



SCHOOL OF
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Effects of Digital Regulations on International Business Strategy

A multi-case study

by

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Abstract

Digital technologies have brought new challenges to society, such as data privacy abuses, attacks on democracy, and even military-grade technologies being accessed by civilians. Europe has taken the leadership by regulating different aspects of the digital economy; however, these regulations may create distortions that will harm European businesses. This study tries to draw a picture of the different types of regulations introduced in the digital economy and the potential effects on how international firms strategize.

To aid in this analysis, eight cases, comprising seven companies and one trade association, bring a first-person insight into how digital regulations work today and how much it has affected their strategy. The studied companies are international and primarily European, but the digital technologies they use in their business models vary greatly. The existing theory tries to explain the general effects of regulation on aspects of strategy but seldomly takes a broader approach. This dissertation studies the broader impacts of regulations on international business strategy, mostly in what concerns how the products are developed and adapted to each market or whether digital companies are more likely to pursue arbitrage.

The analysis of each case is made using Ghemawat's (2007) model for international business strategy and Rugman and Verbeke's (1998 and 1998b) models for the effect of environmental regulations on business strategy. In most cases, one particular trend indicates that digital companies that find regulations complementary to their business strategies tend to follow an AA strategy comprising aggregation and adaptation. Furthermore, a collection of strategies on how to deal with the national-international regulatory challenge is also offered.

Keywords: international business strategy, digital economy, digital regulation, institution-based view, resource-based view

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1 Introduction

Throughout history, technology has driven changes that transformed life and communication in meaningful ways. However, no transformation has been as disruptive and on such a large scale as the rise of the digital era. While the advent of this digital age has created many opportunities and pushed forward the dream of an integrated world, it has also created many challenges. According to the Organization for Economic Co-operation and Development (2019), these challenges have become a pressing issue due to their potential for abuse and disrespect to individual and national rights. Digital technologies have enabled an exponential acceleration in the pace of technological advancement, which further amplifies the challenge of protecting users and nations (OECD, 2019).

1.1 Background

The digital sphere has for most of its existence been a highly unregulated part of the economy. However, some countries, mainly in the global north, have tried to catch up with these technological advancements by imposing a series of regulations. These regulations include tools that give the users some choice of how their data should be used, taxation of digital services and data manipulation, and in some rare cases, prohibition or limitation of the use of specific technologies (OECD, 2015; European Commission, 2021; Cui, 2019) . While well-intentioned, these regulations could decrease one of the main advantages the digital age has brought: global integration. A globally diverse environment of regulations could severely limit digital trade and communication.

The Organization for Economic Co-operation and Development (OECD) has worked constantly to promote standardized regulations regarding the digital economy, and while influential, it still only consists of 37 countries. Furthermore, their own slow pace in agreeing on an international standard has culminated in a series of unilateral decisions by its members to regulate different areas of the digital economy (Beaumier, Kalomeni, Campbell-Verduyn, Lenglet, Natile, Papin, Rodima-Taylor, Silve, & Zhang, 2020). It is correct to argue, then, that the world will indeed have a very diverse set of digital regulations, ending an era of unregulated and unchecked digital markets.

The effects of this complex digital regulation environment are of uttermost importance to international business because the digital economy is a significant part of international trade (Huawei & Oxford Economics, 2017). Thus, international business theory should aid managers in strategizing better to reduce the adverse effects a complex regulatory environment may bring and potentialize the positive impact it may have. The relevance of international business

strategy theory lies primarily in the fact that it can help companies understand the relationships between the power to regulate, necessary compliance, and arbitrage opportunities. All elements will be discussed in this dissertation.

1.2 Aim and Objectives

One of the challenges of analyzing the global regulatory environment for the digital economy is how broad it is. Although regulation on business is not a new subject - especially regarding young companies - it has mainly been studied nationally (e.g., Shaffer, 1995; Pashigian, 1984; Birnbaum, 1984; Dreher & Gassebner, 2013; Bourreau, Caillaud, & De Nijs, 2018). It often refers to entry barriers or other protectionist measures on the rare occasions it is examined under an international scope (e.g., Howcroft, Ul-haq, & Hammerton, 2010; Bauer, 1994; Karhunen & Kosonen, 2013). We, therefore, aim to expand the theoretical knowledge regarding the effect of regulation on international business by studying a broader set of issues. Our contribution should serve as a compass for the general corporate strategy of multinational enterprises.

Furthermore, the business strategy literature has two primary foci. On one side, it focuses on external factors (e.g., Dunning, 1988; Ghemawat, 2003; Peng, Wang, & Jiang, 2008), and from the other side, internal factors (e.g., Barney, 1991; Teece, 2014). Some studies on external factors include an international perspective (e.g., Dunning, 1988; Anderson & Gatignon, 1986; Hillman & Keim, 1995). Fewer have simultaneously focused on the two factors (e.g., Rugman and Verbeke, 1998; Ghemawat, 2007). Even fewer combine business strategy with the digital economy (e.g., Mithas, Tafti, & Mitchell, 2013) or regulations (e.g., Rugman and Verbeke, 1998). The closest combination of disciplines to what we aim for in this work was made by Rugman and Verbeke (1998b) since they consider both strategic factors, the international aspect, and regulations. Therefore we aim to open the scope even more to have a broader view of international business strategy (as it will be defined later in chapter two), which considers the influence of a complex global regulatory environment. This broader view is, however, limited to the digital economy context.

It is crucial to differentiate general protectionist regulations from the regulations for the digital economy, however. The former often is used to protect a developing industry. The latter has a broader reach where it can protect a developing industry, the well-being of any given population, and national security. The regulations for the digital economy also pose a more significant challenge because they can affect businesses and people not physically located in the regulating country. On the other hand, protectionist regulations affect only companies planning to operate or already operating in the regulating country.

It is not the first time, however, that technology poses a global threat. For a long time, the environmental issue arising from industrialization has been dealt with both unilaterally and in cooperation by the worldwide community. Many regulations have been introduced with varied effects in supranational agreements, international standards, laws, and many other tools. In these regards, a parallel can be made between environmental regulations and regulations for the digital economy because both phenomena have had an irreversible impact on the world, demanding international cooperation to solve these issues. They have also followed a similar

pattern of unregulated markets, followed by consistent abuses and problems arising from increased activity, followed by a global regulatory move.

Although a parallel can be made, the digital economy has its challenges. To account for that, this paper will only borrow from the subject of environmental regulation one of its models, especially that presented by Rugman and Verbeke (1998). This strategy has been attempted before by Howcroft, Ul-haq, and Hammerton (2010) when studying bank regulations, indicating that the regulatory impact model developed by Rugman and Verbeke (1998) can be applied to other fields with satisfactory results.

