Uncovering Porter's Five Forces Framework's status in today's disruptive business context

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ABSTRACT

For 35 years business schools and strategists have been embracing Porter's Five Forces Framework. During those years the way the industries and the nature of businesses have reshaped themselves shows that today there are far more forces that can and should be taken into consideration. In this paper we take a look at the status of Porter's Five Forces Framework. We analyze one industry – the US higher education industry. Results show that today when applying Porter's Five Forces Framework, the framework will only be enough to give a descriptive picture of the industry but not tell you anything about the profitability and the competitiveness of it. In this paper, we add four more forces to Porter's Framework that according to today's business environment and context will help to create a more complete framework for analyzing the industry. On the other hand, we also find out that besides the eight Forces, there are always different internal and external factors about the industry and business that will require even more additional forces to be taken into consideration in order to conclude on the competitiveness and profitability of the industry.

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1 INTRODUCTION: A MODEL THAT LASTED FOR 30 YEARS

In 1979 Michael Porter published his first article in the Harvard Business Review developing five forces that would help to determine the long-term profitability of any industry (Porter, 1979). The framework's focus was solely about managing the firm's rent-streams including a diagram that is a mapping of the economic actors with the power to disturb them (Kraaijenbring, 2012). For almost 3 decades Michael Porter's five forces framework has been a powerhouse under the models studied in strategic management. It is believed that Porter has made long lasting contributions in the academic as well as the business field. Until today the framework has been an influential model within business schools and textbooks (Grundy 2006, Lee et al. 2011; Bartlett et al., 2002). It has stayed a useful framework even though some known actors such as regulators or globalisation have been missing.

For year's Porter's framework has been attractive due to its simplicity to understand but also to implement. The game between acquisition and positioning is easy enough to implement (Aktouf et al., 2005). This is why many strategists, consultants and firms have been able to work with and to attract others to the Porterian view of competitive advantage. However up to this day very few academicians have actually taken Porter's Five Forces model under the lens in a critical way. Only a few attempts have been made to further develop this model (Grundy, 2006). In the recent years some criticism has been observed regarding Porter's Five Forces model. In the era of hypercompetitive and rapidly growing industries and business environments, Porter's Five Forces model is believed to be in need of a reshape.

This article will help to uncover whether Porter's five competitive forces are still applicable in the context of the tremendous industry changes and if so to what extent it is still applicable. In the first part, the article will first introduce the reader to the five forces model. In the second part the author will outline with the help of current research to what extent Porter's Five Forces model has been criticized. With a dip into the changing higher education industry, the article will try to outline why the model has become a factor of criticism in several aspects.

Finally this article will answer the following research problem:

To what extent is Porter's Five Forces model still relevant in today's business context?

But first of all we have to consider the issues that need to be addressed in order to answer the broad research problem. In the next parts of this paper, we will answer the following sub-question first.

What additional forces do we need to consider today, given the changes in the industries and the business context?

Furthermore, we will also apply Porter's framework to the higher education industry trying to answer the following sub-question.

To what extent is Porter's Five Forces framework applicable to changing industries?

2 AN OVERVIEW OF THE UNDERLYING FACTORS OF THE FIVE FORCES MODEL

In his article on "How competitive forces shape strategy" published in 1979, Michael Porter for the first time gives a glimpse on his strategic framework. In his article, he argues that the state of competition in an industry depends on five basic forces. Depending on how strong these forces act, the industry profitability can be assessed. The weaker those forces are, the easier it is to establish your business in an industry and strive for increased performance (Porter, 1979). Porter also points out that every different industry will have different challenges concerning the forces and those challenges should be made number one priority if a firm in order to position the firm to compete with the best in the industry.

In 2008 Porter published an updated remake of its existing 1979 article and extended it by going more into detail of the implications of the model as well as addressing misunderstandings.

The five forces governing competition in an industry according to Porter are: the threat of new entrants, bargaining power of customers (buyers), bargaining power of suppliers, threat of substitute products or services and rivalry among existing competitors.

Threat of new entrance

The threat of new entrance to an industry or particular market means that a new competitor will try to gain market share and capacity in that market. The degree of threat of new entrance is based on the degree of barriers for new entrants. Higher barriers of entrance mean that it will be difficult for new entrants to immediately impose an advantage over their competitors and they will have to face retaliation from competitors (Porter, 1979). Thus the high entry barriers will not impose a serious threat of new entrance for the existing companies in the industry. On the other hand if the entry barriers are low the threat of new entrance will be higher and thus the established competition will have to face new potential competitors in the industry, which leads to a moderated profitability in the industry (Porter, 2008).

Talking about barriers of new entrance, there are six factors of barriers to new entrance that summarize the force, namely economies of scale, product differentiation, capital requirements, cost disadvantages independent of size, access to distribution channels and government policy. In his 2008 article, Porter extends the barriers of new entrance to supply-side economies of scale, demand-side benefits of scale, customer switching costs, capital requirements, incumbency advantages independent of size, unequal access to distribution channels and restrictive government policy.

