Are Porter's Five Competitive Forces still Applicable? A Critical Examination concerning the Relevance for Today's Business

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Abstract, Porter's Five Forces model is a powerful management tool for analysing the current industry profitability and attractiveness by using the outside-in perspective. Within the last decades, the model has attracted some criticism because of the developing Internet economy. Due to an increasing significance of Digitalization, Globalization and Deregulation, the industry structure of the 'Old Economy' changed fundamentally. The 'New Economy' is not comparable with the 'Old Economy', which is the basis of the Five Forces model. Moreover the last decades have shown that Information Technology became more and more important. Nowadays Technology is one of the most important drivers for change and not only important for the implementation of change. The outcome of this critical literature review shows that the three new forces changed the industry structure but they do not restructure the model. Porter's Five Forces cannot be considered as outdated. The basic idea that each company is operating in a network of Buyers, Suppliers, Substitutes, New Entrants and Competitors is still valid. The three new forces just influence each of the Five Forces. An example is that the Bargaining Power of Buyers increased due to the access to much more information because of the Internet. Furthermore the Threat of New Entrants decreased since companies have to make high investments in Technology which has a deterrent effect on new potential market entrants.

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1. Introduction

Michael E. Porter of Harvard Business School developed the Five Forces model in the late 1970s. The Five Forces model is a simple but influential tool for the identification where power lies in a certain business situation by using the ouside-in perspective (Johnson, Scholes & Whittington, 2008). The framework identifies five forces in the microenvironment that drive competition and threaten a company's ability to make profit. The derivation of the Five Forces framework of Porter is the industrial economics approach. The idea is that the attractiveness of market and its overall profitability can mainly be defined by the market structure (Slater & Olson, 2002). The market structure in turn influences the strategic behaviour of organizations, e.g. market success depends on the competitive strategy. Thus the organizational success is therefore indirectly dependent on the market structure. According to Porter the " awareness of these forces can help a company stake out a position in its industry that is less vulnerable to attack" (Porter, 1979, p. 137). However it is necessary to mention that the Five Forces have diverse degrees of impact in certain industries (Mohapatra, 2012). Furthermore Mohapatra (2012) states that "individual forces and their collective impact will change as the government policies and macroeconomic and environment conditions change" (p. 274).

Due to the reason that the model was developed in 1979, it is questionable if the forces are still relevant. It seems doubtful that the model of Porter, which is available for more than 35 years without any changes, is still relevant for analysing the balance of power within a particular industry.

The last decades show that Information Technology (IT) became more and more important in order to achieve competitive advantage. Today's organizations have better access to far more information about their customers, suppliers or their competitors. This also increases the possibility of better co-operation or better competition (Downes, 1997). But the model of Porter does not include IT as a separate competitive force, "IT was only considered as a means of supporting the five forces." (Andriotis, 2004, p. 134). One reason for ignoring the IT forces could be the fact that the 'old economy' used Information Technology in order to implement changes. But the times are changing and also the role of technology changed. Today new technology is one of the most important driver for change (Downes, 1997). Furthermore Porter also couldn't take the growing significance of 'Government Deregulation' into account. In 1979 the government was able to regulate the market by defining and enforcing "property rights and the rules of competition" (Andriotis, 2004, p. 135). In the past 20 years, governmental influence on industries decreased steadily. Therefore the most of the concerned industries (airlines, communication, or banking industry) were able and constrained to search for alternatives and to structure their business in a new way (Downes, 1997). Therefore the goal of this paper is to analyse the following Research Problem:

To what extent does the Five Forces model of Porter still is applicable for analysing profitability of an industry?

Based on the given Research Problem, several sub-questions are derived: (1) To what extent does the Industry structure changed with consideration of the Globalization process? (2) To what extent does the Industry structure changed with consideration of the Deregulation process? (3) To what extent does the Industry structure changed with consideration of the Digitalization process? (4) To what extent does the competitive advantage changed considering new Technology?

This paper provides a critical literature review and a new theory development. The first part of this paper deals with an introduction of the model. The benefits of the competitive forces framework are examined below but also the forces and their underlying influential factors are discussed. After introducing the model the next part is about limitations and criticism of Porter`s Five Forces. Afterwards, the second part deals with impacts of the three new forces: (1) Digitalization, (2) Globalization and (3) Deregulation. The paper investigates how the implementation of New Technologies impacts each of the Five Competitive Forces. Finally this paper ends with a discussion and conclusion. The Research Problem and the sub-questions will be answered in these parts. Furthermore this paper provides possible limitations, which lead to suggestions for further research.

