The Influence of Social Media on Business Processes
Abstract

Business process reengineering (BPR) has been discussed over 20 years. Nowadays, social media is widely used by companies in doing business. It plays the role to influence business processes. This thesis aims to answer the question: “How does social media change the major business processes?” The prior research in the disciplines of BPR and social media is reviewed first. Based on the literature, a framework used to illustrate the influence of social media on business processes and degrees is developed. In the framework, four types of communication (firm-to-customer communication, customer-to-firm communication, internal-firm communication, and customer-to-customer communication) are discussed in four main business processes (marketing/sales, services, product, and personnel.) Finnair, because of its activity of using social media, is introduced in detail as an example. The story of Finnair using social media supports the framework. The relationship between BPR and social media is found that is medium.
Foreword

Writing this thesis is a long time work. The preparation started from last April including finding research topic, searching literatures, and reading literatures. Starting writing is on 5th March this year. Real writing work lasts for six months. The research topic actually has attracted me since I was in my bachelor university. At that time, BPR was still a very hot topic. If you want to join a consultant firm, the knowledge of BPR and enterprise resource planning (ERP) is required. But at that time, there is no resource and guide for me to do the depth study. Fortunately, after graduating from bachelor, I have chance to continue studying master abroad. So when I was required to select thesis topic, I chose BPR without any consideration.

The thesis cannot be completed without the help of my supervisor, Karin Väyrynen. She is a young but experienced researcher in information processing science, University of Oulu. She is skilled in qualitative research. More important, she gives me strict requirements and strong supports at the same time. She guide me to do the qualitative research form zero. I learn how to read literatures and make conclusion from literatures, how to write articles in scientific form, how to design the list of interview questions, how to analyze the data, and so on. During the whole progress of master studying, I learn most important knowledge by writing the thesis. The value of the thesis is far higher than the value of courses. Here I wish to express my gratitude to my supervisor, Karin Väyrynen.

Another person I need to thanks is the social media manager in Finnair, Aku Varamäki. After build the framework, I have to collect the practical data from real companies who are using social media in their business. By using the data, I can inspect whether my own framework is valid or not. I contacted many companies in Finland and sent many requests of having interviews. At last, it is Aku Varamäki who accepted my request and allowed me to know more about Finnair. Interesting, she knows some Chinese and have been to Taiwan for two years. This draws near our distances. We had a very happy conversation lasting for one hour. Here I also send my best wishes. Hope everything of her goes well.

At last, I would like to thank all my friends in Oulu and my parents. Thanks for their company and silently pay these years.

Yahui Liu.
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>AI</td>
<td>Artificial Intelligence</td>
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<tr>
<td>BPM</td>
<td>Business Process Management</td>
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<td>BPR</td>
<td>Business Process Reengineering/Business Process Redesign</td>
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<tr>
<td>CAD</td>
<td>Computer-Aided Design</td>
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<td>CAE</td>
<td>Computer-Aided Engineering</td>
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<td>CAM</td>
<td>Computer-Aided Manufacturing</td>
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<td>CE</td>
<td>Computer Engineering</td>
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<td>EDI</td>
<td>Electronic Data Interchange</td>
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<td>HPE</td>
<td>Human Performance Engineering</td>
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<td>IS</td>
<td>Information System</td>
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<tr>
<td>IT</td>
<td>Information Technology</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<td>QFD</td>
<td>Quality Function Development</td>
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<tr>
<td>SNSs</td>
<td>Social Network Sites/Social Networking Sites</td>
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<tr>
<td>TQM</td>
<td>Total Quality Management</td>
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<tr>
<td>UGC</td>
<td>User Generated Content</td>
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1. Introduction

When time entered into 1990s, companies faced tremendous change they had never met before no matter for the companies that had long history or for the small companies that just established. Globalization was clear enough for the companies. Political realignments influenced the business of multinational corporation.

The competition around the industry was more and more intense and dynamic. O’Neill and Sohal (1999, p. 572) said, “the competition changes from cost and quality to flexibility and responsiveness.” If a company wanted to keep its competitive advantage, it should not only provide good products but also considered about the quality of services, the speed to deliver products. During different periods, industry focused on different activates. At early in the 60s, more products, more better for companies. Next decade in the 70s, companies tried to lower the cost to get more benefits. In the 80s, companies started to concentrate on the quality of products in order to get the values of brand. In the 1990s, when companies already had the brand, they started to think about how they could produce goods quicker. Moving to new century, they wanted to provide more high quality services. (Lindsay et al., 2003.) Companies paid more attention to the quality, innovation, and service than cost, growth, and control (Hammer, 1990).

Customers had more influences to the companies than ever before. Customers were now diverse, segmented and had more expectation for the consultation (Hammer & Champy, 1993). Customers could easily get the information about different products and make choices. They were good at distinguishing which product could satisfy their personal needs. They had extremely high requirement for the quality, service, and price. They would not always be loyalty if they could not find the right products anymore. (O’Neill & Sohal, 1999.) Customers gained the new power and freedom. It destroyed lots of assumptions of the early management revolution. (Drucker, 1954.) For example, unearned loyalties could not sustain longer anymore. Companies could not gain more benefits from setting higher prices anymore. For those new competitors, the high entry costs would not be a huge problem anymore. The protection from national governments to domestic brands was lower than before. Managers already felt that customer became a new powerful stakeholder. (O’Neill & Sohal, 1999.) Competition had spread around the topic about how to meet the demands of customers in every corner. (Hammer & Champy, 1993.)

The technologies also changed rapidly from 1990s and especially information technology (IT). In the late 1980s, personal computer had already entered into family life and played a powerful role to deal with individual work. Later organization started widely to use computer to play a role of communication and cooperation medium both inside and outside. (Simon, 2003.) IT could not only just do these things but also others. With the help of computer, organization could boost the performance of processes by rationalize them and automate them. (Hammer, 1990.)

Company found the benefits brought from the use of IT at once. Company started to invest a lot of money in IT and set up IT department to manage the whole IT resources of the company. But unexpected disappointment occurred. Company found that merely using IT to speed up those processes could not solve the fundamental performance
problems. The reason was that those working process in the company were coming from an age in a different competitive environment and before the time when computers were widely used in company. After applying IT into organization, processes were geared to efficiency and control. In another word, it was hard for IT to align with the old processes. In order to make IT and business consistent with each other, Hammer first time said that do not automate the old processes but obliterate them. “We should reengineer our work.” (Hammer, 1990, p. 104) As later, business process reengineering (BPR) appeared on managers’ horizon.

During 10 years’ development, thousands companies in the worldwide had changed their organizational structures based on the IT infrastructure. Some new opportunities for e-commerce and e-business emerged on the scene. In the end of 1990s and the beginning of 2000s, companies shifted their attentions to knowledge management, innovation and business intelligence. The internet-based IT had changed managerial theory and practice again. (Merali & Bennett, 2011, p. 12)

The concept of Web 2.0 came to the scene at that time. In 2007, Reilly stated the definition of “Web 2.0 is the network as platform, spanning all connected devices; Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated services that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an ‘architecture of participation’, and going beyond the page metaphor of Web 1.0 to deliver rich user experiences.” (Reilly, 2007, p. 17) Some examples of Web 2.0 applications are Wikipedia, blogging and social media like Facebook and Twitter. Web 2.0 technologies help business and society enter into the new stage of “global distributed information system.” Every coin has two sides. New opportunity means new challenge for firms. They need to develop appropriate enterprise architectures and strategies in order to deal the emergent networked competition. (Merali & Bennett, 2011, p. 12)

Social media, as the most common used Web 2.0 technology, is nowadays the topic agenda for many companies. No matter the high level managers in the companies, the consultants outside the companies, and also researchers all try to know clearly about how firms can maximize the use of applications such as Facebook and Twitter to make profit. (Kaplan & Haenlein, 2010.) Social media has great impact on marketing a company’s products and services and managing customers. This is only a small aspect of the influence of social media for company doing business. There are more than a lot. Generally speaking, social media changes your business.

As the most popular IT currently, social media brings companies a lot of new opportunities and challenges as well. It brings to the changing of companies doing business constantly. There is no doubt that traditional business processes are influenced by social media intensively. This thesis investigated the new way of companies doing business by using social media. The research question of the thesis is “How does social media change the major business processes?”

The purpose of this thesis is to help company employees understand social media better. Thesis provided a framework based on previous literatures to explain the influence of social media on business processes. By introducing the framework in detail and using Finnair as an example, other companies can learn to improve their social media performance when doing business.
In the beginning of the thesis, the background of the research was introduced and the research question was proposed clearly. Then prior research was studied and many related theories were introduced. The theories are mainly in two areas: BPR and social media. Later, based on the prior study, own theoretical framework was built. In order to test and verify the usefulness of this framework, a real case was studied in Finnair, a Finnish airline company. How Finnair use social media in its business was introduced and discussion around the framework was conducted. The implications got from the case study were introduced. Last is the conclusion of the thesis.
2. Prior Research

In this chapter, the basic conceptions related to this thesis were introduced first. Mainly business process, BPR and social media were discussed in deep. Then the role of IT playing in BPR was analyzed. Social media, as the current most popular IT, its role in BPR was especially talked about. The ideas in this chapter are mostly based on previous researches from early 1980 to present 2013. 1990 is also the year of the concept of BPR coming out. Everything started from that time.

2.1 Business process

Before introduce what BPR is, I firstly introduce the concept of business process. I think having a good understand of business process is the basis for reengineering the process. Both BPR and business process management (BPM) are based on the fact that a business process is a fundamental element to be analyzed. (Melao & Pidd, 2000.)

Pall (1987) defined that process is “the logical organization of people, materials, energy, equipment, and procedures into work activities designed to produce a specified and result (work product)”. Davenport and Short (1990) defined “business process as a set of logically related tasks performed to achieve a defined business outcome” (Davenport & Short, 1990, p. 12). Hammer and Champy (1993) described a process as a “set of partially ordered activities intended to reach a goal” (Lindsay et al., 2003, p. 1015). These activities have one or several inputs and create an exact output. Davenport (1992) said that the output of a process is for a particular customer or market. The customer can be inside the organization or outside the organization. The customer outside the organization is generally the user of product or service. The customer inside the organization is the internal ‘end user’ of the business process. The goal is the main point of a process that is to satisfy the customer through the way of doing work within an organization. (Davenport, 1992.) I can give some examples about the outputs of processes. Apple developed newest iPhone and started to sell it. Apple created a marketing plan to guide the selling of the newest iPhone. In Ould’s book Business Process, he listed some key features for business process. Business process contains purposeful activity. It is done collaboratively by a group. It is always cross-functional. It can be driven by outside agents or customers. (Ould, 1995.)

The types of business process were discussed by several authors (Davenport & Short, 1990; Flores, 1997). They divided all the business processes into different categories according to different dimensions. Davenport and Short (1990) proposed three different dimensions used to define business process. They are firstly organizational entities or subunits involved in the process, secondly type of objects manipulated and the last type of activities taking place. Some examples are presented in table 1. From the entities point of view, interorganizational process is the process taking place between two or more business organizations. Interfunctional process exists inside one organization but cross different functional or divisional boundaries. The last is interpersonal process that is inside a function or department but cross several small work groups or teams. (Davenport & Short, 1990.)

Processes also can be divided into different categories by the types of objects manipulated. The two major object types are physical and informational. Physical object
process creates real, tangible things. Manufacturing is the good example. Informational object process creates information that can be used to make a decision or a marketing plan for example. (Davenport, 1990.) Similarly, in Flores' book “The Value of a Methodology for Workflow” he talked about dividing process into material process, information process and business process (Flores, 1997).

Table 1. Types of Processes (adopted from Davenport, 1990, p. 18).

<table>
<thead>
<tr>
<th>Process Dimension and Type</th>
<th>Typical Example</th>
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<tbody>
<tr>
<td>Entities</td>
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<tr>
<td>Interorganizational</td>
<td>Order from a supplier</td>
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<tr>
<td>Interfunctional</td>
<td>Develop a new product</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Approve a bank loan</td>
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<tr>
<td>Objects</td>
<td></td>
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<tr>
<td>Physical</td>
<td>Manufacture a product</td>
</tr>
<tr>
<td>Informational</td>
<td>Create a proposal</td>
</tr>
<tr>
<td>Activities</td>
<td></td>
</tr>
<tr>
<td>Operational</td>
<td>Fill a customer order</td>
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<tr>
<td>Managerial</td>
<td>Develop a budget</td>
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The third way to divide business process is according to the types of activities. Davenport thought there are two types of activities. One is operational and another is managerial. Operational processes carry out of the daily work in organization in order to get business purpose done. Managerial processes help to control, plan, or provide resources for operational processes. (Davenport, 1990.)

A similar way to think about the business process was come up by some authors (Lindsay et al., 2003). They named two kinds of business process. One is production process and another is office process. Production process is like the operational process that has an output. Office process is like managerial process that plays a supportive role. They thought it is better to separate office process from production process. The difference between production process and office process is the attention point. Production process is concerned with the activities being performed. Office process, on the other hand, cares more about the goal and the things whatever people do in order to attain a goal. Office process has more concepts about coordination activities. They include the elements of actors, information exchange and coordination structures. (Lindsay et al., 2003.) Yu (1994) thought office process is different from the processes executed by machines. Actors in social systems are important in office process. They will collaborate with each other to achieve a goal. (Yu & Mylopoulos, 1994.) As a summary, “Many of the differences distinguishing office processes from production processes focus on actors, their coordination and communication roles in the activities of a process.” (Lindsay et al., 2003, p. 1016)

Melao and Pidd (2000) got the idea from Morgan (1997) that is using metaphors to describe business processes. Morgan’s metaphors have been widely used in fields close to BPR and BPM. Melao and Pidd organize four views of business process around different themes. Two of them are similar to two Morgan’s metaphors. The other two are not really metaphors but from the viewpoints of Morgan. They suggested that we should view business processes as deterministic machines, complex dynamic systems, interacting feedback loops and social constructs. (Melao & Pidd, 2000.)
The first view of business process is deterministic machines which treats a business process as a fixed sequence of well-defined activities or tasks performed by “human machine” which get input and create output in order to accomplish the tasks. This view is close to Morgan’s bureaucratic machine metaphor. This metaphor assumes that a business process is unquestioned. (Melao & Pidd, 2000.) Most of the definition purposed by the authors above like Davenport and Short (1990), Hammer and Champy (1993) and Ould (1995) all fall into the first view.