Bargaining power of suppliers

The power of suppliers can have an impact on profitability of an industry by raising costs or reducing the quality of purchased good and services (Porter, 1979). If a supplier has the ability to exercise these kinds of changes then he will have the better call of capturing more of the value for himself (Porter, 2008).

Since companies are very much dependent on suppliers, a supplier will be powerful if a supplier is dominated by a few companies, if it has built up switching costs, if it's not competing with other products to sell to the industry, if there are not substitute to what the supplier is offering, if the supplier can threaten to integrate forward into the industry and be able to see the terms on which the industry is purchasing and lastly if the supplier is not dependent on the industry for revenue generating (Porter, 1979; Porter, 2008).

Bargaining power of buyers

The power of buyers is the exercise of pushing down prices, wanting better quality and service and letting suppliers compete against each other for the job. This way the buyer will try to capture more value while probably paying one of the lowest if not the lowest price for good quality. In this matter suppliers are dependent on the buyer and the buyer takes advantage of his position by applying price pressures to suppliers (Porter, 2008).

Groups of different bargaining buyers with negotiation advantages exist. A buyer is powerful in bargaining if it purchases in large volumes relative to the size of a single vendor. Also the buyer is powerful if there are only a few buyers in the industry compared to a bigger number of suppliers. In addition the buyer has bargaining power if the products or services that it purchases are standard and undifferentiated and if the buyer faces few switching costs when switching its suppliers. Moreover buyers can threaten suppliers with producing the products themselves if they realize that the supplier is too profitable. Also the buyer is price sensitive if the product or service it purchases represents a big portion of his procurement budget. Low profitable buyers will most likely look for suppliers offering the lowest prices in order to lower the purchasing costs. Furthermore buyers are less price-sensitive to industry products that affect buyers products and that have little effect on the buyer's other costs (Porter, 1979; Porter, 2008).

The threat of substitutes

According to Porter substitutes are always present but they are easy to overlook due to their nature of being different from industry's products (Porter, 2008). If the threat of substitutes is high, industry profitability will be low due to the fact that substitutes place a limit on prices. An industries growth potential and profitability will be damaged if the industry does not distance itself from substitutes (Porter, 2008). Porter also mentions that substitutes not only limit profits in normal times, but they also reduce the bonanza an industry can reap in good times (Porter, 2008). Hence the threat of substitute is high if the substitute offers an attractive price-performance trade-off to the industry's product. Also the buyer's switching costs to the substitute should be low (Porter, 2008).

Porter also advises strategists to pay attention to substitute products that can become attractive and profitable due to changes in other industries.

Rivalry among existing competitors

Again according to Porter (2008) high rivalry will limit the profitability of an industry due to constant competition. The intensity and the basis that competitors compete on sum the degree of the rivalry. The rivalry between competitors is high when competitors are big in numbers and share the similar size and power. Also if the industry growth is slow, it will cause arguments and challenges to capture market share. Rivalry between competitors is also big if exit barriers out of the industry are high. In addition rivals that are very committed to their business and gaining competitive advantage through good leadership will want to compete against others. At last, firms that are not familiar with each other will also cause great rivalry (Porter, 2008).

Porter also mentions that rivalry can be especially damageable if it is only based on price, which transfers profits from the industry to the customer (Porter, 2008). The stronger each of the forces are, the more limited is the ability of established companies to raise prices and earn greater profits (Hill et al.,1995; Hill et al. 2009; Porter, 2008).

All in all Porter does emphasize in his work that the sole purpose of utilizing this straightforward framework is not only about defining industry character and attractiveness. He mentions that the tool is also useful to help make key decisions and perceive the underlying factors and causes of rivalry and financial benefits of an industry (Porter, 2008). The framework goes beyond a SWOT analysis that eases decision making regarding the attractiveness of an industry taking into consideration external industry factors based on simplified micro-economic theory (Grundy, 2006).

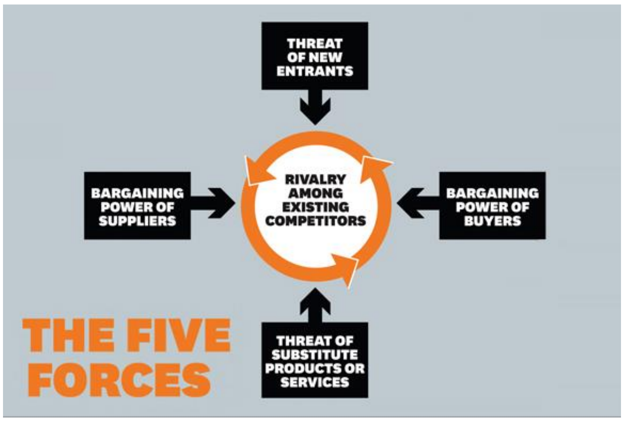

Figure 1: Reproduction of Porter's Five Forces Framework from Harvard Business Review