The subject of environmental regulation has received significant attention on both its narrow and broader scope. It offers the academic community a detailed account of its general effect on business and the effect of specific measures introduced by them - carbon markets being one example. The study of the digital regulation impact has been limited to the isolated effects of the few regulations introduced since 2015, indicating that the subject is still under-researched in its broader scope. With the aid of more comprehensive models used for environmental regulation, such as the previously mentioned Rugman and Verbeke (1998) one, we hope to expand the theoretical horizon of the effects of regulations for the digital economy in its broader aspect.

This paper will focus on how regulation relates to international business strategy in the context of the digital economy. This study aims to aid firms operating in the digital economy to deal with this imminent complex regulatory environment with this approach. The question this paper tries to answer is, then:

“To what extent do regulations for a global digital economy influence international business strategy?”

It is worth mentioning that international business strategy is often reduced to internationalization and exploitation of specific advantages, primarily based on traditional theoretical frameworks such as Dunning’s (1988) eclectic paradigm or Barney’s (1991) resource-based view (RBV). These are often very interested in production and supply chain improvement, which can be argued not to be as relevant for digital business as traditional ones. This paper will try to contribute to international business strategy theory by combining an institution-based view (IBV) to the existing RBV theories proposed by Peng, Wang, and Jiang (2008).

Furthermore, we also aim to contribute to the more practical side of international business strategy, aiding managers and policy makers. This contribution will be made possible by a detailed application of strategy models such as Ghemawat’s (2007) “AAA” Global Strategy Framework and the resource-based model presented by Rugman and Verbeke (1998).

1.3 Delimitations

The scope of this dissertation is two-fold, where from one side, it will focus on the aspect of regulations for the digital economy. This first aspect will include a broader range of regulatory tools that have been applied so far, with some remarks regarding new regulatory tools currently being discussed. As will be made clear, these regulations come from a wide array of sources and often are not limited to material products, something which may be counterintuitive at first.

The other aspect of the scope of this dissertation will focus on international business strategy, especially where it concerns digital business. For that, it is necessary to define digital business, which can be a somewhat complex task. In short, this study will work simultaneously with the definition given by Shaheer (2019) and the different types of digital business presented by Beaumier et al. (2020).

1.4 Outline of the Thesis

This thesis is segmented into five chapters. In the first chapter, background information on the topic, problematization, aim, and research purpose has been introduced. Following, chapter two reviews existing literature on the topic to establish a knowledge base that will assist in discussing the matter at a later point. Chapter three gives insight on the employed methodology to conduct this study. In chapter four, the results of collected data will be presented and analyzed. The implications it may have in connection to the theoretical foundation that has been set in chapter two will be discussed. Lastly, conclusions drawn from this study and suggestions for future research will be reviewed in chapter five.

2 Literature/Theoretical Review

The influence of any regulation on business strategy is a very complex variable to measure. One could enumerate several different kinds of forces, making the subject in question a truly multidisciplinary one. This dissertation will focus on regulation, international business strategy, and the digital economy to avoid excessive lengthiness. In that sense, any influences stemming from other fields, such as microeconomics, will be disregarded for this study. This chapter will present the definition of the digital economy, international business strategy, regulation, and how these subjects interact with each other according to the available literature.

2.1 Digital Economy

Bukht and Heeks (2018) define the digital economy as “that part of economic output derived solely or primarily from digital technologies with a business model based on digital goods or services” (p.1). This definition seems to conflict with the ideas presented by Beaumier et al. (2020) in the sense that the digital economy goes beyond firms whose business models are based on digital goods or services. For them, the digital economy would not exist without the specific infrastructure that enables it, and that too should be considered as part of the digital economy. Rather than just a tiny extra detail forgotten by Bukht and Heeks, this statement hints at an essential aspect of digital regulation: intermediaries.

Shaheer (2019) provides a more relevant definition. He defines digital business as “a firm whose core value proposition is enabled by digital infrastructures.” The recognition of the importance of digital infrastructures is necessary because Beaumier et al. (2020) show that many regulations are made possible through their administration. They use as an example the fact that the proxy operators for any given country can measure the data flow from a country to any given firm, making it possible for governments to monitor it on an exact scale without depending on self-reporting by the companies. This type of measurement is only possible due to the very material nature of the digital infrastructure and how operators can physically manipulate it. This more complex view of the digital economy is being followed now by most countries in Europe that have introduced their digital service taxes (Cui, 2019). The OECD (2015) defended this same logic, pushing for reform towards a new standard of global regulation.

Based on these ideas, we propose a broader definition of the digital economy, i.e., the part of economic output derived from business activities enabled by digital infrastructures. The digital economy does not have to be limited to firms, nor is it defined by firms whose business models are based on digital goods or services. Many firms with more traditional business models now

exploit some aspect of the digital economy, but none of these digital business activities would be made possible without the global digital infrastructure (Beaumier et al. 2020; Oxford Economics, 2011).

2.1.1 The importance of the global digital economy

According to specialists, today’s digital economy already represents around 15% of global GDP, with expectations of its participation reaching nearly 25% by 2025 (Huawei & Oxford Economics, 2017; Global Development Institute, 2018). The digital economy continues to grow steadily in a time in which the global economy seems to be slowing down, and many big markets are taking nationalist and protectionist measures (Huawei & Oxford Economics, 2017; Rodrik, 2016). This growth is accompanied by an increase in the quantity and severity of abuses relating to the digital economy (OECD, 2020).

2.1.2 Types of digital business

According to Beaumier et al. (2020), digital companies can be split into four different types based on two dimensions. They elaborate that the first dimension is centralization, where companies can be categorized between having few or many subsidiaries depending on the nature of the industries in which they participate. They cite the network effect and high capital requirements as examples of why a company would centralize over decentralizing. The second dimension is the distinction of whether a company’s assets are material or seemingly immaterial. Examples of such intangible assets that they provide are search engines or bitcoin protocols instead of material assets like submarine cables or smart speakers. Table 1 shows the matrix proposed by Beaumier et al. (2020) based on the definitions mentioned above. According to them, some firms, due to their size, business model, and level of verticalization, can be categorized into more than one type. They also explain that each type has its regulatory challenges, which implies that the more complex a company is, and the more types it fits into, the more regulatory challenges it will have.

Table 1. Centralization and (im)material nature of digital technologies Beaumier et al. (2020, p.518)

		Centralization	
		Centralized	Decentralized
Nature	Clearly Material	Type 1 (e.g., Submarine cables)	Type 2 (e.g., Smart speakers)
	Seemingly Immaterial	Type 3 (e.g., Search engine)	Type 4 (e.g., Bitcoin protocol)

2.2 International Business Strategy

As mentioned before, we aim to apply a broader analytical view of international business strategy. Therefore the following sections introduce definitions of what we consider as business strategy and a series of theories that help explain international business strategy as a subject. This exposition of our ontological standpoint starts with the definition of business strategy, followed by a short introduction to semiglobalization theories and a series of institution-based views. The aim is to give the reader enough context to understand the role that national differences have on economic systems, and therefore, on the institutions that arise. These institutions are primarily responsible for the regulatory environment businesses take place in, as will become evident in this chapter. Lastly, we introduce Ghemawat's (2007) AAA Global Framework, which will analyze the broader set of strategies adopted by digital businesses.

