communication: It enables internal communication in a direct and one to many, by using the micro blogging (Publishing) tool and it can be used for instant messaging, showing colleagues which are online.

Document Exchange: It is possible to share content as pictures, videos, links, etc.

Yammer was implemented inside one business unit of the company, composed approximately 100 people as an initiative of the Business Unit manager , who by that time, decided to implement the platform in order to foster cohesion and team building within the business unit.

4.5.2 Objectives

The interview underlines two objectives related with work and personal scope.

1. Improving internal communication: Sharing working related content in order to increase internal communication processes

   "From a work perspective, it was intended to share working related content in order to improve communication efficiency"D.M

2. Social networking: Interaction of people inside the business unit. Sharing of personal experiences in order to let people know about the ongoing activities. Overcome geographically boundaries in order to achieve closer teams.

   "From a personal point of view, the objective was socialization and bonding. Having a common channel in which people could share some aspects of their personal life that could bring them virtually together, overcoming geographically boundaries" D.M

The business unit manager formalized the objectives to support and justify headquarters' investment in this project. In addition, it was also approved by the responsible of data security and the human resources manager.

It was communicated to the employees during a quarterly business unit meeting that Yammer would be available at user request. In addition, people were encouraged to try the new tool to keep in touch with their colleagues, to share information about their ongoing projects, to post information that could regard the whole organization.

4.5.3 Modes of use

The information extracted from the interview reveals that there was low adoption rate. Approximately there were 30 people subscribed in the platform. Then, it would have not been practical to share work related information, as most people would remain uninformed. In addition to the low participation, the implementation faced internal boundaries as restriction to publish certain information that was already available in the intranet as it would be considered as duplicated information. These two factors made impossible the achievement of the work related objective of sharing work related content.

In spite of this fact, it is worth mentioning the following uses:

1. Internal communication: The platform was used for sharing working related information. There were working groups according to the organizational chart. Then, these groups were addressed to improve internal communication within specific teams.
2. Social networking: People getting together and forming groups for sharing personal interests. Activities of bonding and team building among people, engaged in sharing photos, posts about their activites and experiences about trips.

   "I recall two particular groups where people were actually telling stories of what they do in their free time: Babyboom group, for sharing stories about their kids; Work life balance, for people to tell about their hobbies and their activities during their free time". D.M

4.5.4 Control

The IT responsible of the business unit undertook the role of monitoring the platform. The intention of the monitoring was mainly assuring a respectful atmosphere among members. Any content that would be considered as inappropriate would be eliminated. In terms of alignment to the objectives there was highlighted in the interview an Interactive system.

Boundaries system

There were guidelines that people had to agree with as they were granted access to the platform, related to the treatment of confidential information that would be circulating in the platform. These guidelines would set behavior by strictly stating what should not be shared in the platform and how the documents should not be managed.

Closing remarks: Reasons of failure

1) **People did not find the value on the platform:** Some employees didn't find a place in their work routine by yammer. Some others didn't find how it was useful for their own business performance and some others are not familiar with this kind of platform and didn't make an effort for doing that.

> "It didn't awake interest in the people" D.M

> "it didn't convince people in terms of utility" D.M

> "Who was not familiarized with social media, didn't want to start with yammer" D.M

2) **The platform was blocked in China:** People using the platform in China encountered an external barrier regarding to the country's own policy's which had a profound negative impact on the platform.
> "The Country's policy of banning in social media led to blocking the access to the platform. The impact of the blocking was not just in China, but affected all the platform and it didn't work for long time. This discouraged the few users that e platform already had" D.M

Company	Platform	Objective (s)	Modes of use	Type of Control System
Company Gamma	• Yammer	• Social networking • Internal communication	• Social networking • Internal communication	• Boundaries system

TABLE 19: SUMMARIZING TABLE

4.5.5 Discussion

This case is characterized by its failure and the opportunity that it provides to take the lessons learned from it.

In first place, it can be said that in spite of its very low usage by users, the small cluster of users gave the intended use to the platform. This could be explained in a higher way by the interest of people of finding a channel of communication to share personal issues and keep in touch with acquaintances, rather than because a structured control system. However, this cluster of users was composed by around 10 users, using the platform for around 6 months. The low adoption was the principal barrier to achieve success with this platform. Then, as it was mentioned, after the platform was blocked for a period of time due to the problems in China, the few users that were active lost the interest.