3 STATUS: LITERATURE'S POINT OF VIEW ON THE FIVE FORCES MODEL

3.1 Theoretical background of the criticism

According to current literature it is believed that Porters Five Forces model is outdated and needs refinement. Kim et al. (2004) for instance questions Porter's models applicability in the digital age. It is obvious that when Porter developed his model it happened during a different business context, which Kim et al. (2004) calls the brick-and-mortar firm context, compared to today's business context, which is digitized. Dulcic et al. (2012) also mention that the Five Forces framework should be adjusted in order to assess today's industry's structure. Dulcic (2012) specifically gives attention to the dimension of time dynamics for instance. Downes (2000) introduced in his article "Beyond Porter" (2000) that Porter's Five Forces were adequate in the 1980's and 1990's however they do not work in this era. Therefore he came up with three new forces that is believed to be aligned to today's business context namely digitalization, globalization, and deregulation. In addition, Aktouf et al. (2005), Hill et al. (1995) and Brandenburger (1997) introduce a new force called the complementors. These four forces will be dealt more in detail in the following parts.

According to Spanos et al. (2001), the firm's unique resources should be the catalyzer to define the essence of strategy (Spanos et al., 2001; Rivard et al., 2006). Pfeffer et al. (1999) and Aktouf et al. (2005) go further by mentioning intrinsic and intangible factors namely leadership, management, reputation, compensation, selective hiring, people, employment security, teams, information transparency, culture, morale, training, empowerment and communication that are not considered in Porter's Five Forces framework. Pfeffer et al. (1999) emphasize that Porter (1997) refers to the need and importance for innovation and that technological innovation is taken as a "given" and accepted no matter in which environment the organization is situated in. However, only a few companies that have adapted the "given" approach have been able to come out on top in their respective industries (Pfeffer et al, 1999). The intrinsic forces mentioned earlier are unlike Porter's view in "Location matters" (2001) created through the forces available inside the company rather than outside. They are created by people within the organization. Furthermore many managers have lost focus as they are too busy concentrating on the external forces rather than the internal forces that play an important role in achieving competitive advantage (Pfeffer et al., 1999).

Aktouf et al. (2005) go on to criticize the model as not guaranteeing a competitive advantage. The framework that is rather a prescription than a dynamic model is not helpful to businesses in terms of improving their shaky market/industry position. Likewise, Srisvastava et al. (2012) argues that Porter's framework is not a dynamic analysis and does not really open up on how the industry participants actually interact with each other in quickly changing industries. Aktouf et al. (2005) also mentions that Porter's framework is rather limited to cost and differentiation and does not consider disruptive and innovative concepts. Moreover, the framework lacks the value of collaboration between firms in order to create and share knowledge as well as skills. Aktouf et al. (2005), Hill et al. (1995) and Brandenburger (1997) even consider that a sixth force called the complementors is not taken into consideration in Porter's framework. The complementors are a force that help to lower costs and increase the value of products by differentiating and innovating.

Porter does assume that the five forces framework involves a zero-sum game, which is according to Srisvastava et al. (2012) not true because if an organization is aware of the co-operation and mutual benefit it can have with another player, in this case a supplier for instance, it may want to partner up with the supplier so both parties come out as beneficial. Srisvastava et al. (2012) mentions the example of Toyota and Honda where both firms work closely with the same supplier in order to have the right parts for the right price with a good quality. This allows them to reduce costs and decrease the availability of obsolete materials in their inventory (Srivastava et al., 2012). Additionally Mintzberg and Waters state in their article "Of strategies, Deliberate and Emergent" (1985) that unexpected changes from the outside will force firms to make on the call decisions to handle the unexpected circumstances. Hence the on the call strategy that is going to be followed emerges from external factors causing the organization to pivot accordingly.

In his article "Rethinking and reinventing Michael Porter's five forces model", Grundy (2006) states that Porter's framework is relatively abstract and highly analytical. Grundy (2006) goes on by criticizing that Porter assessed each of the forces in relation to micro-economic theory rather than in terms of practicalities. He states that the model was rather highly prescriptive and somewhat rigid, leaving managers and indeed teachers in business schools, generally inhibited from being playful, flexible and innovative in how they applied this powerful framework (Grundy, 2006). Grundy (2006) also states that the framework does help to simplify micro-economics however its visual structure is relatively difficult to assimilate and its logic is somewhat implicit. Managers tend to like analytical concepts spelt out in very simple terms, otherwise they find it difficult to adapt to their default, fluid strategic management style. Grundy (2006) goes on by emphasizing that Porter's work tends to over-stress macro analysis at the industry level instead of the analysis of more specific product-market segments at micro level. It also oversimplifies industry value chains and fails to link to actual management actions that managers would have to take in case companies have little to now influence of the five forces. Porter also sticks to the mind-set that industries are entities with ongoing boundaries, which in today's business context is wrong because of the disruptiveness of the industries through new business ideas and the capabilities of technology. Additionally Grundy (2006) also mentions that the framework appears to be self-contained and does not really take into consideration political, economic, social and technological factors and the dynamics of growth in particular markets. Finally, Miller and Dess (1993) argue in their article "Assessing Porter's (1980) model in terms of its generalizability, accuracy and simplicity" that Porter's model needs clarification in terms of cost leadership and differentiation being two visions of a company's future state. They argue that the main objectives to reach one of these states are cost and value measures. They also mention that in order to achieve these visions on corporate level need to be cost orientation and differentiation.