2.2.1 Defining Business Strategy

In this work, two mainstream business strategy theories are considered, namely Barney's (1991) RBV and the more recent IBV presented by Peng, Wang, and Jiang (2008). This approach stems from the ideas presented by Grant (2018) that business strategy as a concept is in constant evolution. According to him, business strategy shifted from focusing on external sources of profits towards Barney's (1991) RBV, i.e., the internal sources of profit in the firm's resources and capabilities. While this shift happened in the 1990s, a new one occurred at the turn of the century, bringing companies to focus on the turbulent new challenges enabled mainly by digital technology. It is possible to say then that business strategy is once again interested in strategizing for external events to firms, however, this time to improve their chances of surviving or adapting to new technologies and demands.

Alfred Chandler (1962, cited in Grant, 2018) defines strategy as "the determination of the long-run goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals" (p.15). Grant (2018) agrees with this statement by defining strategy as "the means by which individuals or organizations achieve their objectives" (p.14). It is necessary to mention that strategy can be studied broadly or narrowly. In this work, we aim to check it in its broader sense, as the strategy through which firms can achieve competitive advantage in an international environment. Logically, one should apply the ideas presented here in a narrower scope to study internationalization, entry-mode choices, project appraisals, governance, organization, and many other areas.

2.2.2 An institution-based view for the global digital economy

Ghemawat (2003) argues that the global economic scenario is one of semiglobalization, characterized by a series of distortions caused by a diverse global regulatory environment. In this scenario, the global economy is always somewhere between total isolation through national

boundaries and complete integration. International business strategy is necessary to navigate better the arbitrage or aggregation possibilities stemming from semiglobalization. He proposes that to understand the difference between mainstream corporate strategy and international business strategy, one must analyze whether “key firm activities, resources or knowledge are business-specific as opposed to generic” (pp.146-147) and whether these same “activities, resources or knowledge are location-specific as opposed to free-flowing” (p.147).

International business strategy is more interested in the effects of semiglobalization on location-specificity and how this specificity creates market- and firm-level issues. Ghemawat (2007) states in a later work, “[t]he main goal of any global strategy must be to manage the large differences that arise at borders, whether those borders are defined geographically or otherwise” (pp.59-60). Boddewyn and Brewer (1994) argue that the political space, i.e., the existence of sovereign states, is what creates these borders, rather than “physical, economic, and sociocultural” (p.124) aspects. As they explain:

It is precisely the existence of sovereignties (states, governments), which rule distinct political economies, together with the concomitant assertion of governmental controls and of business devices to avoid or exploit them, that distinguishes “international” from “domestic” business. (p.125)

Rugman and Verbeke (2004) summarize:

This semiglobalization view is agreed by Jackson and Deeg (2008), which use the concept of comparative capitalism to cluster different economies. They argue that different types of capitalism will produce various institutions, which will generate constraints for international business. The different types of institutions that each capitalism may form will also influence social exclusion and how firms develop their resources.

Peng, Wang, and Jiang (2008) largely agreed on this view in the sense that the constraints caused by institutions may be a good source of firm-specific advantages (FSAs). That constitutes yet another argument for the importance of institutions for international business strategy. They go as far as naming it a “strategy tripod” (p.921), containing industry-based competition, FSAs, and institutional conditions and transitions. International business strategy should then take into consideration these three factors to improve performance.

A derivation of this idea could produce a matrix measuring the level of commitment of resources and difficulty when dealing with digital regulations. This way, strategizing for a specific scenario could be advantageous to deal with similar scenarios in other parts of the world with a matching set of institutions. Karhunen and Kosonen (2013) argue that before entering a less mature market from a more mature one, the firm should “thoroughly assess its business processes and their applicability to the local context” (p.206). They argue that formal

constraints from institutions relating to the excessive bureaucracy and uncertain legal environment, combined with the informal constraints, lack of transparency, and importance of personal networks, can significantly increase transaction costs over outsourcing decisions. This increased cost of outsourcing capabilities may push the firm to develop them internally.

This regulatory push is also recognized by Howcroft, Ul-Haq, and Hammerton (2010), and Bauer (1994), although they relate it to an internationalization push. It is possible to argue then that this regulatory push can affect different aspects of a firm's strategy and have positive effects. For example, Birnbaum (1984) has presented evidence from the US X-ray manufacturing industry that high levels of regulation can push companies to adopt invention and innovation strategies, an arguably positive effect resulting from regulations. Rather than an incentive for policy makers to regulate more, this presents the possibility of a scenario where regulation makes firms more competitive, which will be further explored in Rugman and Verbeke's (1998) models.

2.2.3 International Business Strategy in the Digital Economy

Digital strategy has for most of its existence been regarded as a minor aspect to be included in business strategy. Rather than a subject, it was seen as a tool that should conform with a firm's business strategy (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013). The crescent importance of digital technologies for business and the emergence of business models enabled by these technologies have lifted digital strategy to a central position in business strategy. Bharadwaj et al. (2013) argue that, given its importance and reach, digital strategy is often inseparable from business strategy starting then a new field of study named by them as a digital business strategy. Drnevich and Croson (2013) also agreed upon this view, which claims that information systems are rapidly converging towards the field of strategy.

However, as mentioned before, strategy is a broad field. Bharadwaj et al. (2013) define digital strategy as having more to do with how companies need digital technologies to secure a competitive advantage in their industries. They do not mention international business - although sometimes it can be implied given the nature of some digital technologies. Therefore, most of the specifics of the digital strategy they analyze are related to internal capabilities, industry competition, and survival in a more general aspect. This standpoint seems to be the same adopted by many other authors in the field (e.g., Pagani, 2013; Mithas, Tafti, & Mitchel, 2013; Drnevich & Croson, 2013; Woodard, Ramasubbu, Tschang, & Sambamurthy, 2013; Setia, Venkatesh, & Joglekar, 2013; Oestreicher-Singer & Zalmanson, 2013).

While we judge this aspect of digital strategy as necessary, it is still too focused on RBV ideas, particularly its attention to dynamic capabilities, as presented by Teece (2014). RBV theory is very influential in international business strategy. Still, as mentioned before, it is only one aspect of it, and a more holistic approach that includes other types of strategic analysis is preferable. While the digital strategy authors mentioned before do consider environmental pressures other than competition, they fail to consider cultural aspects, the role of institutions

in creating constraints to business, and even their role in promoting resource and capability acquisition. A possible explanation for this apparent short-sightedness is that those articles were written when digital strategy was still an infant field and the digital economy was highly unregulated.