The second viewpoint is complex dynamic systems. It is close to Morgan’s metaphors of organism and flux and transformation. It focuses on the complex, dynamic and interactive features of business processes. The outside environment is changing all the time. Organization needs to adapt the changing in order to survive. Not like mechanistic viewpoint which focuses on structure and static objects, the view of complex dynamic systems concern more about interaction and dynamic behavior. (Melao & Pidd, 2000.)

The third viewpoint is interacting feedback loops. It is an extension of the complex dynamic systems by highlighting the information feedback structure of business processes. It claims that business processes are closed loops under the intrinsic control. The dynamic behavior of a business processes is not expressed by individual components but by the interactions between inside structure and policies. When the resources flows get into the system and are accumulated or transformed, they are regulated by policies. The policies represent the statements of actions taken in order to achieve the final result (Pidd, 1996). These actions are taken according to the information. The information feedback loops just play when the actions are taken. (Melao & Pidd, 2000.)

The last viewpoint is social constructs. It thinks business processes as made and enacted by many people. These people are different from each other because of their different values and expectations. This viewpoint shows that business processes are abstractions, meanings and judgments. People here are very important because they create the subjective construction which tells what business processes are. Various individuals and groups can define their business processes with different perceptions. This will lead the business processes have different frames of interpretation. (Melao & Pidd, 2000.)

Above four viewpoints can help us understand business processes better and more fully (Lindsay et al., 2003). There is a tight connection between business process and BPR or BPM. The development of BPR or BPM has enriched the definitions of business process. Hammer and Champy (1993) stated that a business process always has a goal. It is also influenced by events that occurs in the external world or by other processes. Jacobson (1994) later said that in order to reach the goal, business processes should involve collaboration between individuals or groups. This collaboration is cutting traditional hierarchies and cross different functional area. His idea is a little bit different from Taylor’s scientific management that segments the process into the functional departments to get the economics of scale and work standardization. Jacobson thought traditional organizational structure is not conductive to collaboration inside the organization. The internal policies and personal goals hamper the smooth running of a customer-orientated process that should originally be horizontal. (Lindsay et al., 2003.)

BPR or BPM have enriched the definitions of business process, but at the same time, they also constrain the definitions by objectives that strive to find the most efficient way to carry out work, whether in a manufactory or in the office environment. The viewpoint of a business process is similar to the viewpoint of a machine that automates many of the operations. (Lindsay et al., 2003.)
I already discussed a lot about business process and mentioned the term BPR many a time. So what exactly is BPR? The following sections talk about BPR in detail.

2.2 The concept of BPR

Continued from the preceding paragraph, this section answers the question posed by the last section that what BPR is. How was the reengineering starting? How was the reengineering being developed? What is the situation of reengineering in different times?

2.2.1 Classical reengineering

Hammer (1990) and Davenport (1990) probably are the authors who came up the thinking of reengineering earliest. Hammer is president of Hammer and Company, an IT consulting firm. In 1990, he observed some breakthroughs had been done in some large and established companies. Ford had reengineered its accounts payable processes. After launching the new process, Ford reduced 75% employees and at the same time removed the discrepancies between financial record and physical record. The benefits of this are simpler material control and accurate financial information. Mutual Benefit Life had reengineered its processes for applying insurance. At last, Mutual Benefit Life improved the efficiency by 40%. Showed in the paper, these companies used to do the businesses according to the implicit rules that were from earlier decades. But these rules were no longer hold because the technology, people, and organizational goals had changed. Companies’ work structures and processes should keep pace with the changes in technology and business objectives. Especially, IT had been widely used by companies. But the results were always disappointing because companies only used IT to mechanize old ways of doing businesses. Only speeding up the old processes cannot solve the fundamental performance deficiencies. Hammer started to consider obliterating the outdated processes. By using the power of modern information technologies, companies can redesign their processes radically and get dramatic improvements in performances. He said, “Reengineering strives to break away from the old rules about how we organize and conduct business.” (Hammer, 1990, p. 104) The two words “radically” and “dramatic” can show in which extent and level of changes companies need to make. Hammer thought reengineering as the only way for companies to throw out their antiquated processes. (Hammer, 1990.) Said by Hammer and Champy in 1993, “Reengineering is defined as the fundamental rethink and radical redesign of business processes to generate dramatic improvements in critical performance measures – such as cost, quality, services and speed.” Figure 1 shows this concept. (Hammer & Champy, 1993, p. 2)

Davenport and Short (1990) described that “BPR as the analysis and design of work flows and processes within and between organizations” (O’Neill & Sohal, 1999, p. 573). By combine BPR and IT, a new type of industrial engineering will be created and it will change the discipline practiced now. He also pointed out the true that IT had been used to hasten office work but not transform it. Companies should not treat IT as an automating or mechanizing force. It can reshape the way business is done fundamentally. There should be more interdependent activities in the organization. Less work done by particular individuals or business functions, more better for the organization. (Davenport & Short, 1990.)

Talwar (1993) thought BPR is to rethink and restructure the business structures, processes, and ways of working and make them create more values. Petrozzo and Stepper (1994) said that BPR includes redesigning the processes, organization, and their
supporting information systems simultaneously in order to improve in time, cost, quality, and customers’ satisfaction of products and services. Lowenthal (1994) described the focus of BPR is on the organization’s core competencies and to achieve the improvements of performance in organization.

Figure 1. The reengineering concept (adopted from Hammer & Champy, 1993, p. 1).

BPR can be the abbreviation of business process reengineering which was referred by Hammer (1990) and also the abbreviation of business process redesign which was referred by Davenport and Short (1990). They two are actually the same just with different terminologies. Besides these two concepts, many other authors provided their own terms referring to process changes in a large or small scope. Here is the list of various terms gotten from a review article written by Neill and Sohal in 1999 (Neill & Sohal, 1999, p574):

- Business process improvement,
- Core process redesign,
- Process innovation,
- Business process transformation,
- Organizational reengineering,
- Business process management,
- Business scope redefinition,
- Organizational change ecology and
- Structured analysis and improvement.

Through the definitions of BPR above, it is easy to get the conclusion that four keywords of BPR are fundamentals, radical, dramatic and process (Gunasekaran & Nath, 1997). The changes of business process need to undergo in the fundamental level. Companies should consider precisely what they do, how they do, and why they do in present way. Is there any tactic included in current practices? BPR is not just the incremental or adjustment of current exists in the organization. It has to radical change the organization. Like Hammer said “Reengineering cannot be planned meticulously and accomplished in small and cautious steps. It’s an all-or-nothing proposition with an uncertain result.” (Hammer, 1990, p. 105) This change is not simply to marginally enhance or speed up the old ways of doing things. (Grover & Malhotra, 1997.) It strives for the dramatic results and quantum leaps in performance. At last, companies need to be process-oriented instead of function-oriented or department-oriented. In the past, many people were involved in fulfilling orders but no person could report the status of an order all alone. Reengineering can make one individual in charge of a complete process (Self, 1995).
(Hammer & Champy, 1993; Gunasekaran & Nath, 1997.) This asks companies to ignore the functional boundaries. Thinking organizations in an integrated way is necessary. (Grover & Malhotra, 1997.) BPR is characterized by strategic transformation between interrelated organizational subsystems (Kettinger et al., 1997).

2.2.2 Principles of reengineering

In order to know how to conduct BPR in the right way, new rules are needed in order to suit the modern environment. Through several years’ practice, many companies actually have discovered some principles to guide the BPR. Knowing these principles can help other companies jump the start effort. (Hammer, 1990.)

The first principle is “Organize around outcomes, not tasks.” (Hammer, 1990, p. 108) This means for all the steps of one process should be done by just one person. Companies should redesign individual’s job leading to one objective or outcome, not one task. This can be proven by the example of Mutual Benefit Life where one case manager in charge of to the entire application approval process. After the redesign, one person can have whole view to the process and of course know the result of process in anytime. This point is very important to the customers because they know whom they can contact and they are sure to get the answer from the person. The person is called as “customer service representative.” (Hammer, 1990.)

The second principle is “Have those who use the output of the process perform the process.” (Hammer, 1990, p. 109) In before, companies definitely would establish specialized departments. Companies thought that when the specialists get together and work for specialized processes, the efficiency is the highest. Each department only does one work and is the “customer” of other departments. This situation now is out of fashion. It is slow and bureaucratic in modern environment. With the help of readily available computer-based data and expertise, departments can do more things by themselves. IT makes the flowing of information between different departments possible. The data in whole organization can be shared by all the staffs no matter in which department they are. So one staff can perform one process individually without ask other staffs in other department. He can carry out the cross-functional process by himself. This thing cannot happen before the adaption of IT into organization. (Hammer, 1990.)

Third principle is “Subsume information-processing work into the real work that produces the information.” (Hammer, 1990, p. 110) This principle suggests that companies should move one work from one person or department to another. Inside the organization there used to have also one kind of units that only does the job of collecting and processing the information created by other departments. This idea also follows the old rules. The assumption is that people in lower organizational levels are not able to handle the information they generate. The new rule is accepted by Ford to reengineer its accounts payable process. Vendors now process the purchasing and receiving information rather than sending them to accounts payable. The realization of this is with the help of new computer system. (Hammer, 1990.)

Fourth principle is “Treat geographically dispersed resources as though they were centralized.” (Hammer, 1990, p. 110) Companies used to be puzzled whether centralization or decentralization. Decentralizing resources such as people and inventory can give better services to uses and customers. But the cost will higher than centralizing resources. Companies do not need to make the trade-offs between centralization and decentralization anymore. Some IT like database, telecommunications networks can
make the balance between the benefits of scale and coordination and the benefits of flexibility and service. (Hammer, 1990.)

Fifth principle is “Link parallel activities instead of integrating their results.” (Hammer, 1990, p. 110) The new rule means to coordinate the parallel functions when they are in process. This asks separate units to perform different activities. At last, these activities should come together. It is common that the results gotten from all activities fail to work together at the integration and testing phase. The new principle suggests that making all the parallel activities link each other and coordinate when they are in process. Communication networks, shared databases, and teleconferencing make it possible. (Hammer, 1990.)

Sixth principles is “Put the decision point where the work is performed, and build control into the process.” (Hammer, 1990, p. 110) In most organizations, the people who do the most of the work do not monitor the work at the same time. There are special people who will monitor the work. This is based on the assumption that normal workers do not have time and the inclination to monitor the work. They are also treated as lack of knowledge to make the managerial decision. The assumption is also the base of entire hierarchical management structure. The new principle thinks from the opposite side that it is better for those people who do the work to make the decision and also control the process when it is being executed. This will lead the pyramidal management layer to be compressed. IT is good at capturing the data and following the process. Especially expertise system can provide the plenty of knowledge to help people make the decisions. (Hammer, 1990.)

The last principle is “Capture information once and at the source.” (Hammer, 1990, p. 110) Before the age of IT, it is difficult for the information to transmit. Each person, department, and units, for their own purpose, needs the data in different forms. It will lead the delay of transformation of information, frequent errors, and costly overhead. But now these problems can be solved by IT. Companies should better to have some IT to help collect, store, and transmit information instantly and easily. Those IT can be like on-line database, electronic data interchange (EDI). (Hammer, 1990.)

2.2.3 Confusion of reengineering

BPR is not same with automation. Automation mainly considers how to use typical application of technologies to automate existing procedures. It does not care about the appropriateness or legitimacy of the procedures. If company did wrong things in more efficient way, it is even more harmful to the company. Companies do not intend only to do things right, but want to do more right things. BPR is also different from restructuring or downsizing. Reengineering aims at achieve more by doing less. However restructuring and downsizing just scales back what is being done. Reengineering is not only the attempt to flatten the organization. Solving the superficial and organizational problems is not enough because companies now face deeper and process-based problems. At last, reengineering is totally different from Total Quality Management (TQM). TQM aims to improve the existing processes by incremental improvement. Reengineering, however, will discard everything entirely and bring with break-through processes. (Hammer & Champy, 1993.) Table 2 shows the main difference between BPR and other change programs in total 6 dimensions. The table shows that the change of TQM is from bottom to up. In contrast, reengineering seems more likely to be initiated from top to down. IT is a key enabler of reengineering, but for TQM, it is just an incidental thing. (Grover & Malhotra, 1997.)
Table 2. Reengineering and other change programs (adopted from Grover & Malhotra, 1997, p. 198).

<table>
<thead>
<tr>
<th>Assumptions questioned</th>
<th>Rightsizing (downsizing)</th>
<th>Restructuring</th>
<th>Automation</th>
<th>TQM</th>
<th>Reengineering</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus of change</strong></td>
<td>Staffing</td>
<td>Reporting relationships</td>
<td>Technology applications</td>
<td>Customer needs</td>
<td>Fundamental</td>
</tr>
<tr>
<td></td>
<td>Staffing, job responsibilities</td>
<td>Organization</td>
<td>Systems</td>
<td>Bottom-up improvements in many places</td>
<td>Radical changes over broad core entities</td>
</tr>
<tr>
<td><strong>Orientation</strong></td>
<td>Functional</td>
<td>Functional</td>
<td>Procedures</td>
<td>Processes</td>
<td>Processes</td>
</tr>
<tr>
<td><strong>Role of IT</strong></td>
<td>Often blamed</td>
<td>Occasionally emphasized</td>
<td>To speed up existing systems</td>
<td>Incidental</td>
<td>Key</td>
</tr>
<tr>
<td><strong>Improvement goals</strong></td>
<td>Usually incremental</td>
<td>Usually incremental</td>
<td>Incremental</td>
<td>Incremental</td>
<td>Dramatic and significant</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>Usually one time</td>
<td>Usually one time</td>
<td>Periodic</td>
<td>Continuous</td>
<td>Usually one time</td>
</tr>
</tbody>
</table>

2.2.4 The change of reengineering

Last several subsections talked about the original or classical reengineering. But with the development of times, the conception was changing all the times. Only keeping abreast with the current business trends, reengineering can have meanings and make difference to the companies. There were some myths of BPR that were treated as “gospel” by the executors of reengineering around the beginning of 90s. But later these myths were being questioned. Even the people who pioneered the concept stood out. This is the revolution of classical reengineering caused by outside environment again like the proposing of reengineering itself. Later is the summary of seven questioned myths. (Grover & Malhotra, 1997.)