3.2 Resource based view versus Porter's Five Forces

Another school of thought is the Resource based view school. Compared to Porter's strategic development that starts at looking at the position of a firm in a specific industry, the RBV states that firms are able to earn rents[1] if they can maintain and manage their own resources. These resources however need to be valuable, rare, inimitable and non-substitutable (Grant, 1991). Werner (1984) states that the underlying basis of the resource based view theory is that the competitive advantage comes from the application of valuable resource that are in firm's disposal. Just as for Porter's Five Forces, the RBV concept has also been criticism material. Tokuda (2005) criticizes in his article "The Critical Assessment of the Resource-Based View of Strategic Management" that the concept of valuable and rare resources does not fulfill the conditions for acquiring and realizing a competitive advantage. Moreover, the relationship between resources, capabilities and abilities of the entrepreneur are important. Tokuda (2005) mentions that the main source of competitive advantage comes from the heterogeneity of the entrepreneur, who is responsible in utilizing and managing these resources in order to soak their potential for the best output possible. Tokuda (2005) specifically gives attention to what he calls the entrepreneurial rent by exploiting the markets disequilibrium with the abilities of an entrepreneur who is responsible in directing firm-specific capabilities and resources.

[1] Higher profits

Choi (1995), Gick (2002), and Hebert et al. (1982) maintain that entrepreneurial innovation comes into play in order create rents. There are two possibilities of creating entrepreneurial rents: entrepreneurial arbitrage and entrepreneurial innovation (Tokuda, 2005). The entrepreneur is supposed to conduct innovation by introducing new quality products, new processes, new markets, the use of new raw materials and the formation of a new organization (Schumpeter, 1934). A lot of research has been done by looking at the resources of the firm and analyzing them. However, firms need to look at the entrepreneurship as the source of competitive advantage (Tokuda, 2005).

It is questionable why Porter has not involved RBV and or internal forces such as entrepreneurship as the source of competitive advantage in his model when he updated his five forces framework in his article "The Five Competitive Forces That Shape Strategy" published in 2008. Given the fact that Porter comes from a different school and way of thinking, it might be obvious why Porter has never intended on updating his point of view on competitive advantage.

3.3 The obvious forces that have become part of today's new dynamic industries

With the growth of technology and the capabilities that firms have in terms of resources, personnel skill and technological innovation, industries and especially the IT related one has seen a big disruptive burst. In the light of this industry change, Porter's Five Forces model, has to be adjusted to new external forces. In the context of the global network and internet era, Downes et al. (1998) in his critique to Porter's model, talks about three new forces namely digitalization, globalization and deregulation.

It is important to notice that even though Porter rethought his Five Forces model in recent years for instance with his recent article in 2008, the framework was still created in the late 1970's. Obviously, during that era, managers had to deal with different complications and other sorts of problems than those that managers face today. The focus of Porter's Five Forces model is truly based on the economic conditions of that era. Today, managers do face other issues and types of competition. Moreover, the addition of new forces that make sense today, might become obsolete tomorrow. The pace of development of technology and information systems is making businesses shift and play the game of adjustment again and again. Today the addition of the three new forces to Porter's model might make sense however tomorrow they might need to be readjusted again.

Digitalization

Today and also in the near future, it has become obvious that most of the information is being handled electronically. This also means that the access to the competitors, suppliers and customers information is increasing. In this sense possibilities to collaborate and compete have also become available. We call that digitalization. The word and the phenomenon has disrupted most of the industries such as construction, customer service, and distribution. The use of internet and digital media has become a component and a force of almost every organization aware of the advantages of this tool. Consequently dealing with new and unknown competitors and partners in new markets will become easier to collaborate with even before you know them.

Flower in his article "Competition, Technology, and Planning: Preparing for Tomorrow's Library Environment" (2004) gives a few examples on how digitalization has become an undeniable element of most of the industries. He states: ' Shopping mall developers have spent decades developing competitive advantage by managing real estate acquired based on the traditional criteria--location, location, and location. Now, out of "no-where", comes the rapid digitalization of commerce. Electronic malls can offer a broader array of products than any physical mall and are open 24 hours a day, seven days a week. Nontraditional competitors--such as Barclay's Bank in the U.K., which has launched its BarclaySquare Web site--now have malls that put them in the "real estate" business with little investment in infrastructure. Barclay's closely aligns its goals with those of its merchant customers by forgoing rent and charging just the regular transaction fee as their credit card agent. Physical malls even lose on location, because electronic malls are conveniently located wherever the customer (and his Internet device of choice) happens to be (Flower, 2004).'