IBV theory should be used to complement the RBV, especially when it comes to international business strategy. Multinational enterprises (MNEs) should consider the formal and informal constraints stemming from institutions and treat their effects as an external resource to be exploited. Hillman and Keim (1995) define formal constraints as the devised rules emanating from institutions (laws, standards, among other examples), while informal ones emanate from the sociocultural norms, often accumulated behavior shaped by the formal constraints.

A parallel can be made to Boddewyn and Brewer's (1994) theory, relating formal constraints to the state-specificities that international businesses need to manage and informal constraints to nation-specificities. Hillman and Keim (1995) offer a set of recommendations on how firms should influence formal constraints by considering the political environment as a market. Given the diverse global political environment (with different government and organization forms), companies should understand how power is distributed and how these formal constraints are generated in each type of government. They focus specifically on how formal constraints are created differently in presidential and parliamentary systems, a view very similar to that presented by the comparative capitalism theory of Jackson and Deeg (2008).

In this sense, we will attempt to expand the theories on international business strategy, especially those proposed by Ghemawat (2003), considering the view from Bharadwaj et al. (2013) that digital business strategy is inseparable from business strategy itself. Furthermore, we propose in this work an application of Ghemawat's (2007) AAA Global Strategy model to analyze the general strategic aspects of international digital business in what concerns both resource acquisitions and the management of differences in institutions.

2.2.4 Ghemawat's model for managing differences

As mentioned before, Ghemawat (2007) sees the central challenge of international business strategy to be the management of differences "that arise at borders" (p.59-60). To analyze a firm's international strategy, he proposes three dimensions: adaptation, aggregation, and arbitrage. These three aspects came to name the AAA Global Strategy framework, which offers a way to analyze three different strategies often taken by international companies. A disclaimer must be made regarding the terminology; Ghemawat (2008) stated that he uses the term global strategy interchangeably with international strategy. We adopt a similar attitude when using the words global and international. A complete account of the coding method used to apply this model is given in Appendix A, where each variable used for the analysis is explained in detail. However, the strategies covered by this model are well-summarized by Ghemawat (2007):

If a company is emphasizing adaptation, it probably has a country-centered organization. If aggregation is the primary objective, cross-border groupings of

various sorts - global business units or product divisions, regional structures, global accounts and so on - make sense. An emphasis on arbitrage is often best pursued by a vertical, or functional, organization that pays explicit attention to the balancing of supply and demand within and across organizational boundaries. (p.60)

The use of this model for issues of digital business strategy inserted in an international context has been suggested by Setia, Venkatesh, and Joglekar (2013), especially in what concerns the balance between the pursuit for economies of scale and the necessity of local adaptation. Furthermore, we apply the framework in a similar manner to Lee, Kim, Kim, & Jeon (2011). This method consists of identifying the variables that define each strategy based on the interviewees' answers.

This approach serves well to the broad nature of strategy, as it applies to different fields within strategy and as a general way of analyzing a firm's international strategy. Ghemawat (2007) explains that any given company can pursue more than one strategy simultaneously. However, it is rare to find a successful case for what he calls an AAA strategy (when a company seeks all three strategies). This rarity lies in the fact that each strategy has its own complex set of managerial costs, making it difficult to pursue more than one strategy.

As Randall and Dent (2019) state, “[m]odels always give simplified representations of reality; they reduce complexity to show some essence” (p.416). Therefore it is also necessary to elaborate more on the challenges and limitations of this framework. As a relatively old framework, it was envisioned with traditional business models in mind. Therefore this framework can be broadly regarded as covering cost and localization strategies internationally (Randall & Dent, 2019). These specific strategies may apply to digital businesses given the particular resources, capabilities, and challenges these technologies entail. Lastly, Ghemawat (2007) seems only to consider the effect of institutions in what concerns cultural or regional clusters such as the ones theorized in the comparative capitalism ideas. He does not consider formal constraints, which is an aspect of extreme relevance to digital business.

2.3 Regulation

Regulation, by nature, is a broad subject that can be applied to many different fields. Thus, to encompass all facets within regulation, its definition must be just as broad. Black (2002) attempts to do just that by identifying the need for a decentered definition of regulation. Given that regulation is no longer solely in the centered form of “command and control” (CAC) (Black, 2002, p.2), which is to say the term “regulation” not only encompasses laws enforced by sanctions that governments or similar structures of governance can impose. Keeping this in mind, Black further defines regulation as follows:

[R]egulation is the sustained and focused attempt to alter the behaviour of others according to defined standards or purposes with the intention of producing a

broadly identified outcome or outcomes, which may involve mechanisms of standard-setting, information-gathering and behaviour modification. (p.20)

With this definition, Black intends to include all possible aspects of what can constitute regulation, who is involved in its inception, whom it affects, and how it can be carried out. For those interested in visualizing the complex definition of regulation, an amalgamation of the concepts is available in table 4 in Appendix A.

2.3.1 Regulation in the Digital Economy

The digital economy is a rapidly changing, dynamic system that has changed and revolutionized itself constantly ever since its inception. With this dynamism comes new socio-economic challenges in the form of negative externalities to consumers. Tackling these challenges can be recognized as the “broadly identified outcomes” in Black’s regulation definition. Kravchenko et al. (2021) attempt to identify a set of principles that regulation should attempt to fulfill in the digital economy. They construct a framework that aims to guide legislators in creating policies that enable the digital economy while also ensuring that societal needs arising from the increased access to consumers’ data by companies are not neglected. It is important to note that Kravchenko et al. mainly focus on the “centered” aspect of regulation, which according to Black (2002, p.12), is on the level of regional, national, and “extra” national institutions.

The focus, particularly on the national level that Kravchenko et al. prioritize in their investigation, contrasts Black’s perspective on the importance of all other possible regulation sources. One could argue with this juxtaposition as a point of reference that at the current point in time, the centered aspect of regulation finds itself more at the core of the debate surrounding the regulation of the digital economy. For that reason and for simplicity in conducting our methodology, this paper will mainly concern itself with centered regulation of the digital economy.

Beaumier et al. (2020) further explore their definitions of digital business by analyzing the specific regulatory challenges each poses. The relevance of this analysis is not limited to warning policymakers of overall institutional challenges but also to alert them to the distribution of power issues that can interfere with the capacity of international cooperation for digital regulations. Thus, as Beaumier et al. (2020) presented, a short overview of these challenges is given here.