This critical literature review is based on the article 'How competitive forces shape strategy' from Michael E. Porter in 1979. The paper contributes to existing literature and knowledge since the existing literature not much was reporting about limitations and critiques about the Five Forces framework. There are various discussions among researchers about the relevance of the Five Competitive Forces. Many of them make still use of the model without any doubts about the validity. The goal of this paper is to complement the model of Porter and not to replace it. The Five Forces model was developed in 1979 and was not changed or improved in the last decades. The information used for the literature review are based on articles retrieved from Google Scholar, Scopus and Science Direct. The most articles that are used for the critical literature review were published between 2000 and 2013. The major part of articles is published from 'Elsevier'.

2. Theoretical Framework

2.1 The Five Forces model

The basis of Porter's Five Forces is the approach of the industrial organization theory (IO). The IO assumes that the attractiveness of an industry, in which a company operates, is determined by the market structure due to the reason that market structure affects the behaviour of market participants (Raible, 2013).

The Five Forces framework is a "useful starting point for strategic analysis even where profit criteria may not apply" (Johnson, Scholes & Whittington, 2008, p. 60). In order to create a strategy it is very important to have enough knowledge about the industry in which the company operates. The factors that are influencing a company within an industry can be extremely various. Therefore it is wise to consider only those factors that are important for all participating companies within an industry. In addition to the competition among the existing competitors, Porter's Five Forces model identifies another four forces that characterize the intensity of competition within an industry: Bargaining power of Supplier, Bargaining power of Buyer, Threat of Substitutes and Threat of new Entrants (Porter, 1979). The interaction of these Five Forces is a constant threat to the success of a company.

Figure 1: Five Forces Framework (Porter, 2008, p.27)

The force 'Rivalry Among Existing Competitors' includes several forms of competition, for instance "price discounting, new product introductions, advertising campaigns, and service improvements" (Porter, 2008, p. 32). A high level of rivalry between existing competitors can influence the profitability of an industry. It depends on the "intensity with which companies compete and, second, on the basis on which they compete" (Porter, 2008, p. 32). This Force can be influenced by industry growth rate, fixed costs/ storage costs, number of firms/ competitor balance, switching costs between competitors, differentiation, or exit barriers (Hubbard & Beamish, 2011; Slater & Olson, 2002; Johnson et al., 2008).

"New entrants to an industry bring new capacity, the desire to gain market share, and often substantial resources." (Porter, 1979, p. 138) The existence of entry barriers limit the number of companies in the industry and therefore influences the 'Rivalry Among Existing Competitors' (Johnson et al., 2008). Furthermore companies who enter an existing market directly affect the competitive advantages. The additional supply for the same demand decreases the profit of the market participants. The lower the barriers to entry are, the higher the threat of new entrants is. "The height of barriers to entry has been found consistently to be the most significant predictor of industry profitability" (Rothaermel, 2008, p. 215). Porter (1979) distinguishes between six significant barriers to enter the market: (1) Economic of Scale (2) Product Differentiation, (3) Capital Requirements (4) Cost Disadvantages (5) Access to Distribution Channels (6) Government Policy

Bargaining Power of Supplier defines the risk that suppliers threaten companies with increasing prices for goods or services. "Powerful suppliers can thereby squeeze profitability out of an industry unable to recover cost increases in it own prices" (Porter, 1979, p. 140). There are different factors which are determined as indicators for high bargaining power of suppliers: For example the industry is dominated by a few companies and is therefore more concentrated than the industry it sells to, or the industry is not the most important customer of the supplier group (Porter, 1979). The Bargaining Power of Suppliers can be influenced by the size of the supplier, the number of suppliers, and the availability of alternative customers (Slater & Olson, 2002).

The power of customers can be described as the "flip side of powerful suppliers" (Porter, 2008, p. 30). If the buyers have a high market power they are able to push prices downward, prevail better quality or they can force expanded services. These also reduce the profitability of the industry. The Bargaining Power of Buyer is high if the buyers are large, they are ably to switch easily to another supplier and they are few in numbers (Slater & Olson, 2002).