First myth is “Reengineering is a radical one-time approach.” (Grover & Malhotra, 1997, p. 208) Many companies were not willing to spend time and money to change the organizations from overall level. Sometimes, changing the companies step by step by stewardship of process is better from a long-term viewpoint. American Express once faced the problem that whether uses TQM and continuous improvement or BPR to change its organization. At last, it got a middle point by redefining reengineering. The Baldrige award terminology was used in the reengineering. (Caldwell, 1994.)

Second myth is “Reengineering involves breakthrough performance gains.” (Grover & Malhotra, 1997, p. 208) This was challenged because it is difficult to measure the degree of gains of companies after reengineering. Reengineering can also change the organizational culture and then the gains are moderate. US West Inc. spent 290 million dollars to reengineer its customer-service system. The result of this reengineering seems not good as well as expected. But after the fail of reengineering, a complete overhaul happened in this 5000 people company. (King, 1995.)

Third myth is “Reengineering enables change primarily through IT.” (Grover & Malhotra, 1997, p. 208) More and more innovations were carried out by companies without using the power of IT. The innovations of people, jobs, skills and structures were all process-oriented. Hughes Space and Communication is a division of Hughes Aircraft Company. It wanted to reduce costs and non-value-added activities by changing its production processes. Change of internal cycle time reduction was done successfully.
Following the change in manufacturing strategy was done also in order to support other changes. In these changes, IT did not play as a very important role. (Roby, 1995.)

Forth myth is “Reengineering should focus on cross-functional core business processes.” (Grover & Malhotra, 1997, p. 208) Focusing on cross-functional processes is true. But only improving the processes inside single function can also make significant change and success. At GE Power Systems, several employees helped to save over 90 million dollars of inventory carrying charges per year. They did this by only suggesting some production methods. (Wreden, 1994.)

Fifth myth is “Reengineering enhances individual capacities through empowerment and teams.” (Grover & Malhotra, 1997, p. 208) Many companies downsized and achieved the goal of reducing cost. McKesson Water Products Co. is an example. (Bartholomew & Caldwell, 1995.)

Sixth myth is “Reengineering can use a standardized set of methods touted by armies of consultants.” (Grover & Malhotra, 1997, p. 208) Actually there is no standardized approach existing after five years development of BPR. The most important part to decide how to change is to know the special organizational contexts. It will bring the reengineering subsequent success. Texas Instruments Inc. was required to build their own training program because the management could not find a good way to train its staffs when the company was conducting a reengineering program of its semiconductor operations. Then the company formed an internal think-tank team to develop a new reengineering methodology. This could enable its staffs to design new business process. It got huge success. Since 1992, there were one thousand employees got train by the think-tank team. (Goff, 1995.)

The last myth is “Reengineering must be conducted from the top down.” (Grover & Malhotra, 1997, p. 208) It also got challenged because sometimes the experience from bottom level could help reengineering team get detailed understand of business processes. This already got proved by some reengineering work of bottom-up process changes. And from the normal workers point of view, they do not want their jobs replaced by others if the new work design happens. General Safety Corporation is a seat belts provider mostly for Cadillac, Buick, Pontiac and Oldsmobile. It replaced many assembly lines with individual workstations. The result was that now workers could perform multiple tasks such as saving floor space and allowing for smaller inventories. Also employees’ work had been redesigned. They were moved to new positions. Significant improvements in productivity and big breakthrough of workers flexibility and unprecedented authority have been achieved. (Anonymous, 1994.)

Since there were a lot of reengineering failures, the hype of original concept had been cooled down. Now the reengineering is more a contingent notion. As the discuss about the myths, it is difficult to say whether the result of reengineer should be radical or moderate, the reengineering should starts from top to down or bottom to up, it should involve IT or not. Some truth of reengineering can last longer to next decade and some will be no longer truth. Experts think there is more than one way to conduct the reengineering. Like the author, Michael Hammer, wrote the last book, Beyond Reengineering. He pointed out that maybe he was wrong about the opinion that reengineering should be radical. He thought that process is more important than radical improvement. (Hammer, 1996.) Process change maybe is a more sustainable management concept comparing to BPR. The success of organization is always dependent on how the change is implemented and accepted. Similar to process change, the term, “process management” is also sustainable. Process management involves the
planning, structuring, and evaluation of business processes. Organizations should use process management and other methods to gather information, redesign and assess their processes. The redesign maybe radically firstly and then followed by incrementally. At last, there is one thing that is certain that reengineering is cross-function and should transcend functional boundaries. Think organization in an integrated way. Parochial viewpoint will resist the organizational change. (Grover & Malhotra, 1997.)

2.3 The reasons for BPR

Through describing the concept of BPR, how BPR is important can be known. Companies conducted the BPR projects inside their organizations fall over each other. All they wanted is to gain more competitiveness than other competitors when the outside environment was changing radically. The development of technologies is another main reason for companies conducting BPR. In this section, the reasons for companies to conduct BPR are illustrated.

One of the main reasons is the response to the radical environment change. When the time entering into 1990s, it seems that everything had changed outside the organizations. Like said in the introduction part, globalization and global economy were the theme of that age. More and more companies joined the competition. In order to win the competition, those progressive companies had increased the interesting in BPR. (Attaran, 2004.) The rules left from several decades before were useless now. Companies found that now they should pay more attention to the innovation, speed, service and quality. (Hammer, 1990.) In each age before 1990s, there were different principles to guide doing business. They are all appropriate for each age. But if using these old-fashioned principles in today’s environment, it would lead some problems inevitably. The work would be delay and got errors. The organization was too rigidity to response to the emergency. The management fee was very high. Today’s global economy required companies made their organizational structures and business processes faster than before, deliver high quality products and services consistently, flexible enough to adjust according to the change, and last cost less overhead fee. (Hammer & Champy, 1993.)

Customer is the second promoting factor of BPR. The purpose of a company improving performance was to meet the requirement of customers. So this requires that companies could understand customers clearly. (Attaran, 2004.) Companies should always stand at customer’s position and think from their perspective (Chang, 1994; Vantrappen, 1992). By aligning work processes with customer requirements, companies could achieve good results in a long term (O'Neill & Sohal, 1999).

The third reason is the power of IT. IT Outside the company, IT could solve both time and distance constraints. (Martinsons, 1995.) IT had the ability to make customers, suppliers, and other partners joining the businesses (Attaran, 2004). Inside the company, it was easy to share the computing resources with the help of IT. So applying IT could greatly improve the communication and collaboration when the business needs to cross the functions. (Grover & Malhotra, 1997.) IT should not be only the tools for automating or mechanizing processes. Moreover, it can reshape the way of doing business, identify alternative business processes, and then create new process design options. (Davenport & Short, 1990; Attaran, 2004.)

Hammer and Champy (1993) suggested three types of companies undertaking reengineering:

- Companies find themselves face deep competitive trouble.
Companies do not have trouble recently but the management can see underlying trouble coming. Companies do not satisfy their current situation even if they are in peak of the industries. They want to develop absolute advantages over their competitors.

These can also be seen the reasons for reengineering.

2.4 Role of IT in BPR

IT, as the three major reasons for BPR, shows the importance of itself in BPR. IT can help companies save time and improve accuracy in information exchange, can remove the human errors when the tasks are complex and repetitive, can save money of course, and can capitalize the trends of market. (Gunasekaran & Nath, 1997.) These are all the results brought by the IT. In this section, I want to demonstrate what the role IT plays in BPR exactly and the relationship between IT and BPR.

2.4.1 The relationship between IT and BPR

Earlier, IT had been widely used to analyze and model business in industrial engineering. Most times, the work that IT had been used to redesign is about the manufacturing function. Later, the analysis of work activities appeared in non-manufacturing environments. IT was used to hasten office work. Few people thought about transforming it. Without exceptions, IT played an unsuccessful role in redesigning non-manufacturing work. In order to make the alignment between manufacturing function and office work, companies realized that they needed a new way of analysis of office work. They should not only view IT and business activity separately but also the relationships between them. Davenport and Short (1990) provided their opinion that “IT and BPR have a recursive relationship.” Figure 2 shows this relationship. (Davenport & Short, 1990, p. 12)

![Figure 2. The recursive relationship between IT capabilities and business process redesign](image-url)

Davenport and Short (1990) thought this recursive relationship between IT and BPR is the new industrial engineering. Whenever thinking about one, another also needs to be taken into account. Thinking about IT should be in the way of considering how it can support redesigned business processes. At the same time, when thinking the business
processes and improvements, the capabilities of IT should be considered. (Davenport & Short, 1990.)

The idea of recursive relationship is similar to the information systems strategy triangle. In the book “Managing and using information systems: A strategic approach,” Pearlson and Saunders (2006) presented a simple framework to understand the impact of information system (IS) on businesses. Figure 3 shows this framework. (Pearlson & Saunders, 2006.)

![Figure 3. The information systems strategy triangle (adopted from Pearlson & Saunders, 2006, p. 20).](image)

This framework relates business strategy with IS strategy and organizational strategy. Business strategy is a well-organized vision that shows the direction of a business to go and the method to get the final place. IS strategy is the longer plan of providing information services in organization. IS here can be treated as the same to IT in general level. Organizational strategy is the design and choices of defining, setting up, coordinating, and controlling work processes. (Pearlson & Saunders, 2006.)

The triangle must be maintained to be balance in business plan. Three strategies play different roles. Business strategy should drive organizational strategy and IS strategy and in reverse, organization strategy and IS strategy should support defined business goals and objects. Business strategy can answer the questions related to competition “What does the customer want and what does the competitor do?” to positioning “How does the company cope the competition?” and to the capabilities “What can the company do?” When defining business strategy, company needs to know its strengths and weaknesses, the market challenges and opportunities. (Attaran, 2004.) IS can determine the capabilities of a company. When there are changes in business strategy, IS strategy should be reassessed accordingly. IS are always developed and then the changes of IS potential will also reassess business strategy. Organizational strategy is a complement of business strategy. Organized work processes support business strategy. (Pearlson & Saunders, 2006, p. 30)

Eardley, Shah, and Radman (2008) thought IT strategy should be aligned with business strategy. Meeting this can achieve maximum benefits. IT strategy will guide the build of IT infrastructure within a company. IT strategy and IT infrastructure should both support the business strategy and somehow influence it. A flexible IT infrastructure is better because it is easy for company to cope the changes of outside environment and business strategy. (Eardley et al., 2008.)
2.4.2 Role of IT in different phases of BPR

Attaran (2004) analyzed the different roles of IT in each phase of BPR. He simply divided BPR into three phases: before the process is designed; at the time process is being designed; and after the design is completed. (Attaran, 2004.)

Before the redesign happens, the role of IT is initiator that means the reason of change. By using existing IT company will find new requirements appearing and need to be solved. (Chan, 2000.) Hammer and Champy (1993) once said, “An important technology first creates a problem, and then solves it.” (Chan, 2000, p. 227) Available IT can actually initiate new operations. So IT becomes an initiator. (Hammer & Champy, 1993.) In this phase, some activities of business include (Attaran, 2004):

- Developing a strategic vision.
- Identifying the customer’s objectives.
- Establishing goals/targets related to market share, costs, revenue enhancement, or profit margins.
- Assessing the potential for reengineering.
- Defining boundaries and scope of the appropriate process.
- Keeping management committed.

IT capabilities should be aware of before the processes is redesigned and it should influence the redesign. IT can have efforts in the following. First, IT provides opportunities to help company develop strategy vision and improve business process. Second, IT can track information and break down barriers inside or outside the organization. Specially, communication technology overcomes the geographic distances so that broader acceptance of process change becomes possible. Third, IT can benchmark the company against other industries. Once the experiences getting from practices of other companies are applied by the expertises of the redesign team, they can create totally new process technology. Fourth, BPR needs a flexible organization design. Cross-functional team is necessary. Flexible infrastructures can detect existing tools whether they should be replaced or not. Fifth, in order to achieve effective teamwork in an IT organization, IT staff should extend their knowledge system to some non-IT areas like marketing and customer relationships. By combining Internet and Intranet services, a collaborative team effort in worldwide can come true. Sixth, the alliances between company and suppliers and distributors are built. By teaming and collaborating with them, company can easily gain market shares. (Attaran, 2004.)

Then in the second phase of BPR, process is being designed. IT is the facilitator this time and aims to make work and a workload easier. (Chan, 2000.) IT does not directly affect the ability of organization to reengineer its business processes but plays as simple tool which supports the BPR (Davenport, 1992). In order to fulfill the new requirements and create new operations for the new functions, new products are needed. These products are formed by old technology but in a new way especially for the new need and environment. (Chan & Choi, 1997.) IT necessitates the creation of these products and actually becomes part of the products (Chan, 2000).

There are two activities in this phase: one is technical design and second is social design. Technical design aims to consolidate information, redefine alternatives, reexamine process linkages, and relocate the controls prior to applying technology. Social design is related to human aspects that the main tasks are defining jobs and teams, workers’ skills, staffs’ needs, and incentives. With these two designs, development of people, processes, and technology are integrated together. When IT involves in more fundamental changes,
company can gain more real benefits. Here are some examples. First, project management tools can facilitate the reengineering design process. Second, in order to identify and select process for redesign, company should first gather and analyze information of current performance and structure of processes. So the mapping and flow-charting tools are very helpful. One of the technologies is computer-aided systems engineering. Third, because now companies are more process-oriented, this requires different functional units to participate together. Shared database works well to meet the requirements. Fourth, telecommunication technologies help improve the collaboration among people in different functional units and even in different locations. Fifth, with the help of IT, data can be digitalization and easy for employees to look at them in any view for any purpose. Sixth, information input by employees and customer requirements are very important in reengineering. Database builds a convenient channel to track customer feedbacks and employees’ voices. It is so important for the improvement of customer satisfaction. Seventh, IT capabilities can also be used to exchange information between company and its retailers. EDI is the most used technology. Last, IT can help identify alternative business processes. (Attaran, 2004.)

The last phase is when the design is complete. After company reengineers its old processes and gets new approach of doing business, IT plays an implementor role which is used to accomplish the process innovation. Accompanying with the implementation, the performance goals and objectives are changing, new organizational vision is committed, and barriers between the departments are broken. Company can be more flexible when faces the business environment changes. (Attaran, 2004.)