The interview highlighted that the reasons behind the failure were:

- There was not clear which the intention of having this platform was: Employees didn't know which the benefit behind using the platform was, the objectives of the initiative were not widespread.

- Lack of guidance towards the usage of the platform: The usage of the platform was not intuitively for everyone. There are a considerable amount of people that are not familiar with social media. Then, these people were not interested in taking time of their daily routine to learn how to use the platform. The interview highlighted that there were people expecting trainings in using the tool, as they would not take time from their work routine for learning how to use the new tool.

- Lack of control system: The boundary system was not enough to control users towards the achievement of the objectives.

- Lack of implementation planning: There was not a structured planning for the implementation of the platform. It was assumed that it would be used by employees and they would be naturally engaged. Change management initiatives should be considered.

- Overlapping with new platform: This event happened during the pilot project for a bigger platform that would be implemented at a worldwide organizational level. This led to a limited support by the headquarters in terms of internal advertisement of the platform.

In conclusion, the Company Gamma's case study evidences the importance of establishing clear objectives, which should be widespread to the whole potential users, so they know the importance and the potential benefits they can have. Then, it is important to know the target for which the platform is implemented, the extent to which they are familiar with Enterprise 2.0 platforms. If needed, trainings for using these platforms can be useful. Finally, the Company Gamma highlights that implementing an Enterprise 2.0

platforms is a challenge that should be planned with detail and considering change management initiatives to be done in parallel.

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5 Conclusions

The motivation of the thesis has been supported in Miller *et al.* claim of the current need of companies in defining objectives behind the implementation of Enterprise 2.0 platforms. For the achievement of determined objectives it is needed that the efforts of the workforce are aligned accordingly. This has led to questioning about the uncertainty of employees' modes of use towards these platforms: Whether the uses are in line with the objectives or not. Control systems are implicit in the discussion, as they provide means to aid organizations in maintaining viable patterns of behavior.

Research questions have been set around the motivation that would attempt to understand of Enterprise 2.0 in three dimensions: Objectives, Modes of Use and Control Systems:

1. Which objectives are being attempted to be achieved when E 2.0 technologies are implemented?
2. How are employees actually using these platforms (modes of use)? Are these modes of use aligned with the objectives?
3. How do firms control employee modes of use and orient them toward the achievement of objectives?

A literature review, complemented with case studies in multinational companies would be the approach to provide answers to these questions.

The first step has been to undertake a structured literature review that would provide a deeper understanding on the concept of Enterprise 2.0, its capabilities, its benefits, its potential, the objectives that companies intend to achieve when implementing Enterprise 2.0 platforms and studies that have tackled the usage of the platforms.

Then, Management Control Systems literature has been reviewed and this has led to the adoption of a particular framework that could be taken as a reference to analyze Enterprise 2.0 platforms.

The empirical experience of developing case studies has been possible through semi structured interviews to employees and reviews of internal documents with the aim of providing relevant knowledge in the three research dimensions.

The exercise of going through the analyzed case studies shows that there are points in common and some points that are particular for each case study. A summary of research results are illustrated in the table below:

Company	Platform	Objectives	Modes of Use	Type of Control System
Company Alpha	• Lync Web Access • Knowledge Exchange portal • Search Engine • Blogs • People pages • Get support page	• Communication • Knowledge access • Social Networking • Employees services	• Knowledge Access and Knowledge Sharing • Social Networking • Collaboration and Communication • Get support	• Interactive Control Systems • Boundary Systems
Company Beta	• B.connect	• Collaboration • Improve Internal Communication • Knowledge Access and Knowledge Sharing • Internal Idea Management	• Communication and Collaboration • Social networking • Accessing Knowledge • Engagement	• Boundary Systems • Beliefs Systems • Interactive Systems • Diagnostic Systems
Company Gamma	• Yammer	• Social networking • Internal Communication	• Social networking • Internal communication	• Boundary System
Company Delta	• My-DB	• Communication and cooperation • Enable Learning and Exchange knowledge • Social Networking • Develop career	• Open belonging • Social networking • Knowledge sharing	• Boundary Systems • Diagnostic Control systems
Company Epsilon	• Yammer	• Social Networking • Open Belonging • Internal Communication	• Social Networking • Internal Communication • Provide feedback	• Beliefs system

TABLE 20: SUMMARY OF CASE STUDIES RESULT

First Research Question

First of all, it should be remarked that Company Delta and Beta go beyond the idea of Enterprise 2.0, as intended in the definition proposed by McAfee (E 2.0 represents the usage of Web 2.0 technologies on organizations' intranets and extranets), but they aim at putting in place a culture of participation, inclusion and sharing. The other companies, instead, intend it only as a set of technologies supporting employees work.