In the broadest sense all competitors within an industry compete with industries that produce substitutes. Substitutes products and services limit the potential profit of an industry by defining a cap for the prices of their products or services (Porter, 1979).

The identification of substitutes is a search for products or services that can fulfil the same function as products of the industry of the considered industry. According to Hubbard and Beamish (2011) there are several factors that influence the Threat of Substitutes, e.g. switching costs between substitute products/services and industry product (Klemperer, 1995), or buyers' addiction to buy substitutes.

2.2 Benefits of Applying the Five Force model for Evaluating Market Attractiveness

After analysing the Five Forces, a company is able to state about industry profitability and attractiveness (Johnson et al., 2008). A strategist can come up with the strengths and the weaknesses of an organization and is able create a plan for a stronger position within the industry. The Competitive Forces oversimplified the micro-economic theory by using only Five Forces. It provides the opportunity to examine and evaluate complex interactions of competitors in an industry in a structured way (Porter, 1979).

The Five Forces framework "went beyond a more simplistic focus on relative market growth rates in determining industry attractiveness" (Grundy, 2006). A further benefit according to Grundy (2006) is that the managers set a higher focus on the external environment in comparison to the traditional 'SWOT' analysis. The goal of the Five Forces framework is not only to assess industry profitability and attractiveness but also to comprehend the "underpinnings of competition and the root causes of profitability" (Porter, 2008, p. 29).

2.3 Limitations and Criticisms of the Five Forces model

Although the Five Forces model is one of the most known and widely spread management models in practice nowadays, the criticism became increasingly severe in the recent years (O'shaughnessy, 1984; Speed, 1989; Dulčić, Gnjidić & Alfirević, 2012). The most detractors illustrate that economic conditions chanced fundamentally in the last decades (Conklin & Tapp, 2000). One of the first criticisms is the fact that Porter (1979) has no justification for the choice of the five environmental forces, which prove the validity of his choice (O'shaughnessy, 1984; Speed, 1989). A further criticism is that the model only generates snap-shots. According to Thyrlby (1998), the Five Forces model of Porter is static and does not take account of time. Thus it is much more difficult to determine markets with higher competition dynamic because they can change very quickly. This demands a steady creation of new models. Dulčić et al. (2012) are extremely critical in regard to the use of this model. In their opinion taking the dimension time into account might be beneficial for managers. If they take care about the 'time dimension', managers are better able to consider market trends and changing environment. Furthermore making use of the Five Forces framework does not guarantee a competitive advantage that is inviolable and sustained (Aktouf, 2004). The reason for this lies in the fact that Five Forces framework is a static model, which does not include consistently changes of the competitive environment (Karagiannopoulos, Georgopoulos & Nikolopoulos, 2005). According to Hill and Jones (2008).

Industry factors are able to justify business performance variations. Those factors can only motivate 20 per cent of the variations in terms of market share, growth and industry profitability (Grant, 2011). Today's goal is not only to protect against the Five Forces, it becomes more and more important to start collaboration and maintain innovation due to the increasing power of the Internet and other information technologies (Karagiannopoulos et al., 2005; Holm, Eriksson & Johanson, 1996). Flower (2004) and Downes (1997) criticise Porter's model because of the missing attention to 'Digitalization', 'Globalization', and 'Deregulation'. Those three factors are one reason why the industry structures changed during the last decades. In addition Grundy (2006) notes that the framework not refers to the 'PEST' factors or to the 'dynamics of growth' for a certain industry or market. The Five Forces model does not assess the resources and capabilities of a company, which are also relevant for analysing the overall profitability (Rivard, Raymond & Verreault, 2006)

3. Development of Digitalization, Globalization and Deregulation

In order to determine whether the Five Forces are still applicable, the next chapter analyses the Industry in general concerning structural changes because of increasing significance of 'Digitalization'. Due to the Digitalization two further forces gain more and more importance and also significantly affect the competition: Globalization and Deregulation. Formerly locally operating companies have built an international business environment because of the technological progress and the improvement of communication and transport routes (Downes, 1997). However, the affects of globalization are noticeable in almost each area of a company and at each stage of the product life cycle. Just as important as Globalization is Deregulation. In the last decades, government regulations have been eased. Especially the USA and Europe withdraw from many industries (Recklies, 2001). Good examples for Deregulation are the Airline Industry, the Communication Industry or the Energy Industry. Innovation and Information Technology reconstructed the traditional industry structure and allowed the existing company to reorient its activities (Downes, 1997). Likewise, new companies enter existing markets. Further outcomes, such as outsourcing, rejection and assimilation of business units, or forming alliances led to a restructuring of some industries (Downes, Mui, Mader & Negroponte, 1999).