IT can do the following things in third phase. First is implementation of the new process by using project management and process analysis tools. When the contingencies and problems appear during the implementation phase, IT can help handle and control them. Second, electronic communication technologies make real-time communication possible between users and facilitators. Geographic barriers are not problems any more. Third, IT helps evaluate the potential investments and returns of reengineering efforts. The reengineering team should get more information related to the new process to see how much the new process contributes to the overall performance. Fourth, processes are reengineered indeed but the infrastructure is not keeping up. The old infrastructure should be adjusted so that it can fit and support the reengineering results. Collaborative computing products can be the tools for the adjustment. They include software for conducting meetings on-line and for collaboration in real time. Fifth, digital feedback loop is the tool to make specific definition of success, beginning and end of time and tasks, intermediate milestone and the budget finally. (Attaran, 2004.)

2.4.3 A conceptual model illustrating the role of IT in BPR

Gunasekaran and Nath (1997) provided a conceptual model to illustrate the role of IT in BPR. According to different characteristics of business goals of the company, authors put all major business processes into several categories. The processes are range widely. Examples are purchasing, development of a product, delivery of goods to customers, recruitment, technology development and installation. This model involves these major processes. Figure 4 shows this framework. More details about each major process and the role of IT in it are discussed hereunder. (Gunasekaran & Nath, 1997.)

First process category is order flow. The order flow talked here is mainly in manufacturing operations. For example, some companies need to develop new products. The development is based upon the principles of design for engineering, design for
manufacturing, design for distribution and handling. This requires companies to manage the information flow. Making the flow of material simple and standard and combining with the flow of information will improve the performance of the system. IT like Computer-Aided Design (CAD)/Computer-Aided Engineering (CAE)/Computer-Aided Manufacturing (CAM), EDI can be used to shorten the lead-time of order flows. Advanced IT such as multimedia, shared databases, artificial intelligence (AI), and expertise systems can help companies break the barriers between information flows and material flows. The final result is the improvement of computer-supported co-operative work and effectiveness of the organization. (Gunasekaran & Nath, 1997.)

Second process category is strategic process. The strategy here mainly for company to handle the influences caused by external factors such as government policies, environmental aspects, general economic condition. These factors can be constraints for manufacturing system and can be opportunities as well in some times. So it is better for company to have an open IT infrastructure that can link the corporate headquarters with inventory, logistics, and order processing operations. In order to make the strategy, companies need information of both internal and external. Many IT like multimedia, Internet communication, database, AI and Expertise systems are powerful enough to collect and process the data. Once have the right information, strategy maker can make more accurate decision. (Gunasekaran & Nath, 1997.)

Third process category is product including product design and engineering, and process planning. The tools like Quality Function Development (QFD), Computer Engineering (CE), CAD/CAE and Computer-Aided Process Planning (CAPP) play roles in these stages. And because of the advances of microprocessors and personal computers, these
tools can be widely used by non-IT experts in the companies. (Gunasekaran & Nath, 1997.)

Forth process category is marketing and sales which are treated as two most information intensive functions in business (Powell, 1994). Marketing can get most benefits from the innovation of IT. EDI here can deal with the purchase orders, receiving invoices and payment of suppliers. Marketing and sales should link with following activities: market research; forecasting and providing necessary information to the management because of the requirement of quality products and services from customers. So the smooth information flow from customers to marketing department then to manufacturing is crucial. Multimedia and Internet systems here play the role of collecting information and exchanging information between customers and companies. (Gunasekaran & Nath, 1997.)

Fifth process category is services. In any organization, service definitely is a value-adding activity so that all the organizations want to improve their performance by cutting cost and improving customer service. Information automation systems are useful in distribution and logistics operations. Client/server technologies share the information in whole organization so that the managers can have an overall view to the organization not only individual functions such as marketing or distribution. Client/server can ask services from the client processes to the server processes. (Gunasekaran & Nath, 1997.)

Sixth process category is accounting. Under this category, there are product costing, make-or buy decision, capital investment decisions, budgeting and product-mix decisions. The accounting system should follow the change of production process and company goal. The improvement of productivity, flexibility and innovation influence the accounting performance measures. More and more non-financial measures are taken into account. These all aim to think benefits in a long term for the company. Again using shared database and information system can collect and process information related to accounting and finance like product price and capital investment. Global financial markets and advanced IT collaboratively leads to the revolution of investment management. Expert system can perform money management. And with the help of AI and neural networks, expert system becomes more powerful that can stimulate some less structured expert’s decisions. (Gunasekaran & Nath, 1997.)

The last process category is personnel. After the manufacturing processes are reengineered, the way of people thinking should also be changed. Stillwagon and Burns (1993) introduced a new method named Human Performance Engineering (HPE) to organize, develop, and challenge the human resources in the organization. With the help of HPE can improve the human factors in BPR. Facing BPR, employees always want to have less stress in their work life and home life. (Stillwagon & Burns, 1993.) They hope get more flexibility of their work time and location, take more responsible work. Multimedia and Internet can improve the co-operation of employees and business and organization. When the communication systems become more reliable, the stress of workers can be reduced. (Gunasekaran & Nath, 1997.)

2.5 The concept of social media

The role of IT in BPR has been discussed in detail. Since the concept of BPR was came up and appeared in public eyes, IT has radically changed. Recently, the most popular IT is social media including lots of applications such as Facebook, Twitter, and LinkedIn.
Researches have shown the big impact to the way of companies doing business. What exactly the influence of social media on business processes is discussed later in next section. First the definition of social media is introduced in this section. Let’s first have a brief understanding of social media.

From Kaplan and Haenlein’s (2010) point of view, they think the earliest social media was starting 20 years ago, when a social networking site named “Open Diary” was founded. This site allows diary writers join one community online. Following the step of development of Internet access, the family of social media is stronger and richer day by day. Myspace was founded in 2003 and following it is Facebook founded in 2004. (Kaplan & Haenlein, 2010.)

Before knowing the exact definition of social media, let’s first see two close concepts that are Web 2.0 and User Generated Content. Web 2.0 is used to describe a new way for software developers and users utilizing the World Wide Web. Those applications that belong to Web 2.0 and their content are not only created by the developers but also modified by all the users in a participatory and collaborative fashion. Web 2.0 is the platform for the evolution of social media. Thackeray et al. (2008) said that Web 2.0 can engage people and let them produce and distribute information in the ways of collaborative writing, content sharing, and social networking (Thackeray et al., 2008). Hanna et al. (2011) said Web 2.0 is an interactive model. It can make people to be initiators and recipients of information exchanges at same time. (Hanna et al., 2011. ) As can be seen according to different authors, the common characteristics of Web 2.0 are collaboration and interaction. Then another concept is User Generated Content (UGC). UGC represents the various forms of media content created by end-users. Organization for Economic Cooperation and Development (OECD) lists three characteristics of UGC. Firstly it should be published in a public website or on a social networking site and could be assessed by a selected group of people. Secondly the content should be creative in a level. Lastly the content should not be created by professional people in a profession work time. (Vickery & Wunsch-Vincent, 2007.) Based on the idea of Web 2.0 and UGC, Kaplan and Haenlein made the definition of social media that is “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow creation and exchange of User Generated Content” (Kaplan & Haenlein, 2010, p. 61). Kietzmann et al. (2011) had close definition to Kaplan and Haenlein. Social media is based on mobile and web technologies. It creates a highly interactive platform for individuals and communities to share, co-create, discuss, and modify user-generated content. (Kietzmann et al., 2011.)

“A group of Internet-based applications” is a general and big definition. It is better to work out specific classification so that it is easy for us to research different social media in a small area. Social media, understood from surface, is combined by two letters: “social” and “media.” So it will not be weird that using theories in the field of media research and social processes to analyze social media. Kaplan and Haenlein (2010) used four theories that were come up by Short, Williams, and Christie (1976), Daft and Lengel (1986), and Goffman (1959). In the field of media, there are social presence and media richness that can be relied on. Social presence theory states that media can be differed according to the degree of “social presence”. One can gain presence by achieving acoustic, visual, and physical contact. (Short, Williams, & Christie, 1976.) Media richness theory explains the reasons for any communication that are to resolve ambiguity and to reduce uncertainty. The different degree of richness can be reflected by the amount of information transmitted in a given period. (Daft & Lengel, 1986.) In the field of social, there are self-presentation and self-disclosure that can be relied on. Self-presentation
shows the desire of controlling impression from others when people are in any type of social interaction (Goffman, 1959). Self-disclosure is a process to reveal one’s information consciously or unconsciously. The information include such as thoughts, feelings, likes, and dislikes. According to these two fields, Kaplan and Haenlein (2010) classified all the social media into six categories. Table 3 shows the classification. (Kaplan & Haenlein, 2010.)

**Table 3.** Classification of social media by social presence/media richness and self-presentation/self-disclosure (adopted from Kaplan & Haenlein, 2010, p. 62).

<table>
<thead>
<tr>
<th>Self-presentation/ Self-disclosure</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
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</thead>
<tbody>
<tr>
<td>Blogs</td>
<td></td>
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</tr>
<tr>
<td>Social networking sites (e.g., Facebook)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Virtual social worlds (e.g., Second Life)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Collaborative projects (e.g., Wikipedia)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Content communities (e.g., YouTube)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virtual game worlds (e.g., World of Warcraft)</td>
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</table>

Social network sites or social networking sites (SNSs) is just one of the categories of social media. I choose to only present SNSs in detail because it is most used by companies nowadays. It has the closest relationship with business processes. Many companies are using SNSs to do brand communication (Muniz & O’guinn, 2001) and marketing research (Kozinets, 2002). Some firms are using Facebook as a distribution channel (Kaplan & Haenlein, 2010). Gallaugher and Ransbotham (2010) studied how Starbucks interacts with its customers though Facebook, Twitter, and YouTube and manages the dialog in theses platforms. Zhao and Rosson (2009) analyzed how company use Twitter as an informal communication tool at work. Though companies also use other social media like Blog and Wikipedia, they are not necessary comparing to SNSs. Like Culnan et al. (2010), they researched that Walmart, Hewlett-Packard, and Coca-Cola Company use Website, Blog, Facebook, and Twitter to gain business value. I do not introduce them in detail here.

As illustrated in the table, SNSs is in high degree of self-presentation/self-disclosure and in medium level of social presence/media richness. Kaplan and Haenlein (2010) defined SNSs as “applications that enable users to connect by creating personal information profiles, inviting friends and colleagues to have access to those profiles, and sending e-mails and instant messages between each other” (Kaplan & Haenlein, 2010, p. 63). Ellison and Boyd (2007) mentioned three functions that SNSs can provide. First, users can create a public or semi-public profile. Second, users can show their friendship to others that this user connects to whom. Third, you can view others’ connection list. SNSs do not only allow people to meet strangers but also, and more importantly, to make visible of their social networks. (Body & Ellison, 2007.)

So what are the applications in SNSs category? Figure 5 is a timeline which shows major SNSs and their launch dates. Six Degrees.com was closed in the end of 2000. (Body & Ellison, 2007.) Nowadays, around the world, LinkedIn, Facebook and Twitter are the most popular applications of SNSs. Hereunder there is a brief introduction of these three SNSs.

Facebook was launched in 2004 in Harvard campus. At first, Facebook can be accessed only by Harvard students who have harvard.edu email address. Later it expended to other universities in the Boston area, in United States (U.S.) and then around the world. Then not only universities’ students can log in Facebook but also it opened to high school students. In 2006, Facebook opened to everyone who is older than 13 years old. People
who want to use Facebook should register first and then log into it. Users can create personal profile and add other users as friends. Main functions for users are updating status, share photos and videos, chatting on-line, joining groups and playing games in the websites. The number of Facebook users is growing so fast. On August 26th, 2008, Facebook reached first 100 million users. On July 21st, 2010, there are 500 million users. In last year, October 4th, 1 billion people were using Facebook. This number is close to Indian population. (“Facebook,” 2013.)

Figure 5. Timeline of the launch dates of many major SNSs and dates when community sites re-launched with SNS features (adopted from Body & Ellison, 2007, p. 212).

Twitter was founded in 2006. Though both Facebook and Twitter are SNSs, they are different from each other. Twitter is a microblogging service and allows users to post text-based messages of up to 140 characters. In twitter, the message is named as “tweets.” Users also can create own profile but not many information can be added in Twitter. Here
there is no “friends” as Facebook. Users can view others’ tweets after following the people. If there are some people interested in you, they can follow you. This means you have some followers. Users can post tweets in one topic by writing the topic name with “#” before the topic name like “#social media.” In tweets, if you want to mention somebody, you just write username with “@” before the username. Alexa’s web traffic showed that Twitter is one of ten-most-visited websites around the world. Compete.com published that Twitter had 6 million unique monthly visitors and 55 million monthly visits in 2009 so that Twitter was ranked as third most used SNSs. (“Twitter,” 2013.)

LinkedIn was founded in 2002 and launched in 2003. Different from Facebook and Twitter, LinkedIn is mainly used by people in professional occupations and for professional networking. Users create profile and write their education and work experience in very detail like a resume. Users can invite people to join their network. Once joining the network, it means you have a connection with others. LinkedIn also supports the formation of interest groups. People use the services provided by LinkedIn mainly to maintain the relationship in business and in academic organization. For job seekers, they can find job here. For employers, they can publish job positions and view the resumes of potential candidates. LinkedIn is also the most popular SNS. In November 2012, there are 187 million users totally and 33.9 million unique visitors in one month. (“LinkedIn,” 2013.)

In addition, one more website should be mentioned specially. That is YouTube. Some authors like Kaplan and Haenlein (2010) did not treat YouTube as a SNS but some like Body and Ellison (2007) treated it as a SNS. No matter YouTube is a SNS or not, it is a significant role in current social media family. YouTube is a video-sharing website and was launched in 2005. YouTube allowed individuals to upload user-generated video content at first. Later more and more media corporations and organizations started to use YouTube as a publish channel. All people can watch the videos and registered users can upload unlimited number of videos. There are lots of official accounts that owned by organizations. These official accounts can have their channel pages. Normal people can view all the videos uploaded by this organization in one page. They also have their profile pages that show the brief introduction about the organization. After sign in, users can subscribe official channels and then current updates of videos will be shown in users’ home page. YouTube will also recommend uses videos according to users’ history of view. (“YouTube,” 2013.) YouTube is definitely the biggest video-sharing website in the world. There are many amazing numbers can tell this truth. Each moth, more than 1 billion unique users visit YouTube. More than 4 billion hours of video are watched per month. Each minute, there are 72 hours of video are uploaded to YouTube.