Furthermore, analyzing the objectives that companies are attempting to achieve, it can be seen that organizations are implementing these platforms to have an impact on internal communication. In general, all the multinational companies are interested in overcome geographically and time-zone barriers and develop one common channel in which communication among peers is simple and dynamic. But in some case there are also expected improvements in top down communication, extending the reach of messages and increase employees' awareness of strategic decisions (Company Epsilon, Company Beta). Additionally, there is the general objective of improving collaboration among peers, enabling co creation processes involving people from different organizational units.

Most of the case studies have also evidenced the intention to create or develop global networks of relationships among colleagues, increase socialization and thus boost employees' motivation. For the particular case of Company Epsilon, social networking serves also to provide employees a sense of Open Belonging in which they can feel as "members" of extended dynamic networks rather than organization. Nevertheless, in Company Beta case study the objective of creating relationships is not formalized. Though, this not necessarily means that the company is not interested in fostering social networking, but rather might be result of the achievement of the other objectives.

From cases of Company Alpha, Beta and Company Delta, which are composed by a large number of employees (in the range of 100.000 and 300.000), it has been found the intention of managing knowledge via Enterprise 2.0 platforms. In general, these companies want to embrace internal expertise and make it accessible for everyone. Company Delta intends to go one step further by creating a platform that will enable employees to learn in a collaborative way, regardless of hierarchical or organizational boundaries. Instead, the case for Company Epsilon and Company Gamma don't have this objective, probably because of their relatively smaller size.

Besides, It should be highlighted the presence of objectives that are specific to some case study: develop career for the case of Company Delta; Emplyoees' services for Company Alpha and Internal idea Management for Company Beta.

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Overall, the findings support the objectives highlighted at the end of the literature review, proposed by Corso (2008). In addition, the results complement the theory with further objectives as Internal Idea management, Develop Career and Employees' services.

Second Research Question

Before going through the second research question, regarding how employees are actually using the platform and if the modes of use are aligned with objectives, it should be discussed the participation of employees to the platform, as it represents a necessary condition for achievement of objectives. The case of Company Epsilon and especially the case of Company Gamma show evidence of how low participation and employees engagement to the platform can limit its usage and undermine the investments and effort behind this initiative (Is it worth to invest in a platform that will be used by 10% of employees?). Therefore, when comparing the different cases, this consideration should to be borne in mind.

However, the modes of use appear to be aligned with the objectives for all case studies.

It must be taken into account that each mode of use might contribute to the achievement of more than objective and vice versa, each objective can be achieved through the interaction of different modes of use. Further research could explore deeper correlation between both dimensions.

An interesting finding is the existence of unexpected modes of use driving to additional benefits that were not foreseen by the companies: it is the case of Company Delta and Company Beta, where people increased their sense of belonging and motivation towards the organizations, despite it was not a formal objective of the project.

Third Research Question

The case studies have been analyzed under the control framework of Simons (1995), which categorizes four control levers that can be used by managers to orient employees' contribution towards defined objectives.

Regarding the first level, diagnostic systems, results have shown that companies use different approaches: It is not adopted at all in Company Epsilon, Company Alpha and Company Gamma, it is adopted in Company Delta and it is highly structured in Company Beta. In Company Delta such diagnostic system aims at measuring two dimensions: the amount of contribution and participation and also the general perception of the platform, in order to eventually take corrective actions. Besides, results of Company Beta evidence a structured diagnosis system, supported in the definition of a maturity model. This framework is very useful

because it tackles the measurement with a long term orientation as it considers that there will be different types of results depending on the capabilities of the users towards the platforms. The more developed these set of capabilities, the more concrete the benefits will be in terms of cost savings and business processes efficiencies and finally in financial indicators.