In any case, no matter what company you are running, if you use the Five Forces model and your strategy of pursuing your business is based on today's industry structure, you will not be able to recognize in time the change that is happening and you won't be able to maintain your advantage.

Globalization

The term globalization has shown to be very popular for those looking for reliable, cost efficient and easy to use products. The information to and about global sourcing is actually related to digitization and this allows easy access to globalization from almost anywhere. It has become easier to manage larger number of suppliers and buyers because the globalization process is speeded up through information technology and digitization.

Flower (2004) goes ahead with the factor globalization and mentions that the world is quickly shifting into a large network that offers undeniable opportunities. Over a short term of period many local and smaller firms have become global companies due to better logistics and communication through digitalization. The opportunity to shop and transport without any border "restrictions" due to deregulation and digitalization has attracted customers from entertainment to software to cars and electronics (Flower, 2004). In the finance sector as well as manufacturing, the fact that most of the operations are time-sensitive, digitalization and globalization has allowed companies to manage their processes 24 hours long. Thus in relation to these opportunities that many firms now have in their portfolio, competition has boomed sky high. Then again the traditional approach to strategy is rather unable to cope with such disruption that is difficult to handle.

Deregulation

In many governments and regulated industries the open and international competition is preferred rather than laws that protect local economies (Flower, 2004). In industries such as the airline, communications and banking actually reflect this kind of preference really well. In terms of attractiveness, one can say that the open market is definitely more attractive as it is easier for instance to adopt IT in an open market compared to industries controlled by regulations and rules. This in turn also leads to companies shifting towards heavy outsourcing and restructuring of their businesses.

In addition, governments have by now realized that in order to be profitable, a countries economy has to become more global and therefore regulations need to be loosened. As a consequence many companies that have been protected under the regulations have now decided to shift their strategies heavily towards information technology and make use of this new opportunity. This in turn leads to a new dynamic market that is constantly changing at a fast pace as new disruptive companies have realized their potential in the IT field.

Flower et al. (1998) gives the example of the international telephone market where national data carriers where heavily regulated. The use of data roaming outside of national territory has led to high bills. Today, the innovative and disruptive technological innovation has given the customers the opportunity to not worry anymore about high monopoly prices that they were being charged previously under the old regulations. In the near future for instance, the European Union will roll out the process of totally removing roaming charges in Europe and telephone calls and messaging will have a fixed price in European Union territory. Given the fact that this deregulation will have a lot of benefits for customers, it will also impact the business of suppliers negatively as they will not be able to set their own prices anymore. Furthermore, not only will deregulation lead to cheaper telecommunication prices, it will also lead to new competitions in this field. It is believed that customers will save $1 trillion in phone costs over the next decade as competition in the industry will intensify. As one can see, deregulation goes both ways. It has become easier to do business globally and trade goods and services due to deregulation that has pushed globalization to different limits. But deregulation is also the catalyzer for more competition as the companies are challenging each other in a price war. For instance in the banking industry, commercial banking is facing the same competition as banks are continuing to invest into new technologies such as internet banking in order to cut costs.

With the implementation of the three new forces, we now have a more dynamic framework. Downes et al. (1998) stresses out that the capabilities of technological progress where there is almost no limit, leads to the fact that even a strong market analysis and study will not be able to foresee all potential entrants or substitutes that can disrupt a market or industry over night. Obviously organizations would have to adjust the way they do business and think about these new dynamic elements. Downes et al. (1998) also mentions that today a manager has more options to actually influence a competitive force. Looking at the way Porter was trying to explain the competitive forces, it was more of a death match of a positioning game versus other competitors in the market. Today it is more important to form co-operations, share knowledge and learn from each other by partnering up, creating strategic alliances or sharing common standards.

Complementors

According to the previous CEO of Intel, Andrew Grove, Porter has forgotten to mention a sixth force namely the power, vigor and competence of complementors (Hill, 2013). Complementors are companies that sell products which add value because the sold product better satisfies customer demands. Grove argues that that substitutes and complementors do impact demand in an industry. Hill (2013) mentions in his book, that research has emphasized the importance of complementary products in figuring out demand and profitability in many high-technology industries. As long as the number of complementors are increasing this shows an increase in demands. Contrarily when complementors are weak, and attractive complementary products are not produced then those can limit profitability and growth. High power of complementors also means that they are able to milk money out of the industry that they are providing complementors to.

In today's context it is very important to know that technology opens up doors to new innovative systems and processes resulting in the creation of new business strategies. The disruption of the markets and the reason why today we are reshaping the way we look at strategy and business has been the consequence of disruptive technological innovation. In opposition to Porter's statement in his generic strategies model, in today's disruptive markets, one cannot only be sure to lead the competition by being a price- or quality-leader.

Based on today's markets, using the Porter's Five Forces model only would not be the best analysis tool to scan your market and industry. According to Shapiro and Varian (1998), economical laws that apply to products and services cannot just be transferred to information goods. This shows that every category of product, service and also markets have different sets of criteria and rules. This is especially true when looking at information technology. Therefore the dynamism of the model plays an important role. The three new forces of Downes do add that dynamism to Porter's model. Without ignoring the underlying basics of the Five Forces model, Downes' additional three forces are able, in the broader sense, to deal with the new disruptive industry dynamics.