2.6 Social media influences business process

This section discusses about the influences of social media on business process. Currently, more and more decision makers and consultants are striving for the best way of using social media like Facebook, Twitter and YouTube to constantly improve performance and efficiency of doing business. (Kaplan & Haenlein, 2010.) It can be concluded that social media has changed the previous business process again (Baker & Green, 2008).

2.6.1 Processes influenced by social media

In the beginning of this section, the conceptual model that is used to illustrate the role of IT in BPR should be mentioned again. Gunasekaran and Nath (1997) divided most
business processes into several categories according to different functions. The process categories include product, order flow, marketing/sales, personnel, accounting, services, strategic process, and technology. And this model illustrates which ITs have the effect on reengineering each process category. (Gunasekaran & Nath, 1997.) Up to now, the process categories have not changed a lot. But IT indeed changed a lot. Nowadays, social media plays a role in changing business process.

According to the review of literature, social media influences at least four process categories: product, marketing/sales, personnel, and services. The biggest influence of social media is on marketing and sales area. Social media was created to be an entertainment tool in the beginning. But later it became the most efficient marketing tool because it has remarkable advantages in business marketing area. (Kirtiş & Karahan, 2011.) Walmsley (2010) said the development of interactive digital media is transforming marketing and social media has altered the marketing ecosystem. Mangold and Faulds (2009) said that because of the emergence of the phenomenon named social media, the tools and strategies for marketing communication with customers have changed significantly. Drury (2008) mentioned that social media changed the way of people interacting with each other and will be also more and more important for business branding and marketing.

Then the influence is also on services. Customer relationship is the crucial factor in the success of a business. Providing good customer services and support can help enhance customer relationship. Firms have spent lots of money and time in order to understand how they can provide better services to the customers. Prior the emergence of social media, companies interacted with customers through phone call, email, or public communication media. (Culnan et al., 2010.) Then with the power of social media, the communication between companies and customers changed fundamentally (Gallaugher & Ransbotham, 2010).

Third impact of social media is on product. Today customers are more and more likely to participate in every business’s operations from product design to promotional messages (Berthon et al., 2007). Customers will not only go to company’s website but also social media like Facebook and YouTube to search for product information (Kirtiş & Karahan, 2011). No matter company puts finished products, semi-finished products into or even design patterns and prototypes into social media, customers would like to talk about them. This make customers feel they are engaged with company. They are very happy to submit feedbacks about how to make improvement from customers’ point of view. (Mangold & Faulds, 2009.) At the same time, social media provides the best channel to reach customers globally and get their valuable feedbacks (Kirtiş & Karahan, 2011).

The last impact is on personnel. The business processes belonging to this process category are mostly inside the organization. General speaking, these processes are recruitment, training, salary, motivation, and performance appraisal. (Gunasekaran & Nath, 1997.) Companies started to use social media in the process of recruiting people. Employers, especially staffs in human resource department, will publish recruitment information in some social media. Then job seekers can view the information and also search for other positions in the same media. On LinkedIn, the professional networking website, users will create their profile information like a resume and then can upload the real resume as well. (Roberts & Roach, 2009.) Companies treat LinkedIn highly because it can provide additional information about job applicants (King, 2006). Social media also enhances informal communication at work inside the company. It makes easy for colleagues to collaborate. Social media like Twitter can share information, build common
ground, and sustain a feeling of connectedness among colleagues. Informal communication is as important as formal communication because it can let people know each other better and enhance the relationship between colleagues. (Zhao & Rosson, 2009.) Sense of presence and sense of belonging can motive workers to work harder and more efficient.

2.6.2 Social media strategy

The reason for social media having such a power to influence business process is its scope and functionality. There is a rich and diverse ecology of social media that has similar function but still not exactly same. They vary from each other. In order to have a good understanding of different functions of social media, Kietzmann et al. (2011) presented a framework to illustrate major functions that social media has. Figure 6 is the framework. It is like a honeycomb and consists of seven functional building blocks: identity, conversations, sharing, presence, relationships, reputation, and groups. The left part of honeycomb shows the social media functionality and the right part of honeycomb shows the implications of the functionality. The implications of the functionality are discussed particularly. (Kietzmann et al., 2011.)

First functional block is identity. It shows the degree of users revealing their identities in social media environment. Users create their profile and they can choose whether to disclose their personal information like name, gender, birthday, and relationship status. Or users disclose identities through subjective information like chatting with friends, expressing thoughts and feelings consciously or unconsciously. Different users and social media applications have different disclosure preferences and goals. The implication gotten from this functionality can be privacy protection. Users should develop identity strategy for themselves. Making a good balance between disclosing identities and protecting privacy is very important in the beginning of using one social media. (Kietzmann et al., 2011.)

Second functional block is conversations. It shows the degree of users communicating with other users in social media environment. Communication is the main function of almost all the social media. People start one conversation because of various reasons. They can talk about weather, people, life, and current affairs. They want their voice heard by their friends, their followers, or even strangers. Here the implication for firms is to host or track these conversations. Companies should monitor and care for the “conversation velocity”: the rate and direction of change in a conversation. The rate of change is how often a new conversation appears. The direction of change is the continuing or discontinuing of one conversation. Another implication is when and how firms start and manipulate a conversation. Firms should join the conversation in the right time and say right words. This action will show the attention to their audiences. (Kietzmann et al., 2011.)

Third functional block is sharing which presents the degree of users exchanging, distributing, and receiving content. People have sociality that means the connections among people. Exchange is a kind of pattern of manifestation. People connect each other in social media by kinds of shared objects like a friend, a movie, a photo, and a location. Sharing would make people interact with each other and probably build relationships. Firms can get at least two implications from this functionality. First is to know what objects of sociality their users have in common. With the objects, the connection between people will be solider because there is footstone under the connection. Second implication is to consider the degree of one object would be shared. This requires firms
first know the object very well and then know some laws and regulations about spreading and sharing the object. Is there any copyright of the object? (Kietzmann et al., 2011.)

![Social Media Functionality](image)

**Figure 6.** The honeycomb of social media (adopted from Kietzmann et al., 2011, p. 243).

Fourth is presence. Presence is the degree of users knowing whether other users are accessible or not. People want to know whether their friends or their likes are online or offline in the social media websites and where they are now in real world. Implication can be gotten from this functionality is that firms should pay attention to the user availability and user location. This is very important in real-time engagement with users. Another implication is the link with other functional blocks in the honeycomb framework like conversations and relationships. Relationship will determine the social media presence to different people. People can be online but hidden from other people seeing. Higher level of presence will improve the influence of conversations. (Kietzmann et al., 2011.)

Fifth functional block is relationships. This shows the degree of users being related to other users. The way of users connected will determine what and how of information exchange. The simplest relationship is formal, regulated, and structured. It is easy to see the truth that higher requirement of identity always values relationship highly as well. Two properties can be used to explain the importance of different relationship traits. Structural property presents the number of connections users have and their position in these connections. People having a large number of connections are mostly in the central of their relationships and more influential than others. Flow property presents the resources involved in relationships and how these resources are used or exchanged. It can determine the strength of relationships. More types of connections will lead solider relationships. In some social media valuing the relationships between users, these two properties are important. Here the implication for firms is to understand how they can build and maintain relationships if they want to engage with their users. (Kietzmann et al., 2011.)

Sixth functional block is reputation. This shows the degree of users identifying the standing of others, also including themselves, in social media environment. Reputation
can lead to trust of other users. This functionality provides firms significant implications. Firms need to engage social media effectively. In order to evaluate the reputation that firm has, is should choose a metric that can provide this kind of information. General metric can be the number of followers on Twitter, the number of posts over time, or the number from a rating system. Once firms choose metrics, then they need to find the appropriate evaluation tools to calculate the data. (Kietzmann et al., 2011.)

The last functional block is groups. This presents the degree of users forming communities and subcommunities. Social media always has large group of users. These users can belong to many communities. Also social media provides tools that allow users to create their own groups to manage membership. These self-created groups are analogous to the society offline: open to anyone, closed, or secret. Firms can get implication from groups. Community owned by firm would enjoy grouping its users so that the users do not need to find themselves in such a lengthy contact lists but only need to manage their followers, friends, fans, and the likes. If a community wants to perform an agenda and add more members, it needs more formal rules and functions. Groups in social media environment are not simply a listing of users. Firms need to have different permissions to allow different group activity and content. Groups can also work together with previous functionalities. Different groups can have different sharing abilities, presence choices, and requirements of disclosing identity. (Kietzmann et al., 2011.)

It is clear that managers can know different social media applications have their own balance among the different blocks. Like Facebook put its focus on relationships and YouTube put its focus on sharing. With the help of this framework, executives in the companies are able to develop social media strategy for their community and then relocate resources to fulfill the strategy. (Kietzmann et al., 2011.) Like in before IT strategy should be aligned with business strategy, today the social media strategy should be aligned with firm’s business strategy especially marketing strategy (Eardley et al., 2008; Hanna et al., 2011).

There are lots of things included in social media strategy. The most important work to do for firms is to choosing social media carefully that they will use. The criteria of choosing social media can base on target group of customers and the message that firms would like to communicate with customers. In addition, the features that only one social media has can be also the determinant to choose this social media. In case, all the social media do not support the functionality that firms want, what can firms do? The answer is self-launched social media. Normally this kind of social media is just a social network site. If firm-owned social network site can fulfill users participating, sharing, collaborating, and its custom functionality, it will be a good supplement to existing social media. After adopting some social media applications, firms now have activity going on. It is good that firms using various social media because it can tap most the power of social media. By collaborating the work of social media, firms can have largest possible reach. In order to have good collaboration, it is important to make activity aligned in all social media platforms. Combining social media and traditional media is a good idea. For example, firms can use TV to promote their social media activities so that there will be more people joining into the social media. Then make employees access to the social media and engagement with social media. Companies can allow a group of people primarily to manage corporate social media. Other people can participate into social media occasionally. (Kaplan & Haenlein, 2010.)
2.6.3 More related to marketing, sales, and services

As said in the beginning of this section, the biggest influence of social media is on marketing and sales process. This is because marketing and sales are communication work at most of the time. Just right, social media changes the way of communication generally. At the same time, companies providing services changes also.

Social media can bring changes to companies. The value provided by social media is not from the platform itself but the way of using these platforms. Social media has the ability to create online customer communities, which known as virtual customer environments (VCEs). VCEs can support branding, sales, customer service and support, and product development. Table 4 shows the activities supported by VCEs and value gained from each activity. (Culnan et al., 2010.)

Table 4. How Virtual Customer Environments create value (adopted from Culnan et al., 2010, p. 244).

<table>
<thead>
<tr>
<th>Activity Supported</th>
<th>Source of Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branding (advertising, public relations, content delivery)</td>
<td>Drive traffic, viral marketing, customer loyalty and retention</td>
</tr>
<tr>
<td>Sales (includes “call for action”—e.g., link to purchase item)</td>
<td>Revenue</td>
</tr>
<tr>
<td>Customer service and support</td>
<td>Cost savings, revenue, customer satisfaction</td>
</tr>
<tr>
<td>Product development</td>
<td>Revenue</td>
</tr>
</tbody>
</table>

Referring to Gunasekaran and Nath’s framework of role of IT in BPR, Branding and Sales activities belong to Marketing/Sales category. Customer service and support activity belongs to Services category. Product development activity belongs to Product category. Product has been discussed a lot relatively in the beginning of this section. Marketing, sales, and services are more complex in reality so that it is necessary to discuss more about them.

Let us see the changes of communication and interaction happening between firms and customers. The changes can be viewed through the customer dialog. Before the age of social media, companies interact with customers in two ways: individually and by mass communication. Both firms and customers can initiate the dialogs. There is a limitation for customers that they are not able to observe and influence other customers’ dialogs. For firms, they are difficult to know the dialogs of customer-to-customer communication about themselves. Then modern social media appears and brings two breakthroughs: firstly it enhances traditional interaction between customer and firm; secondly customers now can view other customers’ opinions about firms and their products. Why should firms regard customer-to-customer dialog so important? That is because the most efficient promotion method is word-of-mouth persuasion in marketing area. Knowing more about customers’ ideas can help companies improve themselves. But not all the customers will tell their thought directly to companies. Most of people would like to share information with their friends and families. Social media also open the dialogs of interaction between firms and customers to all the other people who do not participate in the interaction. So other people can gain more information before starting interacting with firms. (Gallaughер & Ransbotham, 2010.)
Gallaugher and Ransbotham (2010) came up a Megaphone, Magnet, and Monitor (3-M) framework to manage and analyze customer dialog. Megaphone represents firm-to-customer communication. Magnet represents customer-to-firm communication. Monitor represents customer-to-customer communication. This framework will help companies capture more opportunities provided by social media. (Gallaugher & Ransbotham, 2010.)

First is megaphone. Megaphone in normal life can make sound louder. In marketing, it means that firms share their message with the world. All kinds of information like branding, promotion, recruitment, and time-sensitive information can spread to customers accurately and in time. Second is magnet. Magnet in normal life has ability to attract things. In marketing, it can attract inbound dialog from customers. When firms establish a recognizable social media presence, they can receive customer feedback and foster innovation. Third is monitor. Because customers would like to communicate with each other, social media can be used to monitor the customer-to-customer dialogs. This is impossible in before. Firms also can monitor firm-to-customer and customer-to-firm dialogs. This will helps firms reach potential customers and gather intelligence. Megaphone, magnet, and monitor working together will create new chances to business. (Gallaugher & Ransbotham, 2010.) Figure 7 shows the 3-M during the communication between firm and customers.

![Diagram](image-url)

**Figure 7.** Firm and customer communication paths with social media (adopted from Gallaugher & Ransbotham, 2010, p. 200).

### 2.7 Summary of literature review

In the literature review part, I reviewed the literature from early 1980s to present 2013. In the beginning, I introduced what business process is in very detail. Many researchers gave their definitions about business process like Pall (1987), Davenport and Short (1990), Hammer and Champy (1993). Davenport and Short (1990) and Flores (1997) came up ways of categorizing business processes to help understanding business processes.