The second control system provided by Simons regards the Beliefs that are embedded in an organization and orient people towards a well-established mission. This approach is perceived in Company Epsilon and Company Beta. While in Company Epsilon there is the attempt to establish a beliefs system by wide-spreading the mission, it is not strongly grounded and supported by concrete actions. While Company Beta evidences the intention of establishing a beliefs system by two concrete actions: Creating internal documents stating "Social Business Principles" which might enable the overall goal of creating a highly connected company and investing on developing leadership by providing training on Enterprise 2.0 know-how to top managers assuring the grounding of the beliefs in authority positions.

The third control system intends to set boundaries of behaviors, providing rules or recommendations of what to avoid. Almost all the case studies have set such types of boundaries, but with a different approaches. For instance, Company Delta sets up guidelines that have to be intended as suggestions, while Company Alpha and Company Beta provide policies representing rules to be respected rigorously. It is interesting to find that both Company Beta and Company Delta have recalled the "Dos and Don'ts" proposed by McAfee, which collects good practices of Enterprise 2.0.

Finally, with respect to the fourth dimension, only Company Alpha and Company Beta have adopted Interactive Control Systems in different ways. The first one aims to collect constant feedback for the evaluation of the utility of a specific tool, by means of a dynamic indicator; the second one has created the role of community managers, which provide constant feedback and support to users at a community level. Also, the community mangers are constantly being supported by the implementation team, who is prompt to aid them in possible inquiries and provide them training in community management.

To conclude, it is perceived that the participation and contribution it's higher in Company Beta and Company Delta. One possible reason explaining this issue, might be the existence of a specific role which is aimed solely to promote and monitor the platform and provide support. In the case of Company Delta, this is done by a promoters, which foster discussion and address people about where to find information while

in Company Beta this is done by Community managers, which have the specific responsibility of defining success for each community and then, assuring their success by identifying the right practices and the right metrics.

It has been seen that the cases which report higher participation rates to the platform and which appear to be more successful are the ones that show the following characteristics:

- Clear and well-defined objectives that have been shared with the users
- Long term oriented objectives, connected to the achievement of a global goal: (Company Beta and Delta)
- Creation of roles which are intended to promote, support and measure of usage

Table 21 shows a participation rate, which is the relation between the number of employees that were actively participating in the platform according to the context of each case study and the total number of employees.

Company	Participation rate
Company Alpha	40.000 employees / 275.000[13]
Company Beta	70.000 employees / 300.000[14]
Company Gamma	10 employees / 100[15]
Company Delta	70.000 employees / 100.000[16]
Company Epsilon	20-30 employees / 200[17]

TABLE 21: PARTICIPATION RATES

Besides, Companies which are planning to implement Enterprise 2.0 platforms should consider that the investment goes beyond licensing or developing costs. A considerable pool of resources should be allocated in the development of Enterprise 2.0 related roles.

In order to understand clearly the implications derived from results, the models depicted in figure 35 and 36 have been drawn.

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[13] Numbers from: Company Alpha, Modes of use. Pg. 84 and Methodology Case description. Pg. 74
[14] Numbers from: Company Beta, Modes of use. Pg. 91 and Methodology Case description. Pg. 74
[15] Numbers from: Company Gamma, Discussion. Pg. 127 and Methodology Case description. Pg. 75
[16] Numbers from: Company Delta, Discussion. Pg. 108 and Methodology Case description. Pg. 75
[17] Numbers from: Company Epsilon, Modes of use. Pg. 120 and Methodology Case description. Pg. 74

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The bubble chart in figure 35 allows to take into account the relationships between objectives (ax X) and control systems (ax Y), for each company. This relationship shows that there is a type of control system, aiming at monitoring the objective. The chart highlights that:

- Some objective are not monitored by any control system (Employees Services and Develop Career), so the companies won't be able to know if these objectives are aligned with any mode of use and therefore know whether they might be achieved.
- On the one hand, Company Beta performs all the control systems to verify the accomplishment of its objectives, on the other hand Company Gamma and Epsilon focus only on one kind of control. The first one wants to have a wider control perspective, while the others focus only on one control type.
- The objectives that are mostly controlled, Knowledge access, Collaboration and Internal Communication, correspond to the areas that the literature reports as the most benefited (chapter 2.2.1.2 - Benefits). The stronger interest in controlling especially these areas confirms the literature findings.
- It is immediately visible from the graph that Alpha, Beta and Delta have set boundaries system that cover almost all theirs objectives. As previously explained, each of the three cases sets a more or less rigid set of rules or guidelines, but all of them are able to provide inspiration, involvement and, at the same time, set boundaries of behaviors.