The goal of adding new factors is not to create a new prescription. Given the fact that every strategy would need to analyze the internal and external factors of their market and industry, the additional forces help to fake new industry dynamics. It would definitely be wrong if one would look one by one at the forces and then try to conclude a forecast and predict industry attractiveness. The additional new forces are a means to understand to what direction markets and businesses actually shift today.

3.4 Higher Education Industry analysis through the lens of Porter's Five Forces

Whilst the discussion in the preceding paragraphs has been mainly about factors that support criticism towards Porter's Five Forces Framework and four new obvious factors that shape competitive advantage in an industry in today's business context, in this section we will go more in depth, looking at the US Higher Education Industry and how the Porter's Five Forces model can be applied to the traditional higher education and MOOC's[2].

3.4.1 Methodology

In the following section the paper will analyze the US Higher Education industry, traditional as well as MOOC higher education model, by applying Porter's Five Forces. The idea is to find out whether this particular industries' competitiveness can be analyzed by applying Porter's Five Forces Framework as we know it or whether there is a need to implement the four new forces that we have assessed in the previous parts of this paper. The reason to why we are analyzing the US Higher Education industry is based on the changing dynamics of the industry that is recently turning into an information technology based business/education system. Of course there are many

[2] Massive Open Online Course

other industries however the US higher education industry is currently but slowly being transformed into an internet based business which makes us want to find out whether in that case Porter's Framework, that does not include digitalization, can still be used. The application of Porter's Five Forces will be applied to the US Higher Education Industry to see whether the forces still play a role and independently try to find out whether new forces that are shaping the industry are available. The research has been done by using the the academic search engine Google Scholar and Scopus to find academic papers that prove facts. Most of the articles found on the search engines are recent articles dating between 2004 and 2014. For the traditional Higher Education industry, scientific papers found on search engines such as Google Scholar were used. Additionally, for the Massive Open Online Courses part, both blog articles and scientific literature have been used.

Moreover before starting to analyze both higher education models, a definition of both is needed. Therefore, we use an iconographic from Allen and Seaman (2011) article named "Going the distance: Online education in the United States".

Proportion of Content Delivered Online	Type of Course	Typical Description
0%	Traditional	Course where no online technology used — content is delivered in writing or orally.
1 to 29%	Web Facilitated	Course that uses web-based technology to facilitate what is essentially a face-to-face course. May use a course management system (CMS) or web pages to post the syllabus and assignments.
30 to 79%	Blended/Hybrid	Course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has a reduced number of face-to-face meetings.
80+%	Online	A course where most or all of the content is delivered online. Typically have no face-to-face meetings.

Table 1. Reproduction from Allen and Seaman, Going the distance: Online education in the United States (2011), see p. 7.

3.4.2 *Traditional Higher Education Industry*

In 2007, Harvard Business School Professor Clayton Christensen predicted that online education system would start off slowly before disrupting the industry. Today, numbers are showing that online education could reach to 14 million people in 2014. In the US there are 4000 universities competing with each other. However the industry is pretty much concentrated as only 50% of the 17.7 million students are enrolled at 400 institutions only. The result is that 10% of the industry maintains 50% of the market share (Hoovers, 2008). Non-profit institutions in the higher education industry maintain a high fixed cost to total cost ratio. Thus, these institutions are required to operate at full capacity in order to realize competitive economies of scale. For-profit institutions are much more flexible compared to non-profit institutions and they are able to adapt faster to change because of their governing structure (Ruch, 2001). But first let's have a look at the traditional higher education model by analyzing it with the help of Porter's Five Forces Framework.

The intensity of competition in the higher education depends on the similarity of universities in one region. If institutions have similar size and provide similar programs, rivalry will increase (Pringle & Huisman, 2011). Rivalry in the higher education industry is considerably high as the industry holds a high fixed cost ratio and is significantly concentrated. Also to some degree, the profits of being a growing industry balance the high level of competition. Competition is alleviated in light of the fact that extensive non-profit colleges have limited open spots and are satisfied seeing revenue driven colleges fulfill the increasing demand by targeting specific markets (King, 2009).

In addition, the barriers to entry consist of a high fixed cost structure, heavy federal and state regulation, high level economies of scale and restrictive curriculum accrediting processes (King, 2009). Furthermore, the threat of substitutes remains high even though from approximately 400 universities in US, the majority of the students only attend 10 % of the schools available (King, 2009). In terms of the power of buyer, King (2009) believes that buyers (potential students) are widely spread across the market with limited influence on the higher education industry. However with the vastly accessible information regarding the university, course descriptions, campus life and school's overall ranking through the information technology, students now have more power of choice (King, 2009). The threat of new entrants includes new universities and international institutions. Consequently, buyer power is growing relatively fast and is one of the most threatening economic forces for incumbents to monitor (King, 2009). Regarding the power of suppliers, there is rather a low power of influence to the industry from the supplier side. Accordingly, universities represent large stable contracts to vendors making the competition for bids among the vendors very challenging. Given the fact that these vendors sell similar or same products, universities have little pressure and bigger choice of suppliers, thus leading to low supplier power.