Type 1 businesses, relating primarily to the digital infrastructure, are susceptible to regulation given their highly centralized and material nature. The challenge for regulating this type of business comes from the nationalized character these businesses have and their importance in the global context. Although being physically located in a given country, these businesses are part of the global digital infrastructure. One example of the complex issue of regulating this type of business can be seen through the current concerns over 5G technologies, where some countries have listed general bans against companies from another country. Another pertinent example is the regulations that force companies to start local infrastructures to process digital data. Regulations for this type of business are more manageable for governments because there

are fewer intermediaries to control since only large companies can afford to build this type of infrastructure.

Type 2 businesses, mainly relating to connected goods and the internet of things (IoT), have many more intermediaries. The main challenge here is to impose standards that guarantee that the goods can operate in a broader network with a diverse set of companies (to avoid monopolies or social exclusion). Of course, this is negative for businesses that wish to have an exclusive platform for their goods. While regulations for type 1 businesses are often on the national level, those for type 2 are often the fruit of international cooperation. Both the US, the European Union (EU), and China are very active in suggesting and implementing international standards.

Type 3 businesses, relating primarily to immaterial digital products (software and platforms), offer an easier time for regulatory agencies to identify the areas that need regulation. This easiness happens because of their level of centralization. Still, their immaterial nature may also impose challenges for governments to regulate them since they are not physically located in most countries. The OECD (2015) is trying to change the global logic around regulation to allow for the taxation of immaterial businesses. Another solution to circumvent these challenges is the already mentioned regulation over the local operator of proxies, which indirectly regulates type 3 firms. The General Data Protection Regulation (GDPR) and the Digital Service Tax (DST) introduced by many European countries would also fall into this category, representing an innovative type of regulation with extraterritorial reach. Other examples are the Digital Services Act (DSA) and Digital Markets Act (DMA), which the European Parliament is still discussing. If passed, these regulations will affect platform business profoundly since they will become directly responsible for all the content displayed on their platforms, a regulatory attempt to curb attacks on democracy and hate crimes (European Commission, 2021).

Lastly, type 4 businesses, mainly relating to decentralized and immaterial technologies (blockchain technologies being the most relevant example), impose the biggest challenge to regulators. The biggest challenge for this group lies in the fact that the technology enables every person to be an intermediary, creating a complex situation for regulators who will have a more challenging time defining whom to regulate and how. Albeit the difficulty, some solutions have been suggested, such as identifying requirements to avoid the anonymity currently granted by these companies. Here too, the regulation is only made possible with the existence of an intermediary.

2.3.2 Regulation and International Business Strategy

Utilizing the definition of the international business strategy presented in 2.2.1, “the means by which individuals or organizations achieve their objectives” (Grant, 2018, p.14) and applying it to the business aspect of complying with imposed regulations on companies, we can assert that in this case, the objective is optimizing the tradeoff between regulation compliance and minimizing any costs or losses that may be associated with it. Thus, when applying this definition to regulation, we can modify it to “the means by which individuals or organizations optimize compliance to regulations.”

Rugman and Verbeke (1998) investigated how environmental regulations impact business strategy and have formulated a framework for how such regulations should be assessed from

the perspective of a company that is affected by them. They discuss the varying factors within a company and their industry that determines to what extent environmental regulations may limit a company's industrial performance. They developed three different models in the form of matrices, which provide companies with a framework for assessing the long-term impact environmental regulations will have on their operations. Two of these three models are shown in Figures 2 and 3 in Appendix A, where their practical application is presented.

These models take into consideration whether a firm sees regulations as conflictual or complementary to its business model. It also considers the required resources to comply, the speed at which compliance is achieved, and if the investments made to comply are flexible enough to build new capabilities. In this study, a significant amount of attention is given to whether a firm sees regulation as conflictual or complementary since it already indicates a type of influence that regulations might have on a firm's strategy.

This same framework was later expanded to comport the specificities of international business. This updated version of the framework considers the home and host countries' regulatory environment and the net economic benefits that may arise from them. Under this new perspective, Rugman and Verbeke (1998b) view that the level of compliance and whether a firm can successfully derive capabilities from it will depend on how conflictual the regulations are with the firm's corporate strategy. This model implies that firms can also strategize their compliance to different degrees, as shown in Figures 3 and 4 in Appendix A, where their practical application is presented.

Rugman and Verbeke's (1998b) framework seems to consider what Black (2002) defines as centered regulation, that is, those originating from governments and official agencies. This view can also relate to formal constraints presented in IBV theory (Peng, Wang, & Jiang, 2008). Similarly, the idea of decentered regulation also connects with informal constraints (Black, 2002; Peng, Wang, & Jiang, 2008). This contextualization is considerably pertinent given that decentered regulations indicate that the CAC approach is not always possible. Often, the power to regulate is shared among different actors and institutions, some of which do not have to be formal.

2.3.3 Regulation and International Business Strategy in the Digital Economy

The digital economy has changed the dynamic between the regulatory actors. Governments had a monopoly on infrastructure and CAC power. They still have a *de jure* monopoly; however, companies had until recently a *de facto* monopoly over the regulatory environment of the digital economy. Before introducing GDPR, the only regulatory marks of the digital economy were those perpetrated by the same companies that run the services and platforms that make the digital economy as we know it (Pagani, 2013; DeNardis, 2012; Deibert, 2003).

This formally unregulated environment has conferred much power to companies to such an extent that internet governance has been primarily privatized (DeNardis, 2012). Large digital

companies now own a tremendous amount of the infrastructure that makes the internet possible. They are constantly updating their policies, which in practice work as regulations to smaller businesses that depend on this infrastructure (Pagani, 2013; Beaumier et al., 2020). Worryingly, many of these technologies have potentially dangerous uses, even militaristic in some cases. Therefore, it is not surprising that governments would try to regulate the digital economy to reduce the power of large companies and guarantee that specific sectors remain under a *de facto* government monopoly (Fiott, 2020).

As Shaffer (1995) points out, companies will often try to influence the regulatory environment to affect intra-industry competition. The government-business interface becomes a resource to be exploited by companies, a point where RBV and IBV theory meet (Boddeyn & Brewer, 1994). Shaffer's (1995) view agrees mainly with the framework presented by Rugman and Verbeke (1998) in that companies may take advantage of regulations to further strengthen their position in a market. This way, companies might push for more regulation to drive away competitors, but there is another element to this regulatory push by companies. Birnbaum (1984) argues that "a smooth predictable increase in regulations might lead to increased certainty for many organizations" (p.492). In this sense, companies should attempt to reduce regulatory uncertainty by treating the political environment as a market.