The model can be useful for a company to evidence if it is carrying out control over all the objectives: the chart provide an alarm signal, in case of finding objectives in which there has not be allocated a specific control system.

Let's consider the two extreme cases: Company Gamma just put in place one type of control system to set boundaries specific to a single area of interest, ignoring other aspects. It is already known that the Enterprise 2.0 platform in this case was a total failure; On the contrary, in Company Beta the control encompasses all the intersection areas (except for "Employees' Services", "Get Support" and "Open Belonging", since these were not present among company's objectives and modes of use) and different control systems are balanced in order to embrace the advantages provided by each one. "Collectively, these four levers of control set in motion powerful forces that reinforce one another".

It might be argued there is a pattern in the chart: to accomplish their objectives, companies will need to perform a control over platform's modes of use, if such control is leveraged by different systems, then

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there will be lower probability to end up in a failure and waste of money, as in the case of company Gamma, that turned out to be a failure.
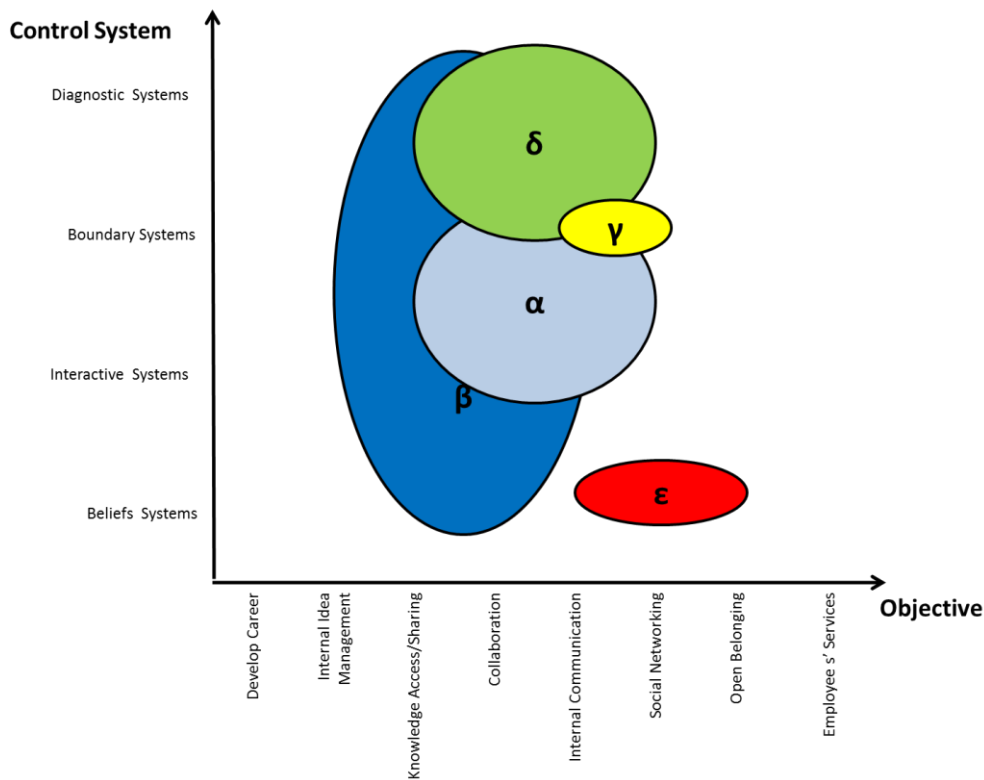

FIGURE 35: RELATIONSHIPS BETWEEN OBJECTIVES AND CONTROL SYSTEMS

The bubble chart in figure 36 attempts at depicting the relationships between Modes of Use (ax X) and control systems (ax Y), for each company. The relationship underscores which modes of use are being controlled with which type of control. It can be seen from the figure:

- There are modes of use that are not being controlled (Provide feedback and get support). Considering that in this case, these are Modes of Use that might be beneficial, its lack of control may lead to ignore the potential that can be exploited.