Then I started to introduce BPR that is the earliest thinking of changing business processes. The classical reengineering started from 1990 and the origin is the wide use of IT. IT dose not only speed up old processes but also can radically redesign the business processes so that companies can get dramatic improvements in performances. After the
benefits of BPR seen by companies, there was a fashion in industry that is to conduct BPR in each company. Hammer (1990) provided seven principles of BPR to help companies reengineer their current business processes. In the later 10 years, BPR was the most popular topic around the companies continuously, though there were other change programs appearing. BPR itself also changed from classical one. Many researchers put their efforts into improving methods of BPR and coming up with new ideas about BPR according to the latest situation of companies and their outside environment.

IT plays crucial role in BPR. Davenport and Short (1990) said that IT and BPR have a recursive relationship. During BPR, companies should consider “how IT can support business processes” and “how business processes can be transformed by using IT” these two questions at the same time. Pearson and Saunders (2006) presented the information systems strategy triangle and illustrated how important to keep the balance between business strategy, organizational strategy, and information strategy. Eardley et al. (2008) thought IT strategy should keep alignment with business strategy. Attaran (2004) divided BPR into three phases: before the process is designed; at the time process is being designed; and after the design is completed. He analyzed different roles of IT in each phase of BPR. In first phase, IT is initiator that means the reason of change. In second phase, IT is the facilitator that makes work and a workload easier. In third phase, IT is an implementor that helps accomplishment of process innovation. Then Gunasekaran and Nath (1997) provided a conceptual model to illustrate the role of IT in BPR. They put all major business processes into several categories and analyzed the role of IT in each category one by one. There are totally 8 process categories.

Time entered into 21 century, IT has radically changed. The most popular IT became to social media. Researchers have shown that social media has big impact on changing the way of companies doing business. It plays the main role of changing current business processes. First I introduced the definitions of social media given by server authors like Kaplan and Haenlein (2010) and Kietzmann et al. (2011). Then I tried to focus on SNSs. This is because that most of the literature are discussing the influence of SNSs on business processes (Muniz & O’guinn, 2001; Kozinets, 2002; Kaplan & Haenlein, 2010; Zhao & Rosson, 2009; Culnan et al., 2010). According to literature, I found that at least four process categories are influenced by social media: product, marketing/sales, personnel, and services. The reason for social media having such a power to influence business process is its scope and functionality. Kietzmann et al. (2011) presented a framework to illustrate major functions that social media has. The framework is a honeycomb and consists seven functional building blocks. These functional blocks give implications to companies that how to use these functionalities in the right way. It can help companies to design social media strategy so that social media strategy can align with business strategy. (Kaplan & Haenlein, 2010.) At last, I discussed more about marketing, sales, and services processes. These processes are what I focus on and investigate them in real case study in the following several sections. Gallaugher and Ransbotham (2010) introduced a 3-M framework to manage and analyze customer dialog. It is a good tool for me to build my own framework. 3-M framework shows the communication paths with social media between firm and customers. Most of time, firms interact with their customers though social media.

The role of social media in BPR in new age is medium which is just like the name of social media. Information is flowing during business processes conducted in the company. Social media creates a new channel for information flows and provides instant, efficient and two-way communication paths to firms and customers. By changing the communication way, social media influences business processes.
In the next section, I start to build my own framework to help me answer the questions I threw out in the beginning of this thesis.
3. The Framework

In this chapter, a framework is presented and used to help understand the influence of social media on business processes. Figure 8 is the framework that is used to illustrate the influence of social media on business processes. The coming out of this framework is based on prior research done in last chapter.

Figure 8. The influence of social media on business processes.

There are two subjects in this framework that are firm and customers. Firm nowadays is widely using social media to do its business. Social media has changed original business processes a lot. Customers are currently engaged with firm through social media.

In middle are the process blocks that have been changed by social media. In this framework, I choose four process categories to investigate, which are marketing/sales, services, product, and personnel. These processes are taken from the conceptual model to illustrate the role of IT in BPR presented by Gunasekaran and Nath (1997), see Figure 4. As discussed in last chapter, the reason of choosing these processes is that they are influenced by social media deeply. Authors like Kirtiş and Karahan (2011), Walmsley (2010), Walmsley (2010), Mangold and Faulds (2009), and Drury (2008), they already have some finding about the impact of social media on business processes.

The arrows in the framework present the information flow or we could call them knowledge flow. The idea of these arrows comes from 3-M framework (Gallaugher &
Ransbotham, 2010), see Figure 7. During the business going on, company will communicate with customers. So there are information coming out from firm and this information will be transformed to customers and shown on social media platforms. The direction of A arrows is the direction of information flow. Later, after getting firm’s information, customers will give feedback to firm as interaction. So customers will generate information. This information will reflow to firm through social media again. The direction of B arrows is the direction of current information flow. Social media also changed the way of communication inside the firm. So there is C arrows that show the information flow inside the firm. Firm generates information and spreads them through social media. The information will be seen by some specific people in the firm. It means the information came out from firm and then goes back to firm. Customers are always likely to share their voices to other customers. Some customers write their words on social media and then other customers can see these words just from same platform. D arrows show the information flow from customers to customers.

The whole framework is inside the social media cloud. It again presents that all the communication happening between firm and customers are on several social media platforms like Facebook, Twitter, LinkedIn, and YouTube.
4. **Research Method**

In this chapter, qualitative research is introduced briefly. Qualitative research method was conducted to seek empirical support for the framework. Empirical data was collected from particular companies by semi-structured interview. After the data was collected, content analysis method was used to analyze the data.

4.1 **Qualitative research**

This time, I was planning to use qualitative research method to carry out the study. Rather than knowing the exact definition of qualitative research, it is better to introduce the five features of qualitative research first:

- Studying the meaning of people living in the real world;
- Representing participants’ views and perspectives in a study;
- Showing people’s living conditions;
- Bringing insights into existing or new concepts that are used to explain human social behaviour; and
- Using evidences from different sources so that preventing from relying on single source.

Qualitative research is not to record the daily life simply. It strives to explain the events in everyday life through existing or new concepts. Also qualitative research can help to build new concepts. These new concepts can be used to explain social processes. (Yin, 2010.) Comparing with quantitative research, qualitative research method does not use statistical procedures or other means of quantification to produce the findings. Qualitative research method is more appropriate than quantitative research method in research about persons’ lives, stories, behavior, and also about organizational functioning, social movements, or interactional relationships. (Strauss & Corbin, 1990.)

For example my research, I aimed to investigate what the influence of social media on business processes are and I built a framework based on my hypothesis. Even though my research is about the behaviour of company, it is still related to social behaviour, so that qualitative research suits my research quite well.

Generally, there are 4 parts of the whole qualitative research (Yin, 2010, p. 49):

- “Defining something to investigate’’;
- “Collecting relevant data’’;
- “Analyzing and interpreting the results’’; and
- “Drawing conclusions based on the empirical findings.’’

The first step of qualitative research is to select research questions. First I decided my research area to be BPR that was the most popular research area since 90s last century. Then I selected one aspect of this research area that is the role of IT in BPR. According to my observation, social media is the most advanced IT recently and it plays the role of changing business processes these days. So I refined IT into social media. Then the new aspect of research area becomes to the role of social media in BPR. At last, many research questions were formulated. I selected one from all of them. Here is the research problem
that is “how social media changes the major business processes and what the degree of influence social media has to what sections of business processes are answered.”

Until final deciding the exact topic, I reviewed some previous literatures. The literature provides me the history and current interest in my big research area: information system. Through these, I refined my research questions step by step. They are in different disciplines: communication; business; management; economics; sociology; psychology; information system; computer science; social theory; and behavior science.

4.2 Data collection

Collecting relevant data is the second step of doing qualitative research. After knowing the thing that I want to investigate, I need to collect the data from real life. There are many ways to collect the data: interviewing; observing; collecting and examining; and feeling. These different methods can collect different kind of data. Through interviewing you can listen to the language spoken by interviewees. Observing can capture people’s gestures, social interactions, and actions. Collecting can get the contents from personal documents, printed materials, graphics, archival records, and physical artifacts. You also can feel the sensation of others. In one research, these methods can be used separately or cooperatively. (Yin, 2010.)

Because my research topic is the influence of social media on business processes, or in another words, how companies use social media to do their business, it seems be more related to the actions. But these actions are guided by the principle and logic behind the business, so the most important information is in people’s mind. So compared to observing, even though it is still a very good method to collect data, interviewing is most suited for my research.

Interview is the interaction happening between interviewers and interviewees (Yin, 2010). There are many ways to conduct interviews. Yin (2010) considers the types of interviews can fall into either two types: structured interviews and qualitative interviews. Berg (2004) provides three types: the standardized interview; the unstandardized interview; and the semi-standardized interview. The difference between different types of interviews is how interviewers present the interview and the degree of rigidity of the interview. Like structured interview, interviewers like to use formal questionnaire that has every questions listed. And for different interviewees, the questionnaire does not change. Qualitative interview is more freedom than structured interview. There is now such kind of questionnaire which contains all the questions posted to interviewees. Interviewers compose the study questions in the mind and write down just for the interviewers themselves. They can always change questions according to different interviewees and in different situations during the interview going on. Most importantly, the questions asked in qualitative interview are open mostly rather than closed. So interviewees can answer as much as they can. (Yin, 2010.) Standardized interview is like to structured interview and Unstandardized interview is like to qualitative interview. Semi-standardized interview is between standardized interview and unstandardized interview. It is more or less structured. The questions are flexible. Interviewers can answer the questions asked by interviewees and make clarifications. (Berg, 2004.)

Here I chose semi-standardized way to conduct the interview. Semi-standardized interview also can be called semi-structured interview. Before doing the interview with interviewees, I needed to design study questions. Based on the literatures which I studied, I knew what information I want to get from interviewees. First, I came up totally 41 questions without any order. Some of these questions were open questions and some of
them were closed. Later, I tried to have more open questions rather than closed questions. I arranged these questions again and summarized them into only 15 questions. The new questions were arranged by the contents that questions aim to get: Company general situation; Marketing and sales; Services; Product; Personnel and human resources; Conclusion. The list of interview questions can be seen in appendix A.

On 17th July, I arrived at Finnair’s new Head Office, HOTT which is close to Helsinki Airport. At there, I met Aku Varamäki, the social media manager in Finnair. I had around one hour interview with her. During the interview, our conversation was recorded by sound recorder. Later, the conversation was transcribed into word document. The transcript has 10 pages and more than 5000 words.

After interview, other sources of data can be used like the data from company’s official website, Facebook pages. These information are the complements of interview. In the thesis, I used additional data from following sources:

- Facebook Global Page
- Twitter Official Page
- YouTube Official Channel
- LinkedIn Official Page
- Finnair Official Website
- Finnair Group Website
- Finnair Blog

4.3 Data analysis

The list of interview questions is used to collect the data to answer the research question. It was designed according to the framework. The data got from the interview is also arranged according to the topic: Company general situation; Marketing and sales; Services; Product; Personnel and human resources; Conclusion.

Then I started to introduce how Finnair uses social media in practice. First, the general situation of Finnair was introduced. Second, Finnair strategy and social media strategy were introduced. Then how Finnair uses social media in each process block were introduced in detail and several famous examples were listed. A brief summary about Finnair using social media was at last.

In the thesis, I used content analysis method to analyze the interview data. Most of the answers of questions in the list of interview questions were interpreted by the theoretical knowledge mentioned in the prior research part. This can show the logic under the practice of Finnair using social media. At the same time, this also can tell whether the theories are applicable in practical applications, where the theories and the practice are aligned and where are not. The order of analysis is following the questions in the list.

The final result of analysis is to answer the research question. The framework of the influence of social media on business processes was evaluated.
5. Finnair Using Social Media

In this chapter, I introduce how Finnair uses social media in business deeply. After sending the request for the interview to Finnair, Finnair accepted to the interview. The interviewee was the social media manager, Aku Varamäki, who is most familiar with the usage of social media in Finnair, also is responsible for the whole issues of social media and makes the decisions.

5.1 Introduction of Finnair and its corporate structure

Finnair is the Finnish airline. Its headquarters is in Vantaa and the main hub of Finnair is Helsinki-Vantaa Airport. Finnair has most of the passengers travelling both inside Finland and between Finland and other countries. Finnish government has the biggest share of Finnair. It has longest uninterrupted operating history in the world since it was founded in 1923. It also has no fatal or full-loss accidents since 1963 so that it is also ranked as one of the softest airlines in the world. And it is a member of the Oneworld airline alliance.

Finnair has over 70 destinations in Finland, Europe, Asia and North-America. European and Asian market are what Finnair specializes. It connects 13 destinations in Asia to a network of 60 European destinations. Finnair has a very good geographical location. This makes Finnair to provide the fastest and most convenient gateway between Europe and Asia via Helsinki. Like Aku said:

“We are taking advantage of our geographical location which is the first and last destination of your way from Europe to Asia or if you are from Asia, the first destination in Europe on your way from Asia to Europe. So we are taking advantage of our geographical location which means we provide the shortest way to Europe or Asia or between Europe and Asia.”

Finnair has three business areas: Airline Business; Aviation Services; and Travel Services. Airline business is responsible for mainly scheduled passenger and charter traffic. Other responsibilities of airline business are cargo sales, customer service and service concepts, flight operations, aircraft finance and fleet management. In airline business, there are Marketing and Sales, Operations, Customer Services and Resources Management functions. Figure 9 is the corporate structure of Finnair.

Finnair has approximately 7000 employees. Aku is the social media manager and she belongs to communication department. Before she joined Finnair, there was no person in this position. Social media manager is a new position and she is recruited for this. About the reason for setting a new position especially for social media, Aku said:

“It stands from the fact that social media is increasing its importance and we need somebody who understands social media and its special requirements. It is not quite marketing and also communication. You have to have new concept of skills. They had understood this better and what is important for Finnair.”
5.2 Finnair strategy and social media strategy

Finnair has the vision to be the number one airline in Nordic countries and to be the most desired option in Asian traffic. It also wants to be one of the three largest operators in transit traffic between Asia and Europe. Aku said:

“The Finnair strategy is to double our traffic to Asia by 2020 and be No. 1 in Nordic and most attractive airline between Europe and Asia.”