3.1 The Impact of Globalization on the Industry structure

Today companies, that are regionally focused, have to integrate in a global environment, even if they do not import or export goods. The advanced progress in the field of logistics/ distribution and communication enable global collaborations and products purchases. However the customers also benefit from the Globalization process due to the reason that they are able to compare global prices much easier and faster. This increases the strategic requirements that go beyond pure price and quality considerations. The main focus should be, in this regard, on customer loyalty and partner networks (Downes, 1997). Friedman (2005) states that Globalization still has an increasing impact on business organization and practice. He describes today's Globalization, which began in the year 2000, as 'Gloablization 3.0'.

In accordance with Friedman (2005) and Stiglitz (2007), political and social factors are the primary forces that shape the 'Globalization-Process'. These factors decrease for instance the trade barriers or the economic reforms.

Bang and Markeset (2012) identified five main drivers of Globalization: (1) Lower Trade Barriers (2) Lower Communication Costs (3) Lower Transportation Costs (4) Spread of Technology (5) Information and Communication Technology (ICT) Development (Figure 3.1).

These drivers give rise to different effects. As Figure 3.1 shows, the effects are grouped into three categories. The Size Effects involve a larger market potential and larger number of potential clients due to the reason that the markets grow closer together. This implicates a larger number of potential competitors and a larger number of potential suppliers and partners (Bang & Markeset, 2012). The Location Effects comprehend fragmented value chains, offshoring, outsourcing and complex supply chains (Bang & Markeset, 2012). The last effect is the Pressure Effect, which contains cost and price pressure, higher rate of change, more diverse markets, lower start-up barriers and lower visibility. Bang and Markeset (2012) define higher rate of change as the "rate of change for products (shorter product cycles) changes to production technology or changes in competitors".

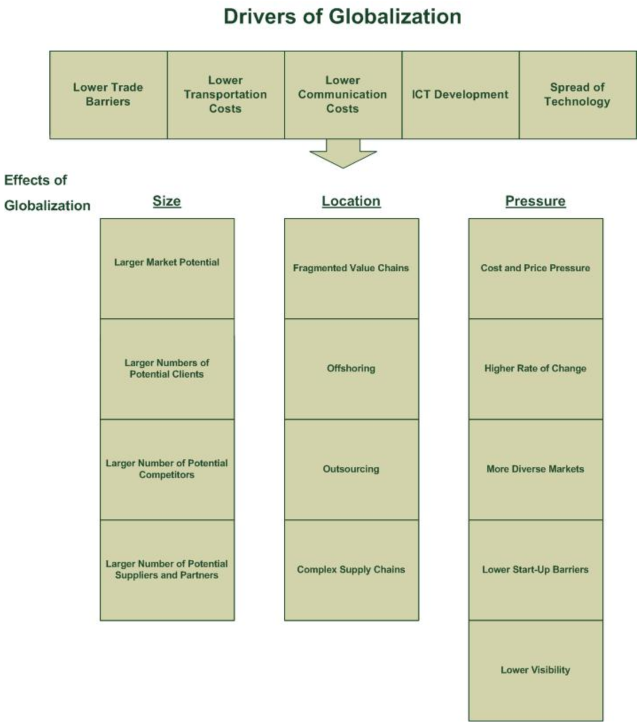

Figure 3.1 Drivers and Effects from Globalization (Bang & Markeset, 2012)

3.2 The Impact of Deregulation on the Industry structure

Nowadays governments withdraw from business areas. The outcome is an increasing deregulation. Deregulation describes the removal of controls raised by the government on the operation of industries. During the process of liberalization, residual risk is dissolved and thus allows a restructuring of the affected areas. This can cause an incorporation of business relationship, rejection, or outsourcing (Downes, 1998). In order to explain the consequences of Deregulation, the next part comes up with an example of the airline industry.