This view is largely agreed upon by Lambell, Ramia, Nyland, and Michelotti (2008) that state:

The critical potential contribution of 'regulation theory' to the IB literature resides in the fact that both MNEs and NGOs are not simply conceptualized, as legal and traditional public management assumes, as rule-takers but also rule-makers (p.84)

However, when regulation is decentered - as seems to be the case with the digital economy - firms do not have a political market where regulation can be influenced, thus increasing the regulatory uncertainty (Peng, Wang, & Jiang, 2008; Black, 2002; Birnbaum, 1984). In this situation, it seems advantageous for international businesses to push for more formal regulation to reduce uncertainty and allow an IBV approach to strategizing the government-business interface. This situation seems to imply that without a formal, centered regulatory environment, small firms have little option but to adopt a passive role and adapt to whatever informal regulation is imposed on them by platforms. It seems that the rule-maker part is not equally available to all companies, with smaller companies more often being rule-takers.

Finally, the definition of business strategy, its contextualization in the digital economy, and the influences from IBV theory seem to indicate that international business strategy should consider regulation theory. Contextualizing with Ghemawat's (2007) AAA Global Framework, one could expect regulation to significantly impact how a company strategizes its production, internationalization process, and investments globally. The main challenges are defining whether firms can influence decentered regulation - which seems to be the norm currently -, and assessing how much impact a diverse, centered regulatory environment can have on international operations and capabilities.

3 Methodology

This chapter covers the steps taken to plan and execute the data collection for this study. First, the philosophical approach adopted by us is explained. A short description of the research design is given, followed by an extensive report of the data collection method. The strategies used to analyze the data are exposed in the section that follows, and we finish this chapter by considering the validity, reliability, and limitations of this study.

3.1 Research Approach

Based on the resource- and institution-based views presented so far, it is possible to say that most of the theoretical framework chosen for this work proposes a very constructionist approach. Therefore, collecting primary data becomes necessary to bring into perspective the very actors that directly or indirectly influence the regulatory environment they are inserted in (Bell, Bryman, & Harley, 2019). On a more philosophical aspect, an abductive approach is adopted in this dissertation because the studied question presents itself more like a complex puzzle to be explored than a well-defined set of hypotheses to be falsified in a deductive method. While some effects could be expected based on previous literature that connects regulation to business, the severely diverse nature of both regulation and business makes it a herculean task to derive hypotheses for iteration (Bell, Bryman, & Harley, 2019).

This difficulty does not mean we do not assume an empiricist stance in any case. It seems feasible that to understand the effects of a social construct, whose legitimization stems from so many different factors in any given context, one must base its perspective firmly on theories that have been tested. That offers from one side a sound ontological position to which one can epistemologically study (Bell, Bryman, & Harley, 2019). In connection to what is presented in chapter 2, it is possible to say that the theories of semiglobalization and comparative capitalisms, allied to the definition of digital economy proposed by us, form the ontological standpoint that enables the proposed research question to be answered. In turn, the chosen frameworks such as the ones presented by Beaumier et al. (2020), Rugman and Verbeke (1998 and 1998b), and Ghemawat (2007) are used here as epistemological tools to explore how the interaction of regulation and international business strategy affect the nature of these disciplines. In summary, an abductive approach with deductive influences is preferable because of well-developed models directly applicable to international business strategy. Some are analogous to the new field of digital regulation.

3.2 Research Design

Our work attempts to build a reflexive narrative rather than an explanatory model (Bell, Bryman, & Harley, 2019). A qualitative design founded in interpretive research is then preferable. It allows us the necessary flexibility to pursue questions relating more to managers' responsiveness when facing an uncertain and complex environment. As Bell, Bryman, and Harley (2019) point out, "in qualitative research, the perspective of those being studied —what they see as important and significant— provides the point of orientation" (p.376).

We aim to build a multiple case study consisting of the modus operandi of different companies inserted in the digital economy. This design is a well-known strategy for studying the political operations of firms, as evidenced by the works of Karhunen and Kosonen (2013) and Oster (1982), among many others. The multiple case study design will also have elements of a comparative study. Given the use of the parameters presented by Beaumier et al. (2020) enumerating four different types of digital businesses, it will be possible to compare how each different type behaves when presented with the various challenges that regulatory instruments bring to each type. It should also offer a detailed view on how complex these challenges can become the more types a firm accumulates - as is the case with many large digital multinational enterprises.

3.3 Data Collection Method

The sample consists of seven companies and one trade association. The companies are primarily European, and all of them are operators in the digital economy. One executive of each company was interviewed. There was no specific choice for the interviewee's position except that they should know the firm's strategy. A summary of this information is given in Table 3. The following sections cover the motivation for the sampling method chosen and the interview methods and tools.

Table 2. *Sample of interviewed companies, their digital type, and the position of the interviewee. Digital Europe is the exception to the rule, being a trade association for digital businesses and not a digital company itself.*

Company	Business type	Interviewee position
Advagym (SE)	Type 2 and 3	CEO
Chainvine (UK)	Type 4	CEO
Digital Europe (BE)	Trade Association	Director for Digital Trade and Taxation
hiveonline (DK)	Type 4	COO
Simplygon (SE)	Type 3 or 4	Principal Program Manager

Smint.io (AT)	Type 3	CCO
Tubics (AT)	Type 3	Interim CEO
Veeva Systems (US)	Type 3	Director of IT operations for Europe and Asia

AT = Austria, BE = Belgium, DK = Denmark, SE = Sweden, UK = United Kingdom, US = United States

3.3.1 Sampling

As the framework presented by Beaumier et al. (2020) offers a comprehensive set of digital technology types, we use it as the conceptual ground for our sampling. These same technology types are, in most cases, indicative of specific business models. It is possible then to conceptualize digital technology interchangeably with digital businesses. Hence, the types presented by Beaumier et al. (2020) are treated here as business types. The usage of this framework as one of the conceptual bases for the sampling allows it to have higher generalizability. It offers a contrasting view of the centralization and materialization of digital technologies (Miles, Huberman, & Saldaña, 2014; Beaumier et al., 2020).

The other conceptual ground used to define our ideal sample is based on the scope chosen to interpret business strategy, i.e., an international - often globalized - one. The research gap is directly connected to international business theory, making it categorical that the sample should have companies that fit into the challenges specific to international businesses. Here, the same argument of generalizability could be used, in the sense that opening the scope to international business could produce a diverse enough sample to generalize the results. However, it can be argued that regulation and international business strategy can vary greatly depending on regional factors. In that sense, a too diverse sample might have the opposite effect (Ghemawat, 2003; Black, 2002; Miles, Huberman, & Saldaña, 2014).

We argue here that regulation in an international context tends to look for harmonization, and where it fails, it is still homogenous among specific regions. Rugman and Verbeke (1998b) give one example of this when discussing international environmental regulation, where the Triad (North America, Europe, and Japan) was often seen as a homogenous group. As it became evident from the data, that is not the case for digital regulation. Still, on the other hand, the digital economy has a regionally harmonized set of business models and strategies. As Yin (2018) points out, when utilizing a case study method in research, one should not try to particularize the analysis but rather to generalize it to “theoretical propositions and not to populations or universes” (p.53). Therefore we treat these regional harmonizations with caution. The analysis presented is not necessarily a picture of European digital businesses, but it does point to a pattern regarding specific digital technology types.