The propulsion and the indemnity of achieving these targets are fast growing Asian markets, the best flight connections and cost advantages. Finnair is one of the most innovative airlines in the world. Because of its creativity, it always brings freshness to customers. It provides customers high quality services. The flights of Finnair are most punctual in the world. Based on the location of Helsinki, Finnair can offer fastest, most eco-efficient and most convenient connections to Asia’s large hubs from both Helsinki and other European cities which have no directly route to Asia. In future, Finnair will fly to more and more Asian cities. Aku said proudly:

“So that is our strategy that we want to focus on developing our network carrier which means that we don’t do just point-to-point traffic but we make sure we have multi-way destinations in Europe and we connect them with 13 destinations in Asia. And there is always a very short transform time and travelling is very smooth. It actually saves time. You are making more environmental choices because you are actually using this energy with your flight to shortest route to Asia and so on. Helsinki airport is a very big airport and it is the benefit. The transform time is very short and actually only 35 minutes which is supper short compared to other big airport. Its operation is very efficient.”

Finnair has the strategy for whole company. And there is also strategy for social media. Social media strategy is the strategic plans for deploying and developing social media. It defines the way of doing thing and the processes in social media. Everything happens in social media is following the strategy and then supporting Finnair overall strategy. Finnair’ social media strategy has three main points. First, listen to customers. A lot of
times, Finnair is just following on Twitter what people are saying. Here is an example mentioned by Aku:

“For example, we were testing some new foods on flight to Manchester and one of the changes on the menu was now you have to pay for everything but they have different selections than before. And they also like pay for water and that made people curious. They were complaining about it. But we were aware and then quickly we realized that we have to provide water for free.”

Here Finnair just listens and does not have any conversation to customers. Second, solve customers’ questions. This is especially important when there is any irregularity or maybe like crisis or straggle something on our traffic in case or if this is thunder or like snowstorm in winter. And flights are delayed. Social media is a very important customer’s communication channel. Finnair can reach a lot of people and serve people very efficiently in social media. Third, serve customers where customers are. This makes customers convenient. They do not need to go to different websites to look for services. They can ask questions directly in social media and get answer there. By using social media, Finnair can achieve its social media objectives of supporting sales and increasing brand awareness.

Besides social media strategy, Finnair has marketing strategy and communication strategy. Social media strategy is aligned with other two. In marketing strategy, there are key messages talking about how to use social media. In communication strategy it is the same. So these strategies are all aligned but always separate.

In order to manage social media channel better and implement social media strategy, Finnair sets up the new position social media manager. It is responsible for all social media channels, coordinates all the content production in channels and all the general channel development. Manager works very close with marketing, communications, and customer services so that from customers’ perspective, it seems there is an entire team working for social media. Aku said:

“We may have many different departments working customers’ direction. Then I am very important in several development projects where we think about how we can utilize social media in our business, processes and so on. How can we use social media to serve our customers better? Or how can we use social media during customer’s journey? So it is a very multi-disciplinary field where I work with all different parts of organization. Social media is really touching all different parts of organization. And I bring these people together.”

Finnair has a very complete social media system. It has totally five Facebook pages: Finland; Japan; Korea; Sweden; and Global page. On Twitter, it has official account, customer services account, Finnair UK and Finnair Singapore. Then it got YouTube channel, Sina Weibo channel, YouKu channel, Pinterest, Foursquare and several others. There are around 20 social media that it is using. Finnair also has its own blog which is very popular. Some of Finnair staffs have their Instagram accounts. They update and share the photos to other platforms.

Social media manager has most of the budget for social media from marketing and communication departments. And manager can get some expense separately from them. Next sections, more details of using social media are introduced according to different functions.
5.3 Social media in marketing and sales

Marketing and sales are the most influenced functions by social media in Finnair. Currently, there is a big network of people who work together with social media manager. Finnair has digital agency and media agency. The media agency takes care of Facebook advertising. The digital agency plans and executes the campaign and be prepared for the time when they are needed. Colleagues in marketing will take care of all the Facebook advertises as well. PR agency will update the content every day. There are around 20 people in PR. But these people do not work whole day for social media. That is just one partial work for them that could be just one hour per day. Then customer services team has around 20 people. They answer people question on Facebook and Twitter. These people do not work at the same time in social media. It is pool of people and whoever is on duty just check Facebook and answer the questions. Only few people do social media full time. Social media manager, Aku, wants to change this situation that few people work full time in social media. She said:

“I would like to have more resources and more contributors. I would like to see more people doing this full time. For example customer services, I would like to have somebody dedicated always. There is always somebody answering quiz on Facebook questions. But the way will be that they will likely answer phone call, then do Facebook and Twitter on the side. This is definite change.”

Social media is full of contents. Finnair posts videos, photos, stories, links, contents produced by Finnair and its employees, contents produced by customers and also online communities. All the information is kind of continuous story of Finnair which is told to its customers. And the contents will arouse people to talk, to discuss, and to share. More interesting the thing is, more people will be like to talk. Here are two examples. On Instagram, there is one partner of Finnair who named finnairtomi. He is the pilot of Finnair and a blogger at the same time. He often takes photos on his flying. He is really popular and has good photos. It happens couple of times that one of the evening newspaper, they picked up the stories and published them. Another thing that happened was Finnair organized a cabin crew surprise dance performance on the flight to celebrate India’s Republic Day. This event came up various videos. There are more than 5 million views on YouTube now. Figure 10 is the video.

What Finnair does is to provide continual flow of high quality contents and not all of these are super crazy or interesting. There are several purposes to do that. First, it makes sure the information is contiguous to the people who need the information for their travels. Second, Finnair wants to have services that can prove its brand and tell people what kind of brand it is. Third, Finnair wants to have stories which provide the big picture behind the things in the organization. Things happen every day and by telling things happening in Finnair, Finnair want to engage people.

Online campaign is another way to engage people and the center piece of the campaign is social media. Finnair had a campaign recently for Finnish bloggers. Finnair opened a new route to Tel Aviv. It asked bloggers to blog about Tel Aviv and write why they want to go there. The best blogger could win 3 tickets. The winner would fly to Tel Aviv in September and then they would blog about it again. Sometimes they have to post photos, submit the right answers for questions. A campaign always has awards no matter the awards are big or small. Campaign always goes on together on several social media platforms. Finnair uses Twitter, Facebook and YouTube depending on the campaign. But
usually use Twitter and Facebook. Few online campaigns can also be synchronous with the real life activities. Aku gives an example:

“We tried something with Foursquare during the Ice Hockey Championship last spring. But Foursquare was not popular enough so that did not get much popularity. You would win something if you changing to this place at the ice hockey stadium. We have tried something but not really. We wanna have big scale.”

As the information receivers in social media, people who see the contents will give responses to the information and post their own contents. This time, people become creators. What Finnair does now is to monitor these contents. Finnair encourages people to speak and to have their voices heard by Finnair. For example, on Pinterest, if people
take photos of flights, Finnair pins them. So Finnair has a pin board for customers’ photos. It celebrates people travelling with Finnair and taking photos with Finnair. Of course Finnair has lots of user-generated questions and feedbacks which Finnair will try to answer as well as it can. Feedbacks will be collected. If there is nice blog posted about Finnair, Finnair will share it with its followers. In social media, there are always discussions happening between customers. Customers express themselves by having conversations with other customers. The contents here are also very important for Finnair. Depending on the topic, there are two ways to deal with these contents. Sometimes, Finnair just listen and do not interfere. But sometimes, if people talk about Finnair or search for information, Finnair will interact with customers by joining the conversations. The benefit of doing this is the increase of customers’ loyalty. People will feel more engagement with the company. Even though the customers are very critical, when Finnair takes part in the conversation, people usually appreciate it and can have a pretty fruitful conversation.

Good relationship with customers definitely is the goal of marketing. Finnair maintains good relationship with customers in social media through people’s questions and providing them with interesting feedbacks and if they comment Finnair, Finnair talks with them. Having and maintaining an online community of Finnair fans can enhance the relationship with customers. But unfortunately Finnair does not have yet because of the resources. Finnair just has some small groups in social media. For example, Finnair now has the quality hunters program that Finnair does services development together with customers. Finnair invites people from online to come and meet with Finnair staffs and develop Finnair’s services. That group of people has become very vocal group of brand affiants for Finnair. Finnair has many followers on Facebook. For these followers, Finnair has offers which are only available for them all the time. It is nice to give reward for followings and at the same Finnair can make people by tickets. It is also the commercial objective of Finnair. This supports sales. Figure 11 is the offers page on Facebook.

Social media play more and more important role in Finnair than traditional medium like TV, radio, and out of home media. Compared to traditional medium, social media is a different way of communication which called dialog. Not like broadcasting, Finnair can get instant feedbacks on everything it does. Social media gives a chance to company to continue the dialog. If Finnair publishes something and that is just the beginning and opening of a conversation. It gives people a sign and tells people to talk about it. Then Finnair continues the conversation. With traditional medium, companies do not have the chance. The dialog is the biggest difference. In addition, anyone can become a broadcast in social media so that customers can produce contents. This is new from brand perspective. Finnair can get so many valuable feedbacks through social media because it sees people are talking about.

Although social media is now more and more popular and important, it is true that companies are using both social media and traditional medium together. If there is something happening on traditional medium, Finnair act in social media as well. Here is an example told by Aku:

“Like yesterday morning, we had one of our pilots in the morning TV talking about fear flying and we shared that on our Facebook channel.”

Traditional medium and social media are living together and not exclusive.
Finnair puts so many efforts in social media, but it is difficult to measure the performance of social media in marketing and sales. There are some metrics but the level of relevant with performance cannot be sure. Like Facebook campaign, Finnair has clear objectives that how many tickets are sold. And how many fans Finnair has on Weibo, how many on Facebook, how many followers on Twitter, these all are common used by every companies. These metrics are easy to evaluate. But Finnair cares more about how many people go to its website and buy tickets. Furthermore, social media is kind of tool that helps Finnair build its long term brand. In the fundamental and long term perspective, social media works if it increases Finnair’s awareness and brand influence. Lots of brands are struggling with finding relevant metrics. But it is not that easy.

5.4 Social media in services

Finnair, the whole company is about servicing customers from planning trip until after the flight. Finnair does have big customer services team. Customer services team strives to server customers better by using social media this powerful tool. Team is coordinated by social media manager following social media strategy and also overall strategy.
During marketing and sales in social media, Finnair is already active in serving its customers or potential customers. When Finnair interacts with people in social media, it is kind of services. Finnair answers the questions posted by people and provides relevant information to them. For example, Aku told that:

“Yeah we got all kinds of inquiries from students to taking changes how much luggage I am allowed to take, how I travel with my child and anything. So we try to answer according to our responsibility.”

Social media provides a new channel to server customers. And this new channel is fast and more convenient for customers than others. The dialog makes whole process of services recorded and seen by all the people. Customers will post feedbacks, complaints, and suggestions thought social media to Finnair. Finnair has guideline for their employees to process these information.

Finnair answers all feedbacks and even complaints openly unless Finnair needs some confidential information like the reservation number from the customer then it will have private conversation. For complaints, Finnair apologize and deal with it. Finnair has very efficient processes for dealing with complaint because it got 8 million or 9 million customers every year. For everything there are one or two cases. Customer services team has set compensation for all different kinds of problems and they got trained. Aku said:

“So we try and deal with everything very open and kind of intractable way. We try to be fear and friendly. Try to fix the situation if we can.”

For feedbacks and suggestions, Finnair will collect these. In Finnair, there is customer feedback team. They are also answering on Facebook and Twitter. And sometimes, depends on the situation, feedbacks and suggestions will be discussed by Finnair staffs.

Service is a very important part of everything Finnair does in social media and it is a best kind of marketing if you think carefully. In now, with customer services, company should be very quick and deal with customers’ problems in very quick and efficient manner and in very nice way. If company does not do that, there is a very potential risk of things become very bad. This is even important for an airline. Like Finnair has to be there 24/7 because there are always flights to somewhere. There are always customers asking questions.

Not like marketing and sale that is not so important to measure the performance, Finnair is care about customer services. Aku said:

“Then you could be measuring customer satisfaction and especially customer satisfaction in social media channels. And that is something we are looking into now.”

5.5 Social media in product

Because Finnair, the whole company is about serving travelers, product of Finnair is the service that provided to its customers. So product block in Finnair is represented by service, or to be more exact, new services. Product development, here in Finnair is services development.
As said before, Finnair is one of the most innovative airlines in the world. Because of its creativity, it always brings freshness to customers. The freshness can be seen from the new services and there is also the effort of social media.

Finnair recently introduces social check-in service which is when passengers check in on a flight, they can connect their Facebook account with seat map. Passengers can see who also on the flight and can share that with friends on Facebook and Twitter. Figure 12 is the social check-in step.

![Figure 12. Social check-in of Finnair.](image)

This service makes people want to talk about Finnair and to share with their friends that they are flying Finnair. And it is one way of Finnair increasing digital footprint.

The result whether customers like to use social check-in and let other know their footprints is not told by Aku. And also I did not get the information either from real customers or internet. So it is difficult to evaluate the performance of this new service.

5.6 Social media in personnel

Social media is also used by Finnair in internal communication and recruiting.

Finnair has a new intranet. On the intranet, there is a wall like Facebook wall where anyone can produce content. This actually changed internal communication culture of Finnair a lot. It opens a complete new kind of way communication directly with management and directly between different kinds of employee groups. Aku said:

“*We are going to do some major changes at Finnair at moment. We have huge cost cutting program going on. So I think it is very important to be open and transparent in communication and to establish this connection the management and the employees. I think social media can provide just that. I think it is very crucial*
building trust, understanding and the connection between people which is needed especially during difficult times. But always in an organization, to reach efficient and flourish, you have to have good connection with people and have to build trust and understanding. And also then there is a way of collaborating like information flow in the company, you just go directly to the expert and ask ‘Hey, do you know about this?’; ‘Are you the right person?’ You can ask people questions.”

Finnair also uses Twitter for instant communications. Finnair is very open and flexible and it encourages people to use social media and to talk about their work in social media. In the age when there are no Facebook and Twitter, Finnair did not have any internal communication software. The old intranet only allowed publishing news. It did not enable dialog. Web 2.0 changes lots of Finnair internal communication.

The last application of social media in Finnair is recruiting. Finnair has official LinkedIn account. In LinkedIn page, people can see the basic introduction about Finnair, recent updates which are mostly related to marketing information, and most importantly, the available positions in Finnair. Finnair also use Twitter for job advertisement. This time is the HR team working together with social media manager.