The Airline industry is enormously dynamic and intriguing. Even other industries are affected by the airline industry, for example the 'travel and tourism' industry, which is one of the

largest industries worldwide (Chan, 2000). The basis of the regulation of the US airline industry was the 'Civil Aeronautics Act' from 1938. This agreement influenced the market by introducing entry and exit barriers; control the competition for routes; and regulation price competition and fusions/ alliances (Williams, 1994). In 1978, the 'Deregulation Act' was approved by the USA, the Netherlands and Belgium. They were the first countries that liberalized the airline market (Bowen, 2002). In comparison to the 'Deregulation Act' of the USA, Europe applied a stepwise approach of opening the market. The "open sky" agreement was adopted in Europe in the end of the 1980s/ early 1990s (Airlines: Freedom in the air, 1997). However the implementation of the deregulation took more time than in the USA. As a result, three liberalisations package were passed during the following years.
The consequences of the deregulation are structural changes in the business that have to be considered. The airlines had to change their strategies in order to face the new competitive environment (Subramanian, 2010). Further implications are a strong development of the 'hub-and spoke-system', tougher competition among the existing competitors, and decreasing prices (Bailey, 1992).
It was quite difficult for a new airline to enter a market and operate in other countries in Europe before the 'Deregulation' (see Figure 3.2). The reason for this lies in the fact that the entry barriers were high and countries introduced protectionism in order to regulate the intenseness of rivalry within the industry (Subramanian, 2010). Furthermore most airlines were owned by the state. Therefore the intensity of rivalry among the existing competitors was low.

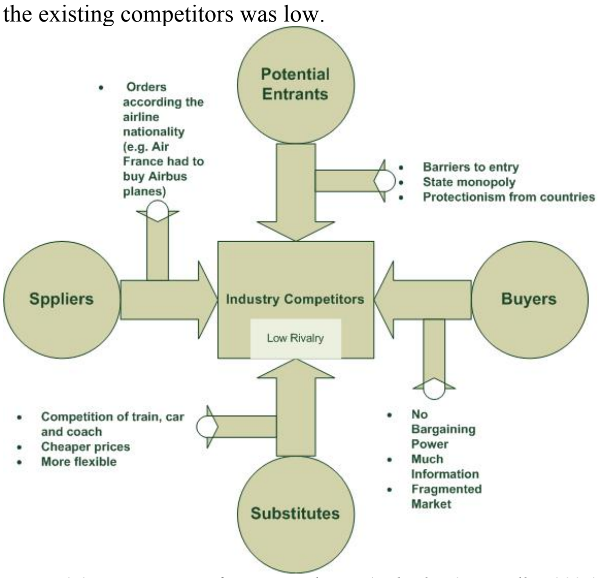

Figure 3.2 Five Forces Before Deregulation (Helterlin & Ramalho, 2007)

Before the deregulation process there was no Bargaining Power of Buyers because of only a few alternatives to travel. The Threat of Substitutes Products/ Services was high due to the competition of train, car or bus. The order of aircrafts depends on the airline nationality which means that Air France had to buy their aircrafts from Airbus.
Due to the Deregulation Agreement, the entry barriers disappeared and new airlines, predominantly low-budget airlines, were entering the market (Bowen, 2002; Williams, 1994). Thus the competition between the existing competitors increased (Figure 2.2).
The Deregulation led to number of benefits. For example, the Buyers get more alternatives to travel and also the ticket prices became cheaper due to price wars among competing airlines (Williams, 1994).

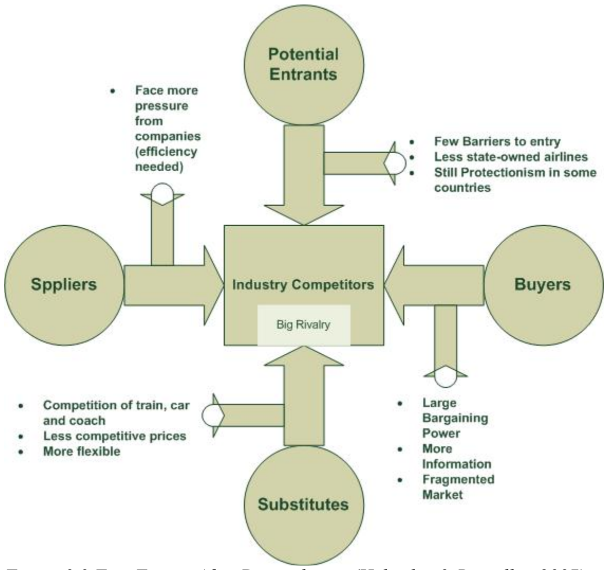

Figure 3.3 Five Forces After Deregulation (Helterlin & Ramalho, 2007)