The distribution of countries in the sample is primarily the fruit of the opportunistic approach. All Swedish, British, and Danish companies have Swedish subsidiaries, which is why they were contacted. However, one of the Austrian companies was contacted with the same convenience approach based on personal connections rather than physical proximity. We managed to apply

a snowball sampling technique to get one more Austrian company from that first contacted Austrian company. The trade association was chosen to improve the sample's diversity and allow us to do some triangulation. Lastly, the American company was chosen for its size and relevance, but also because no European firms are offering the type of services they do - or at least not at the same level of quality. There was no target number of companies contacted based on countries, but rather a soft target regarding company types.

To better understand digital regulations, it was necessary to first understand to what extent each type of digital business can be affected differently by regulation. This contextualization allowed us to have a preliminary assessment of the challenges these businesses face and an opportunity to test the validity of this framework - a deductive influence on our abductive approach (Bell, Bryman, & Harley, 2019). Having understood each digital technology's specific challenges, we analyzed what companies could be classified as each given type. It is worth mentioning again that some companies do fit in more than one type, which is in no way an aggression to the framework (Beaumier et al., 2020).

In this analysis, we came to realize one considerable flaw in the framework used. It attempts to provide a comprehensive classification of digital technologies based on centralization and materiality. However, it fails to consider technologies that fit the framework but fall out of the reach of regulations. Digital regulation seems to be more interested in the value derived from users through digital technologies (Cui, 2019). Therefore, even if a digital technology (or digital business) falls into a given category in the Beaumier et al. (2020) categorization framework, it is how it derives value from users that defines whether it will fall into some regulation or not. A case illustrating this fact is presented in the results.

To avoid thinner data, we attempted to reach a sample size between five and ten companies. The level of detailing from each company, the amount of data produced, and the complexity of the chosen method of analysis would have made more significant sample sizes unwieldy (Miles, Huberman, & Saldaña, 2014). At least one successful attempt was made at snowball sampling. Unfortunately, this one successful case might not be sufficient to reduce the concerns arising from the opportunistic sampling (Bell, Bryman, & Harley, 2019). Even for the companies located outside Europe, there was an opportunistic layer given that they were, in some cases, contacted through their European subsidiaries.

One last remark must be made concerning the sample - which can be seen in Table 3. We have deliberately avoided companies whose only digital business model would fall into the type 1 category in the Beaumier et al. (2020) framework. Although it could be interesting to see the perspective of type 1 digital businesses, that is, infrastructure providers, it seems to us that the data would be at best interpretative and primarily hypothetical. Beaumier et al. (2020) indicate that these companies might one day be crucial to the well-functioning of some regulations, like the DST. However, that is not the case currently since most countries who have introduced DSTs are instead relying on self-reporting by companies, making it unlikely that "type 1" firms would be affected by digital regulations currently (HM Revenue & Customs, 2020; Kennedy, 2019; Boletín Oficial del Estado, 2020).

3.3.2 Interview method

The data collection consisted of semi-structured, synchronous online interviews (Bell, Bryman, & Harley, 2019). There is a lack of available quantifiable data due to a general attitude from the companies toward protecting their business secrets, which also invalidates other quantitative data collection methods in this case. While some information regarding strategic posture can be inferred from quantitative data (as is the case in Mithas, Tafti, & Mitchell, 2013), this is only possible if said information is available in some databases, and overall industry reporting standards exist. This inferring is not the case in this study because the studied strategy aspects go beyond monetary investment or data measurable in quantitative ways. The difficulty in inferring does not mean that digital business strategy or international business strategy are not based on quantifiable things. Not every aspect can be quantifiable, even though based on logical standpoints.

Some triangulation enriched the data through secondary sources (Bell, Bryman, & Harley, 2019). However, the triangulation through secondary sources was limited to general information regarding the firms' products and business models. Unfortunately, for reasons mentioned before, firms are very cautious in showing information about their strategy, and not much can be found in secondary sources about how regulations are dealt with by these companies. In this sense, the data collected from the trade association served to triangulate precisely for regulatory issues.

The interviewees are decision-makers or closely related to decision-making in the studied companies. Their point of view should represent the logic used to build these companies' international strategies acceptably. Other advantages pointed out by Bell, Bryman, and Harley (2019) are that “[q]ualitative interviews can be used to investigate issues that are resistant to observation” (p.457), that they “can give greater breadth of coverage” (p.458), and that they “enable the researcher to maintain a specific focus” (p.458).

There are also several other arguments as to why semi-structured interviews are more advantageous in this situation, according to Bell, Bryman, and Harley (2019). One of them is that more than one person will be doing the fieldwork. In this case, having an interview guide is an excellent way to increase the reliability of the data collection during the process. Another advantage is that a system for data analysis was defined in an early stage of the research planning, making it easier to set some structure to the interviews to better focus on specific issues (ed. Given, 2008). Lastly, being this a multiple case study, a semi-structured interview will enhance the cross-case comparability by offering a standard set of questions (Bell, Bryman, & Harley, 2019; ed. Given, 2008).

This approach does not come without limitations, however. From the several limitations in this method enumerated by Bell, Bryman, and Harley (2019), maybe the most pertinent is that “qualitative interviews are less flexible in dealing with unexpected topics or issues” (p.459). Except for a few cases in the sample, we did not find this limitation of particular concern during our data collection process.

Another facilitating point presented by Bell, Bryman, and Harley (2019) is that digital, non-face-to-face methods are getting more normalized due to the “pervasive use of these technologies in everyday life” (p.451). Because of that, concerns over these methods are less important now. This banalization of technology indicates that synchronous online interviews with video-based methods are an excellent solution to the current limitations of face-to-face interviews. The tools for this method vary greatly, but we attempted to use the same tool with all interviews.

Of course, that turned out to be a challenge since companies have different preferences regarding this type of software. In every case, we adopted an open posture towards choosing whatever software would be easiest for the interviewee, and in that sense, we have used Skype, Zoom, Microsoft Teams, and Google Meet. Of these, the last two do not offer the possibility of free recording, which led us to use third-party software for that purpose. In at least one of the recordings, some technical issues were encountered, but in no way did it compromise the understanding of the answers given by the interviewee.

3.4 Data Analysis

According to Rennstam and Wästerförs (2018), qualitative data analysis can be divided into three critical activities. The first is to sort the data collected logically to label the different accounts represented in the data. The data is reduced into separate categories in the labeling step, then interpreted in the last step. The interpretation should check for patterns, and from what is found, one should argue for the meaning of the findings.