- There is coherence with the previous chart with respect to the Objectives of Knowledge Access/sharing, Collaboration and Internal Communication, in fact there are corresponding modes of use (Knowledge sharing, Collaboration, Communication): this shows there is alignment.

- It can be seen that there have not been perceived Modes of Use that could be harmful or negative for the company. This might be explained by strong impact of boundaries control system, present in most of cases.

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Both charts should be analyzed together in order to further analyze the alignment of the Objectives and Modes of use. The underlying idea is to track whether each mode of use can contribute for the fulfilment of one or more objectives, in order to take corrective actions in the case of misalignment and to avoid failures; or in case uses are aligned with objectives, to account measurable benefits that can ultimately lead to provide a return on investment.
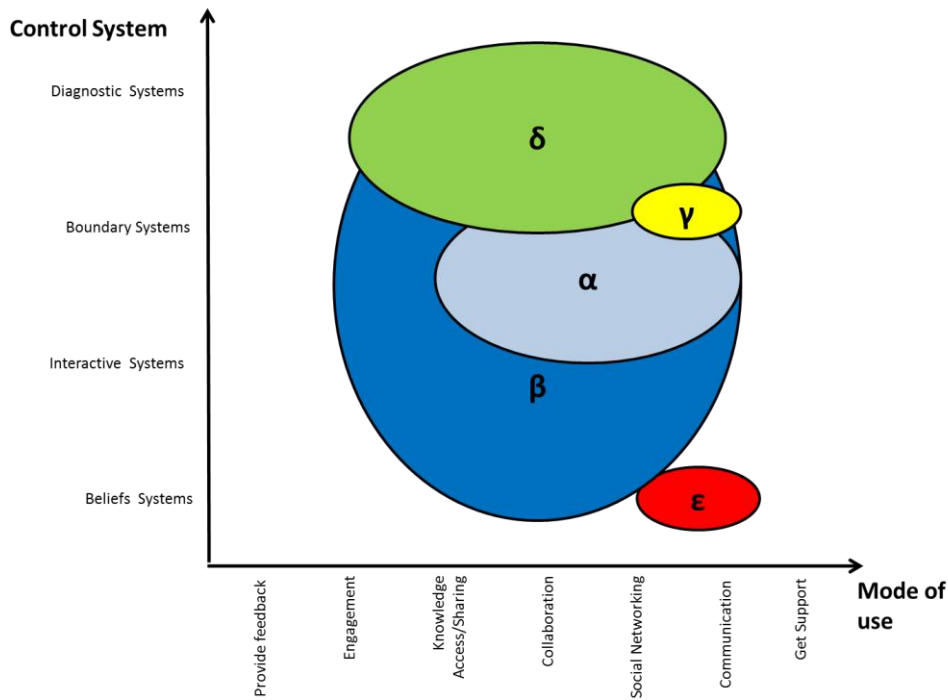

FIGURE 36:RELATIONSHIPS BETWEEN OBJECTIVES AND MODES OF USE

Furthermore it has been analyzed the number of companies adopting the different control systems to monitor each mode of use (Figure 37). It can be noticed that companies most frequently tend to adopt Boundaries systems and to lower extent Diagnostic systems. It can be also seen that Knowledge sharing and Communication are the areas, in which more effort is being allocated.
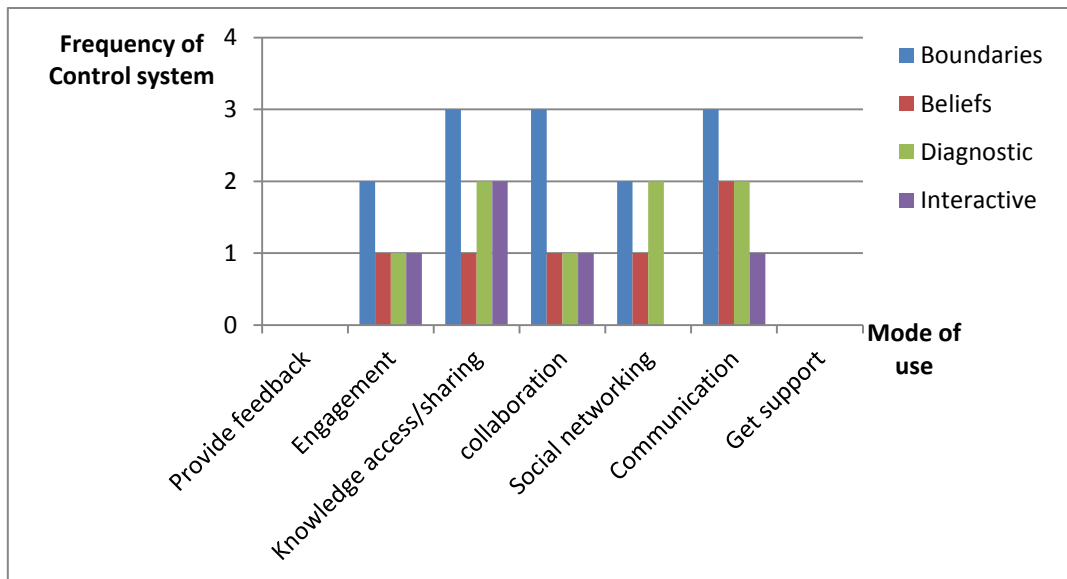
137