3.3 The Impact of Digitalization on the Industry structure

One of the most important aspects which is not considered by Porter, is the 'Digitalization'. Due to the spread of the Internet and technological innovation, the global economy undergoes a fundamental structural change. This structural change is mainly driven by innovative-, and technology-oriented companies, whose business models are based on the possibilities of the Internet. This process of change is generally described by the term "Internet-Economy" (Emes, 2004). The increasing importance of digital products and the "Internet-Economy" put Porter's Five Competitive Forces into question. The Internet and the Digitalization have almost influenced and changed the dynamic of all industries.
Based on the dynamic evolution as well as the complex process of transformation of some industries, it is quite difficult to create a comprehensive situation analysis of the competition and the industry attractiveness (Downes, 1997). The last years have seen the impact of new driving forces, which include Porter's theories inadequate. Today's marketplace is strongly affected by the progress of Information Technology (IT). Furthermore digital information goods are gaining more and more importance within the economic cycle. As already mentioned in the Introduction part, Porter considers IT as a tool for implementing strategies and changes (Andriotis, 2004; Downes, 1997). But today it is even more important to consider IT as a driving force for change (Downes, 1997). Looking towards the future, IT will restructure branches of trade and industrial sectors through continuous technological innovation (Recklies, 2001). Due to increasing power of IT, all market participants have access to extensive information resources. This leads to a conception of new business models of companies from other industries. In addition, this changes the basis for competition substantially. In the course of the new development of the economy (induced by digitalization), more and more companies use the Internet as an information-, communication-, and s sales medium. On the one hand the established companies have the possibility to expand their business areas or implement new business segments. On the other hand it creates a cost basis for the implementation of new business ideas for new companies. Organizations are able to build a large customer base very easily and quickly due to the vast reach of the Internet and the low financial costs. If the

companies adapt accordingly, they are able to benefit from the high market dynamics and technological innovations (Emes, 2004). Today almost all business and operational transaction is bound by information components. At the same time the Digitalization reduced the transaction-costs for the acquisition and the use of information. Due to low transaction-costs, the use of information resources are more intensive and more comprehensive than before. This leads to higher profits for the companies (Downes et al., 1999). Similarly traditional regularities for products and services are not valid anymore for digital information products. The reason is that product development, operational processes and planning changed over the time. As a result the Digitalization boosts the trend towards virtualization of business structures, markets and workflows. Furthermore Digitalization displaces the "traditional sale" due to a faster and cheaper distribution method such as Internet sales. From this it follows the tendency towards dematerialization. This means a resolution of physical objects to electronic information. In recent years especially mobile technologies were established successfully on the market. It also reinforces the factors mentioned above, due to the reason that the access to digital products is independent of time and place (Schmidt, 2007). This can lead to a full automation of business processes in which all interaction processes and all phases of service provision (including payment and delivery of goods) can be made via electronic networks. A further outcome of the Digitalization is that especially the value-chain of the company changes. The service companies, but also companies who are producing physical assets are faced with information intensive value-chains that also change the competition in a radically way.

But how does Information Technology or Knowledge Management (KM), as an enabling technology of Digitalization, affect Porter's Five Competitive Forces? Most of the industry forces are negatively affected by the listed developments. This means that the potential profit of the companies is decreasing. New technologies change the competitive environment significantly. It is also more complicated to make a prediction only on the basis of the Five Forces framework. The economic and social basic conditions change increasingly fast due to the Digitalization, Globalization and Deregulation.

Information Technology changed the rules of competition in three ways (Mohapatra, 2012): (1) Due to new technologies, existing business models are affected. In turn, this leads to changes in industry characteristics (2) New Strategies are being formulated due to the use of IT. It is important to ensure that the ambition of all stakeholders has been secured. Companies can benefit from an early adoption of new technologies. Furthermore they can maintain their competitive edge "and remains as top-of-mind recall for potential customers" (Mohapatra, 2012, p. 274) (3) New Technology leads to reinvention of new business models.