Martinez and Wolverton (2009) mention that the substitutes in the higher education consist of three attributes namely time, convenience and application. He states that competitors that offer substitutes often combine time, convenience and application because of expanded delivery options made possible by technology. When we look at MOOC's and how much the industry is shifting towards online education, we can understand that a change in higher education is happening.

3.4.3 *The Massive Open Online Courses industry*

Massive open online courses have disrupted the higher education industry by taking advantage of information technology and the technological innovation as we witness them today (Daniel, 2012; Carr, 2012). Even though it is not believed that MOOC's will radically transform the higher education, at least for now, it will provide strategic opportunity for institutions and their leaders (Armstrong, 2012; Carr, 2012). Also more and more research institutions that are not yet offering online courses are exploring the advantages of online courses to figure out alternative models of course delivery (Allen & Seaman, 2013). The very obvious advantage of online education is that it is a very cheap way of learning through the aid of technology (Batson et al., 2008). As institutions try to find new ways of monetizing, new monetization strategies evolve through MOOC's, however there are concerns about the viability of the models proposed (Young, 2012). In contrast to how disruptive the MOOC's have been, it remains unclear how efficient MOOC's are in terms of education. Still, commercial organizations such as Blackboard, Pearson Education and Instructure have used MOOC's to their advantage that has allowed them to become more pro-active in the education industry (Feldstein, 2012). MOOC's are not only about the business itself but it entails a philosophy that education should be not be limited to only the upper class people who can afford to pay for education. The idea is to let students from different cultural, social educational and language background have equal opportunities to study and to learn (Kop, 2011). This is when globalization comes into play.

In the next part, we will apply Porter's Five Forces Framework to the MOOC's industry. The analysis will consist of the application of Porter's Five Forces with the complementation of other forces such as industry growth, technology, innovation, employers, accrediting bodies and government as mentioned by Marshall (2013).

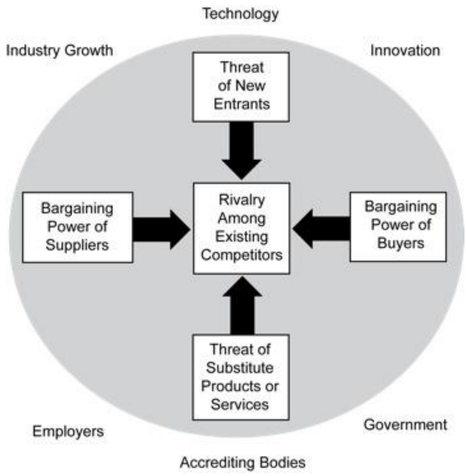

Figure 2. Reproduction of Porter's Five Forces with six additional factors: industry growth, technology, innovation, employers, accrediting bodies, government. (Marshall, 2013)

Marshall (2013) mentions in his article "Evaluating the Strategic and Leadership Challenges of MOOCs" that the threat of substitute products and services can be observed in terms of Christensen's model of new market and low-end disruptive innovation. Marshall classifies MOOC's as low-end disruption where all the added value and support, high-quality qualification are not taken into consideration because the focus is on learning. One barrier to the substitute of MOOC's is the utility of the resulting education, certificate, or qualification that will be classified as free that have no value (Marshall, 2013). Threat of New Entrants means new competition with different capabilities, resources and technology willing to take over the market while making profits. In traditional higher education, the processes of accreditation were the main entry barriers. When the disruptive MOOC's came along, companies such as Khan Academy, Udemy or Pearson Education have proved that they can provide almost the same quality of education in a non-accredited context. However questions were raised due to the fact that MOOC type of educations could be subject of plagiarism and fraud and that this could damage the image of the MOOC organization and the qualification (Wukman, 2012). Still the threat of new entrants remains high as government education institutions are exploring to join the MOOC business.