FIGURE 37: FREQUENCY OF CONTROL SYSTEMS OVER MODES OF USE

Further studies could be useful to validate the models proposed. In fact, one of the main limitation of the thesis is related to the complexity of the topic: the present thesis provides just a starting point and the research should be extended to a broader number of firms, in order to have a more numerous sample and evaluate factors that have not been taken into account.

One example could be the type of industry, considering that a company focused on certain industry, where competences are somewhat generic and stable along the time, could more easily utilize Enterprise 2.0 platforms to share knowledge, while an high-tech company, whose expertise can be very specific would have much more difficulties to find specialists.

Other studies could consider how factors as culture, traditions, age influence the Modes of Use and create clusters of employees that respond in a certain way to the platforms. This can lead to the creation of ad-hoc control systems for those clusters, responding their specific behavior. For instance, during the research it has been noticed that the position and role in the organizational structure seem to have an impact on the modes of use of the platform. Further studies might reinforce this argument.

Another limitation is related to the sample considered, the research was restricted to the Italian context, being the interviews carried out in the Italian headquarters of the different companies. Further research could derive interesting and more robust results enlarging such research boundaries and applying the framework to other countries.

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Finally more studies could concentrate on the extent to which each of the different control methods contribute to verify the alignment of objectives and usages and eventually try to assess whether the answer depends on factors as the type of platform, company industry or size.

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Appendix

Questionnaire

Company:

Name of the interviewed:

Role of the interviewed:

Date of the interview:

Type of E 2.0 platform

1. Do you have an Enterprise 2.0 platform in your company?

2. Which kind of tools do you have?

3. Per each platform, what is the purpose of use?

4. Which is the global goal pursued by this project?

Reasons for the implementation

1. Who decided to carry out the project?

2. When did the project started?

3. Which motivations where behind the decision to implement Enterprise 2.0 Platforms?

4. Which is the global goal pursued by this project?

5. What were your initial expectations with the project? (Objectives)

6. Which capabilities of Enterprise 2.0 were you planning to exploit?(Expected benefits)

7. What is the time horizon in which you expected to achieve your business objectives?

Modes of use

1. Which of the tools have you used (at least once)?

2. Why do you use them?

3. Do you limit the usage only for working purposes or also to personal uses?

4. How frequently do you use these tools?

5. Is there any episode of your experience, in which these tools turned out to be particularly useful or in which they caused problems? If yes, could you tell us about this experience?

Control

1. Is it performed any control to verify whether the objectives of the initiative are aligned with the usage of employees?

2. Do you use any metric or indicator for controlling the usage? (Key performance indicators or other approaches)

3. If there are, what are the metrics used for doing so?

4. Is there any person responsible for controlling?

5. Is there any kind of communication mean in which these metrics are published?

6. Do you believe organization culture plays a role?

7. Do you think there should be guidelines or recommendations of what to do and what should be avoided?

8. If yes, what is your opinion regarding to that?

9. To which of the following situations do you feel identified?

   - I use the platform because everyone does it and get benefit from it
   - I use the platform because there is a top up initiative that persuades me to use it
   - There is constant feedback from the managers regarding the usage of the platforms and how we should use them.