5.7 Summary of Finnair using social media

Social media is very important to Finnair. It is a strategically important tool which will help Finnair achieve strategic goals and business objectives. If companies want to run social media activities efficiently, they have to have organization which is working very well together. They cannot run social media activities just by marketing or just by communication or customer services. Companies have to put three of them involved. Then they have to have their business objectives in mind and think about what is the best way to actually support that.

Finnair is proud of itself in using social media. It has some special places than other companies. Aku made a conclusion about it:

“What I think is very typical of us which I do not see many other airlines do is that we let our staff produce lots of contents and tell their stories. And I would like our customers to see behind the things to our social media channels. So our staffs tell their true stories. We let the real people talk so that we are not so polished in social media to make it perfect. We may have like people telling their stories in their own words. People go a little crazy or something that we would not do in official advertisement. We can be much more relaxation, approachable, and friendly. We can serve our customers like the way to talk to friend. So that is what we want to achieve. And I think it is a great way to be in people’s lives in the way that is kind of relevant to them. I think there is lots of potential in so many ways.”
6. Discussion and Implications

In this chapter, the result of interview is used to inspect the framework of the influence of social media on business processes. Literature is mentioned again in order to support the effectiveness of interview data. At last, the research question “How does social media change the major business processes?” gets answer. Though the discussion, I have two key findings:

- Social media changes business processes by changing the communication way.
  The role of social media in BPR is medium.
- The own framework can guide companies use social media in their business and make their performance better.

Even though the concept of BRP was proposed in 1990s, until today, the thinking of BPR still remains and activities of BPR go on in companies. During two decades, the concept of BPR and the essence of BPR all have changed. In the earlier age of BPR, companies cared more about how to rethink and restructure the business structures and processes fundamentally (Talwar, 1993). The four keywords of BPR are fundamental, radical, dramatic, and process (Gunasekaran & Nath, 1997). But recently, the structure of an organization is stable for a long time and works very well. Nowadays, the things that Finnair most cares about are innovation and providing better services to customers with steady steps. The principles of earlier BPR are discussed by researchers already and most of them are proved no longer useful. This happens because of the development of times. (Grover & Malhotra, 1997.)

BPR is based on the fact that a business process is a fundamental element to be analyzed (Melao & Pidd, 2000). Business process is always the core of business and sets of business processes consist of the company and organization. According to the definition of business process, we can know that business process has at least two components: targets or goals; tasks or activities. Gunasekaran and Nath (1997) classified all major business processes into eight categories in Figure 4 on page 24 according to the goals of business and they are: order flow; strategic process; product; marketing and sales; services; accounting; and personnel. Later the main point of analysis is based on these processes. The goals of marketing and sales in Finnair are to increase its awareness and brand influence, finally to sale more flight tickets. The goals of services in Finnair are to serve customers better and to gain customers’ satisfaction. Product development, here in Finnair is services development. The goals of service development are to gain the competitive advantages thus to also increase its awareness and brand influence. Even though I cannot get the specific goals for both accounting and personnel neither from the interview nor other online websites, it is not difficult to guess that the goals of accounting and personnel are to support the overall goal of Finnair.

In order to achieve these various goals, employees carry out activities under specific guidelines in different levels and different sections of organization. The guideline also can be called strategy. In the low level of Finnair organizational structure, there are marketing and sales department, communication department, and customer service department. For each of these departments, Finnair has separate strategy. Then for the whole company, Finnair has overall strategy. Finnair also has the strategy for social media. As introduced in previous literature, Pearlson and Saunders (2006) presented the
information systems strategy triangle which was Figure 3 on page 21. This triangle helps to understand the relationship between organizational strategy, business strategy, and information strategy. Finnair overall strategy is the business strategy. The strategy for each department can be treated as organizational strategy. And at last, social media strategy in Finnair can be seen as information strategy. Finnair overall strategy has the well-organized vision that shows the direction of Finnair to go and the method to get the final place. The strategy of each department is the design and choices of defining, setting up, coordinating, and controlling work processes. Social media strategy is the longer plan of using social media both inside and outside Finnair. The relationship between these strategies are: Finnair overall strategy drives the strategy for each department and social media strategy; and in reverse, the strategy for each department and social media strategy support overall strategy.

Here I talked about how social media influences business processes. As illustrated in the model of the recursive relationship between IT capabilities and business process redesign in Figure 2 on page 20, companies should always consider about how IT can support business processes and how business processes can be transformed using IT (Davenport & Short, 1990). Social media is the most popular IT and is widely used by companies. Finnair is activity user of social media and for sure, it is always thinking about how to use social media correctly in order to support each business section, how to change previous business processes by adding social media features.

Before using social media, Finnair first should choose what social media to use carefully. Although Finnair has more than 20 accounts of almost all the famous social media applications like Facebook, Twitter, the level of importance and attention are different. Finnair updates the information on Facebook, Twitter, and YouTube frequently. Almost every day there is one new post on Facebook and three new tweets on Twitter on average. And different social media are different in their functionalities. This should go back to the honeycomb of social media (Kietzmann et al., 2011) which was presented in Figure 6 on page 32. According to the analysis of functionalities of each social media, Finnair can know clearer about using which social media on which business process. Facebook is stronger in managing relationships. Twitter is stronger in sharing and YouTube too. The strength of Foursquare is at presence. LinkedIn stresses one’s identity. Different business processes also have their own business features. Like marketing and sales, sharing information is very important. For customer services, relationship with customers is crucial. So Facebook is most efficient than other social media when handling customer services. By combining all these social media, Finnair can cover almost all the functionalities in the honeycomb and achieve biggest effects.

As shown in my own framework of the influence of social media on business processes in Figure 8 on page 38, there is a big social media cloud. Finnair selecting suitable social media is the process to put these social media into the cloud. Then all the following things happen inside the cloud. In the middle of the framework are the process blocks that have been changed by social media. These processes are marketing and sales, services, product, and personnel. Research has shown that these processes are influenced by social media deeply. And in the interview with Finnair, social media manager discussed social media in depth around these four processes as well.

In both sides of process blocks are Finnair and its customers. Business process is also the information process at same time. In the framework, there are four arrows which present the information flows and their directions. A line presents the communication from firm to customers. B line presents the communication from customers to firm. C line presents
the communication inside the firm. D line presents the communication among the customers. Later four types of communication are discussed in detail.

First type is **firm-to-customer communication.** Before the age of social media, this type of communication already exists in traditional medium. Social media actually gives strong support to this kind of communication. In 3-M framework which was presented in Figure 7 on page 35, this is represented by megaphone (Gallaugher & Ransbotham, 2010). Easy to understand, megaphone enhances the volume of firm’s voice. Firm’s voice can spread further and be heard by more people in a high speed. This type of communication normally is initiated by firm. Marketing and sales process mostly use this communication. On Facebook, Finnair will post the information about its current events like Quality Hunters, celebration of 90 years of aviation, the news of Finnair, funny stories in Finnair, share of videos from YouTube, and share of photos. Every post by Finnair will open a new conversation. Later Facebook fans will leave their comments and Finnair will decide whether joining into the conversation or not depends on the situation. And the communication between Finnair and its customers is almost instant. Finnair has its own blog which is very popular for customers. The bloggers are all Finnair employees and they are keen to tell the stories which they watched, heard or experienced.

Second type is **customer-to-firm communication.** In 3-M framework, this is represented by magnet (Gallaugher & Ransbotham, 2010). Social media has the ability to draw customers’ attention. For example, Finnair has 225 thousand fans on Facebook, 14 thousand followers on Twitter. Furthermore, social media can draw customers to talk. Customer-to-firm communication is initiated by customers. Services mostly use this communication. Customers can create the contents and post them on Facebook page of Finnair, or message Finnair through Facebook chat. The contents can be feedbacks of services, suggestions for Finnair, or just customers’ feeling, thoughts, or ideas. Later Finnair will reply to the customers publicly or privately. Also in marketing and sales, this communication also happens sometimes. Customers can inquire information of new services initiatively. This type of communication also exists before Finnair using social media. When customers need services, they would call Finnair customer services desk by phone. They can make reservations, inquire prices, schedules and ask for special services. But customers need to pay 3.15 euro for Finnair answering the call per time. This probably will cause customers losing the interest of asking help or even buying the tickets. Social media again strengthens the customer-to-firm communication.

Third type is **internal-firm communication.** Social media has the feature that makes communication easier. If firm masters the social media, it can take advantage of this feature. Finnair has intranet and inside the intranet, there is the wall like Facebook wall. Everyone posts on the wall and they are encouraged to speak out freely whoever they are, what level of their positions. This breaks the hierarchy of communication between management and employees. Twitter is also be used as instant communication tool in Finnair.

The last type is **customer-to-customer communication.** If saying that social media strengthens last three types of communication, social media not only strengthens customer-to-customer communication but also make it visible for companies. Currently the most efficient marketing method is word-of-mouth persuasion. In social media, customers can talk about Finnair with everyone no matter where the person is. They can comment same post and tweet and share their opinions with others. This will promote the engagement between Finnair and its all customers. In 3-M framework, firm uses social media to monitor what customers are talking about (Gallaugher & Ransbotham, 2010).
Firm can get the insight from customers. This will help firm to improve its services accordingly. Every coin has two sides. Social media can easily disseminate positive messages and also negative messages at same time. The outrage and discontent of one person can spread to other customers’ eyes rapidly. It is very important for Finnair to monitor the dialogs and solve the problems immediately. Otherwise, these negative messages will bring harm to Finnair.

Most traditional mediums just allow one-direction communication either firm-to-customer or customer-to-firm communication like TV or telephone. Social media first integrate all types of communication into one platform. It has both benefits for Finnair and its customers. It is convenient and efficient. Get the help of the power of Megaphone, Magnet, and Monitor, Finnair attracts, spreads, enriches, and reinforces online dialog (Gallaugher & Ransbotham, 2010). By exerting the advantages of each social media platform, Finnair will make these activities complete in all domains without omitting any detail.

Learned from the practice of Finnair, social media innovate the communication way of Finnair. This is the biggest determinant of why social media changes the major business processes. And because different business processes rely on communication in different level, the influences are different. Like marketing and sales and services, these processes are almost communication work with customers. And traditional communication ways are replaced by the new way provided by social media intensively. So these processes are influenced deeply. Other processes like services development, internal communication and recruiting, even though they also have lots of communication work, the traditional communication ways still work. So they are influenced slightly. Social media here plays the assistant role. Here I can add the degree of influence to the framework. Deeply influenced process blocks are marked by deep color and slightly influenced process blocks are marked by light color. So the new framework of the influence of social media on business processes and degrees can be seen as Figure 13.

There are some implications that other companies can learn from the practice of Finnair. Every company has its organizational strategy. If a company wants to use social media widely in its business and gets most benefits from social media, it should also have social media strategy. Social media strategy should be considered carefully and aligned with organizational strategy because social media strategy should support the organizational strategy. Social media strategy should cover whole process of using social media. Four types of communication can teach company how to magnify its voice, how to arouse more people to talk, how to monitor the conversations. Company should also have a set of rules to deal with UGC like complaint, feedback, and suggestion.

This thesis has several limitations. One is the shortage of data. Due to the limitations of time and other resource, only one interview was conducted in Finnair. There is no any comparison about how other companies use social media. The analysis is based on only one interview. This maybe leads to the framework defective that cannot explain the common situation.

In future research, I hope can get more companies in different industries to do interviews. Then the comparison will be done to see the difference points of using social media in different industries and conclude the similar points. The degrees of the influence of different business processes may not be same in different industries too. This is also interesting.
Figure 13. The influence of social media on business processes and degrees.
7. Conclusion

BPR has a long history and researchers have done some many researches in this topic since 1990s. These researches built plenty of theories, frameworks, and models to guide the companies changing their business processes in order to improve performance like cost, quality, services, and speed. Wide using of IT is the driver of BPR. During the process of BPR, IT plays different roles like initiator, facilitator, and implementor. When time entered into 21 century, IT has changed radically. Social media is the most popular IT in recently years. Many companies start to use social media doing business. Social media already permeate many business processes such as marketing and sales, services, product development, and personnel. Then the question is come up, “How does social media change the major business processes and in what degree?” The thesis answers the question.

This thesis has three contributions. First, it provides a framework to illustrate the influence of social media on business processes and the degree. This framework is based on prior research and combines several models in the disciplines of BPR and social media. By analyzing four types of communication in each four business process, it shows how the business processes are changed by social media. The framework gives guidelines to firms about how to use social media doing business.

Second, this thesis gives some insights into how Finnair uses social media in practice. The social media manager of Finnair, Aku Varamäki, introduced the usage of social media in every corner of Finnair. She showed how she works with other departments and coordinates employees in social media. The social media strategy and guidelines to handling UGC are also introduced. Other airline companies can learn from the story of Finnair directly in the thesis. In additional, companies in other industries can also get implications in the thesis.

Third, this thesis finds the relationship between BPR and social media. As my thought, the role of social media in BPR is medium. Social media influences business processes by changing the communication way. Social media either replace the traditional medium or assist the traditional medium when doing business. The degree of influence depends on the amount of communication work and the reliance on traditional medium.
References


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Appendix A. Semi-structured Interview Questions

Company Name:

Interviewee Position:

**Group 1: Company general situation**

Q1: Can you have a brief introduction about your company such as the nature of business, the number of employees, the organizational structure of the company?

Q2: How do you use social media? And why do you use social media?

Q3: Do you have social media strategy? If yes, could you tell me about how you plan the use of social media?

**Group 2: Marketing and sales**

Q4: How do you use social media on marketing and sales?

Q5: What kind of information and content do you post in social media?

Q6: Have you ever held some online campaigns? Can you describe some of them?

Q7: How do you manage and deal with the content that customers create?

Q8: What your opinion about the difference and connection between social media and traditional media like TV, radio, and out of home media.
Q9: Do you have some criteria to measure the performance of social media? What are they?

Q10: How will you maintain the relationship with customers on social media?

Group 3: Services
Q11: Have you used social media to improve customer services? How do you do that?

Group 4: Product
Q12: Have you ever published your new product information on social media platform? How do you use social media to improve product development?

Group 5: Personnel and human resources
Q13: Do you use social media as a tool for internal communication between your employees? If yes, can you tell me the reason?

Q14: Do you use LinkedIn as a recruitment channel to find new employees? If yes, how do you do that?

Group 6: Conclusion
Q15: Can you give some comments for your company of using social media as the conclusion?