In addition, the threat of new entrance for MOOC's is becoming easier as the acceptance for transfer credit of MOOC organizations are being implemented by several institutions (Young, 2012). Also the processes for validating work that has been done outside of the institutions are being implemented too (De Santis, 2012; Kolowich, 2013). Yet Mangan (2012) gives attention to legal and copyright issues raised by MOOC's. The use of third-party content seems to be problematic and can vary in each country. He refers to the issue that when creating MOOC's, one can be subject to other countries laws and regulations when trying to attract students from other countries. The issue can include copyright issues as well as content, privacy of information, protection of educational provision and so on (Mangan, 2012). This shows the conflict that comes with informational technology and the mass use of internet. Threat of new entrants into the education industry seem to be fairly easy however institutions that plan to roll out a MOOC need to carefully consider legal boundaries that come with the business model. When looking at the third force 'Bargaining Power of Buyers', Marshall (2013) states that this force outwardly describes students, but in a strategic way it is a reflection of the influence and the impact of a different group of stakeholders. Students are very much dependent on the education system and usually parents have to make investments to the system so their children can profit from higher education. There is little bargaining power of buyers in the education system. Usually fees for universities and colleges are fixed through government regulation (except for profit institutions). In the higher education industry powerful suppliers include companies such as Pearson Education, Microsoft, Google and Blackboard (Marshall, 2013). These companies in terms of technology and disruptive MOOC's are the main contributors to the institutions. Siemens (2012) suggests that MOOC's could be seen as a platform so strategies to develop course discovery and brokerage can take place. According to Marshall (2013) MOOC's can help institutions to develop strategies for the use of 'Cloud' platforms by not causing any negative impact to existing systems and courses. No matter if the institution is publicly or privately funded, competition among existing competitors always exists. The rivalry is not only based on who can attract the most students but it is also based on reputation, modern classrooms and best facilities. High rivalry does not necessarily mean that it is difficult to enter the industry. In the era of digitalization, high rivalry shows the attractiveness of an industry and the key to success is to innovate. Additionally, institutions are competing to gain research grants and to climb the higher education rankings. On the contrary, MOOC's are labeled as collaborating on international level thus making use of the globalization factor mentioned earlier.

Finally, it is clear that MOOC's can and will change strategies for many institutions. The ability to recognize and adapt the change in real time will be a crucial element for institutions. Additionally, strategies rolled out by the institutions need to question several other challenges in order to create differentiation between rivals. To name a few, these challenges include the knowledge and information shared over multiple learning platforms. Students need to be more responsible for self-managing their time and studies.

What we learn from this is that Porter's Five Forces Framework is applicable to both models of the Higher Education. As mentioned earlier, Porter's Framework's nature of being a descriptive and prescriptive framework still holds this status. Applying the framework to the industry is possible as the framework is pretty straight forward and easily applicable. However, deciding on the competitiveness and profitability of an industry through the framework will not lead to the answers. With the innovation that is happening in information technology, and MOOC's being served on a digital platform, there will always be new factors to look out to that need to be added to the Five Forces Model in order to have a complete framework. We have discussed these forces in the previous parts of this paper.

4 CONCLUSIONS AND RECOMMENDATIONS

Along these lines, in spite of all changes that are happening in industry dynamics, Porters thoughts are not completely outdated. Porter is to some extent right when saying that every business operates in a structure involving new entrants, competitors, buyers, suppliers and substitutes. At least this is true for most of the competition-based economies. This already answers our research question that Porter's Five Forces Framework is still applicable because of its descriptive nature. Nevertheless, one needs to consider additional external and internal forces depending on the industry in order to be able to tell something about the competitiveness and profitability of this industry. In addition, we have seen that new typical drivers of our time such as globalization, deregulation, complementors or digitalization are becoming important factors that should not be ignored and cannot be ignored anymore. Especially globalization that has been around for a longer time and digitalization coming into play after the dot.com boom, the possibilities and innovativeness that is offered to businesses constantly creates new elements to look out to. Thus when applying Porter's framework to the higher education industry, we have come to the conclusion that in changing industries such as the higher education industry that is shifting towards the MOOC model, Porter's framework as it is, is not enough to assess the new dynamics of the industry. These dynamics definitely involve digitalization and globalization with MOOC's spreading on every kind of online platform trying to bring education to millions of people globally. In addition deregulation that is being reconsidered to provide monetary and business opportunities for countries will end up playing a bigger role when MOOC's become a global phenomenon. Taking down a barrier such as government regulations will be the catalyzer to globalization for this education model.

Finally, with the transformation of markets, technological innovation and new regulations that create new drivers in today's business context, we can conclude that Porter's framework needs to be rethought with additional drivers that play an important role today. However for now it is safe to say that, one should use Porter's Five Forces framework with its limitations in mind and to use it as a tool that describes macroeconomic factors from a simpler and broader point of view.

5 LIMITATIONS AND RECOMMANDATIONS

With the belief to have reached the initial purpose of this paper, some limitations were inevitable. In the analysis section, we have analyzed only one industry, which makes it seem like Porter's Five Forces Framework is not applicable to any of the other industries. This of course is not the case. The reason for the choice of only one industry was that due to the limited timeframe and scientific literature found on the applicability of Porter's framework. Hence it was a better choice to base the research on only one industry with enough valid scientific proof. The Higher Education industry was a good fit in this case. For further research purposes it would be advisable to look at several industries from a broader point of view and try to answer whether Porter's Five Forces Framework fulfills today's all industry demands.

Additionally, due to the nature of scientific literature found, the higher education industry in this paper only refers to the US higher education industry. This could raise the question whether the European higher education industry is not affected. We believe that the European higher education industry is as affected as the US one. However due to the fact that MOOC's are fairly new and have actually evolved in the US in the first place, is the reason why there has been very few to no scientific research found on this topic in Europe. Thus we have limited our research to USA only.

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