But to what extent does Information Technologies, such as the Internet influence each of Porter's Five Forces? If the number of competitors increases within an industry the intensity of competition will be atrocious. In order to survive and gain a competitive edge, companies are requested to make use of Information Technology. Through the use of IT, they are able to differentiate their products and services and thus create more value for the customer, create new products, or improve production efficiency and cost advantage (Porter, 2001). Good examples are the introduction of 'Online-Banking' or 'Airline-Booking System'. Whenever a company makes use of a new technology in order to gain a competitive edge, the competitors try to introduce a similar technology in order to ensure that they do not lose market share. No matter where you are, the implementation of those Technologies allows the customers to take an investment decision or to book a flight with your mobile device worldwide. Nevertheless it is necessary to invest in new technologies, human resources and training in order to guarantee the proper function of 'online-banking systems' or 'online-booking systems'. Due to the required high investments, the market entry barriers increased and deter companies from entering new markets (Daneshvar & Ramesh, 2010). If companies act according to these requirements, they can get a competitive advantage against the competitors.

The Bargaining Power of Buyers is also affected by Information Technologies. Information Technology such as the Internet shifts the power to the end consumers and reduces the switching costs (Porter, 2001). This is because of the amount of available information. On the one hand, price transparency increases. Buyers are able to compare prices and quality and to collect information about competitive products very quickly and easily. Based on these information the buyers can select the most suitable product/ service for themselves. In addition customers can buy products online 24 hours a day, 7 days a week and 365 days a year due to new shopping channels. On the other hand, the companies are able to make use of information technologies as well. They can make use of automated order processing system or 'Customer-Relationship Management' and therefore obtain information about the buying behaviour and customers' needs.

Many suggest that if the Bargaining Power of the Buyers increases, the Bargaining Power of the Suppliers will decrease as well. This is true for some industries but not for all. For example this statement is valid for the car industry. Furthermore there are two different views how the Internet altered the Bargaining Power of Suppliers: On the one side, the Bargaining Power over suppliers increases due to a new channel for supplier selection. On the other side, the Bargaining Power of Suppliers increases because of the reason that suppliers are able to have access to more customers. Therefore they are able to decide about collaboration with an organization and can have a look which harmonises best with their own philosophy. Due to the Internet, the suppliers but also the buyers and financial analysts are well informed about company's strategy and about the quality of their products/ services. Nowadays, there are many forums or webpages where the products have been evaluated concerning the price-performance ratio. The implementation of Information Technology affects on the one side the transparency of the overall business process and on the other side relationships among customers and sellers. A good example is the introduction of the 'Enterprise Resource Planning' system (ERP). In the past it was quite difficult for buyers and sellers to gain insight into the production planning process. The existing confidence of buyers and sellers was enough. Today ERP makes the production planning process much more transparent and therefore buyers and sellers are able to plan accordingly (Mohapatra, 2012).

By linking different Information Technologies and manufacturing processes, companies can produce new products within a very short time of processing. Just to mention a few examples of combining IT and manufacturing processes, 'computer-aided design', 'computer-aided manufacturing' or the 'computer integrated manufacturing system' "greatly enhanced the scientific production, and agility and adaptability of production in enterprises, make the product's features added expediently, provide the products with high performance more rapidly, simply and inexpensively, and thereby reduce the threat of substitute products or services" (Yuhua, n.d, p. 2).

Furthermore IT reduces the lead time for manufacturing new products.

4 Conclusions and Recommendations

The purpose of this research was to find an answer to the following Research Problem: "To what extent does the Five Forces model of Porter still is applicable for analysing profitability of an industry?" But first of all it was necessary to analyse the impact of the three new forces on the industry structure in order to provide a valid answer.

The question to what extent Digitalization, Globalization, and Deregulation affect Porter's Five Competitive Forces can be answered as follows: Since Porter's Five Forces relies on the principals of microeconomics, the challenge of the credibility of the model is limited. The three forces [(1) Digitalization (2) Globalization (3) Deregulation] make the network unstable, more extensive, and more dynamic.

Nowadays it is already a matter of course for many companies to think and act globally. This matter of course will expand continuously in the coming years. On the one side, the today's technological progress in the areas of logistics, distribution or communication provides companies to buy and sell products at a global level. Furthermore organizations are able to cooperate better with other organizations. On the other side, the end consumers have the ability to compare prices worldwide and to buy the product with the best price-performance ratio. This also impacted the small-, and medium-sized companies. Now, they have international collaborators and they are no longer operating in a local market with local competitors. Those companies who are not operating in a global environment are not able to compete on the market anymore. Furthermore Globalization extends the markets. Due to this force, more potential customers and more potential suppliers and partners are available which also affects the Five Competitive Forces. Also the start-up barriers decrease, which means that the Threat of New Entrants is high. Young companies can enter a market much easier based on Lower Trade Barriers, Lower Transportation Costs or Lower Communication Costs. This means that Globalization does not require a new force. Globalization has an impact on the existing five forces, which should be considered by firms.

It was also shown in the last decades that industries such as the airline industry, telecommunication firms or logistic firms were subject of a steady decline of government influence. These developments restructure the traditional business through outsourcing or rejection and recording of business applications. Moreover Deregulation influences the Five Forces model as well. The threat of new entrants increases and therefore the rivalry among the existing competitors will get tougher. Furthermore it is necessary to consider that these three forces are limited in time. Sooner or later the point could be achieved where governmental regulation for a specific industry does not exist anymore.

The Digitalization process has also a considerable bearing on the industry structure. Due to an increasing ability of Information Technology, all market participants have access to extensive information. Because of the spread of the Internet, the problem of asymmetric information becomes smaller. On this basis, new business models can be created. That means that also companies from outside of the industry can change the fundament of competition in the industry. A good example, given by Downes (1997), is the shopping mall. In the past the operators of shopping malls were able to get a competitive edge by large product variety and good locations. But due to digitalization of the commerce, 'electronic malls' are much more interesting for the customers. The customers are able to shop in the convenience of their home, 24 hours per day and 7 days per week. Furthermore 'electronic malls' such as Ebay or Amazon can offer a far greater product choice to potential customers. Therefore traditional shopping malls are not able to be competitive on the market as in the last decades.

Taking a concluding view, the main difference between Porter's Five Forces and the 'New Forces' mentioned above is the role of Information Technology. The Five Competitive Forces model uses Information Technology as a tool for implementing change. But nowadays Information Technology has a much higher status in today's business world. Information Technology can be seen as factor and driver for change. "Technology in other words, is not the solution. It's the problem" (Downes, 1997). As a result, the Digitalization fundamentally changes the basic conditions of industries. The Five Forces model is not flexible enough to adapt these changes. Besides Digitalization can change the profitability of an industry, but this can be beneficial in favour of customers and companies. In my opinion many companies underestimate the Information power of the Internet and set the wrong priorities. As Hemmatfar, Salehi and Bayat (2010) stated, that not only the nature of doing business is affected by the Internet. The Internet also changed the nature of competition.

In the end, the Five Competitive Forces model cannot be considered as outdated. Of course there was or still is a revolution, but this does not challenge the validity of the whole model. The basic idea is that all companies are operating in a micro-network of Buyers, Suppliers, Substitutes, Competitors and new market actors. This idea is valid for each competition-based economy. Today, as in the past, companies are required to offer products and services that are competitive enough concerning price and quality and 'after-sales service'. It does not matter if we talk about 'Old Economy' or 'New Economy'. However a strategist should not rely only on this model. Nowadays it is important to consider other factors as well and make use of further management tools.

This study has found that generally it is not necessary to add an additional force to the Five Forces model as Thurlby (1998) and Andriotis (2004) did. The Five Competitive Forces are still applicable, but it is necessary to know the limitations of the model. Globalization, Deregulation and Digitalization have an impact on the existing forces but they do not develop a new one. As already mentioned in the previous parts, the three forces changed the industry structure as well as the attractiveness of an industry. If the Entry Barriers are low due to the Deregulation process and therefore the Threat of New Entrants is high, the industry is not that attractive for companies than industries with high Entry Barriers and low Threat of New Entrants. Digitalization can affect the attractiveness of an industry as well. Because of the Internet, firms are able to reproduce products of their competitors. This increases the Threat of Substitutes and consequently impacted the attractiveness of the industry negatively.

5 Further Research

This research has thrown up many questions in need of further investigation. Further research should deal with the examination of other forces, which can change the industry structure and therefore influence the Five Competitive Forces model. There are a lot of further discussions on how to add an additional force to Porter's model. Complementary Products, the Government or the Public are possible new force, only to name a few examples. A critical literature review might be necessary in order to find out if it is possible to expand the model with the mentioned examples or not. The possibility of a sixth force depends also on the industry. Maybe there are industries that require a certain new force in order to be applicable for today's business.

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