The approach adopted by us is similar but more in line with the ideas presented by Given (ed. 2008). In her view, coding (or labeling) does not need to be a step done after collecting data. Based on the frameworks and models a researcher works with, one could already have predefined codes or expect specific labels to show up. This type of bias is the case in this dissertation because the interview guide was developed to connect to specific elements of the frameworks studied.

While this could be understood as limiting, we see it instead as an initial guide to facilitate analysis. Our study considers that some of these frameworks were developed with other industries or issues in mind. The Ghemawat (2007) AAA Global Framework is more applicable to traditional industrial economy international firms, for example. Similarly, the Rugman and Verbeke (1998) model were built with environmental regulations in mind. In this sense, we have purposefully adapted questions and views so that the same concepts studied by the frameworks could be more relevant to our study. This type of reconceptualization would be necessary even if the frameworks chosen were a perfect fit from the start. It is through this recontextualization process that “all data bearing the same label can be retrieved and inspected together” (ed. Given, 2008, p.867).

Another comment is necessary regarding the labels. The chosen frameworks propose a series of very relevant labels to the study, but they are limited to their context. The Ghemawat (2007) AAA Global Framework does not consider regulatory influences. Rugman and Verbeke (1998 and 1998b) do not consider how different technologies are affected differently by regulations in the same industry. These overarching themes were elements observed during the interviews that led to new labels that offer a more comprehensive view of the challenges in the specific context we study.

In Appendix A, it is possible to analyze this pre-coding method we applied. The interview guide questions were enumerated, and each number is matched with a specific part of the matrix presented by Ghemawat (2007). Additionally, other questions were explicitly connected to the Rugman and Verbeke (1998) quadrants. A short explanation of each quadrant is offered combined with a visual representation of their application (see Figures 2, 3, 4, and 5).

The use of this variable-by-variable matrix style is relevant because it helps in detecting “what types of associations or intersections may be occurring within cases and their data” (Miles, Huberman, & Saldaña, 2014, p.201). Here, the difference between our approach and that suggested by Miles, Huberman, and Saldaña (2014) is related more to how we present this matrix. Instead of reproducing the matrix proposed by Ghemawat (2007) with each case listed on it, we chose to graphically represent the data based on the overarching strategies presented in the model, namely Aggregation, Adaptation, and Arbitrage. This type of graphic representation is also used by Ghemawat (2007), and it offers a quick way of understanding the complexity of analyzing a firm’s international business strategy.

3.5 Validity

Before the validity of this study is discussed, a relevant question can be raised regarding the method used to assess validity. Given (ed. 2008) states that validity judgment is “often seen as being done most appropriately in an individualized contextual manner rather than through the application of broadly applicable standards and criteria” (p.938). The subjectiveness usually inherent to qualitative studies imposes a significant challenge to objectively measuring validity (ed. Given, 2008; Miles, Huberman, & Saldaña, 2014). One could subsequently question whether validity is a good measure of trustworthiness of qualitative studies since it implies an almost positivist view of assessing the quality of a research method that is primarily subjective and contextual (ed. Given, 2008; Miles, Huberman, & Saldaña, 2014). Despite this relevant discussion, we attempt here to validate this work.

To check the trustworthiness of this work, we follow the steps proposed by Miles, Huberman, and Saldaña (2014). The first step pertains to the representativeness of the findings in our study. In section 3.3.1, concerns over the representativity of the sample are covered. However, it is essential to emphasize that rather than generalize the findings to a holistic model or truth, this study attempts to observe the detailed account of the particular context of the interviewees. This

approach avoids the holistic bias and grants some foundation for the proposal of theories that should be the object of lengthier future studies. The scope of interviewees was extended to include one trade organization, which gave us a broader view of the practices and opinions of digital businesses in Europe. The method is not perfect since cultural factors and differences in legislation challenge the idea of a hegemonic European business environment. However, it serves as a base for triangulating the findings from the other interviewees to confirm overarching themes (Miles, Huberman, & Saldaña, 2014).

There could be biases stemming from the effect of the researchers on the case (Miles, Huberman, & Saldaña, 2014). We are personally very interested in the development of data markets, and some of our efforts have been devoted to including this aspect in the research. This inclusion could be problematic because it is a very recent field, one to which there is yet no data available (as far as we know). However, this interest might have affected how we planned and asked some questions in the interview guide. Looking at the transcripts, one could consider the way some questions were asked to be leading and speculative. However, the objective of those questions was not to produce data on this new field but rather to serve as a way for us to understand better the thought process used to deal with new regulations (ed. Given, 2008).

The next step in the validity checking process proposed by Miles, Huberman, and Saldaña (2014) focuses on the triangulation process. As mentioned before, there was one attempt to triangulate by adding the views of the largest trade association for the sector in Europe. Triangulating through secondary sources was ineffective because the available documents seldomly touch on business strategy or regulation issues. However, the cross-case analysis has allowed for some triangulation based on shared experiences and opinions, which could increase the level of confidence in our findings. This same triangulation method allowed us to recognize an outlier that offers a very relevant discussion to the validity of the Beaumier et al. (2020) model (as mentioned in section 3.3.1). That is why we decided to keep the outlier in the data.

This cross-case triangulation leads us to another aspect, that of the weight of the evidence. When sampling, we purposefully targeted executives or high-ranking employees in the contacted companies. Their role as decision-makers, or their proximity to decision-making, confers their firsthand experience on the matter, granting us a more reliable account of the firm's practice.

Lastly, one more step was taken to guarantee the validity of the study. All the data collected have been made available to all the participants. They were encouraged to check our records, transcription, and interpretation of the data, and we were open to feedback. Several corrections to our interpretation were made based on feedback given by the participants.

3.6 Reliability

Chambliss and Schutt (2019) state that testing reliability “is much more straightforward than establishing validity” (p.111); however, reliability is not sufficient. Schutt (2019) states that “[m]easurement reliability is a prerequisite for measurement validity, although reliable measures are not necessarily valid” (p.279). It seems that out of the most common criteria used to measure reliability, consistency is a more objective factor that can be observed even in qualitative studies. A few questions can be raised about the reliability of this study under the optics of consistency.

Some precautions have been taken to guarantee a higher degree of reliability. For example, Bell, Bryman, and Harley (2019) praise the semi-structured interview method as one that can grant a good level of reliability solely because the same set of questions could be used to replicate the study. It is, however, arguably debatable whether the results would be the same. Both regulation and strategy are susceptible to the constant evolution of contexts, and replicability could then be an issue. While these fields may be in continuous change, they must also provide some stability to avoid unnecessary frictions in the business environment.

Some interviewed companies are expected to change strategy over time, but that does not necessarily imply a reduction in the reliability of our study. Instead, the replication of this study would have to consider the context that led to the change in strategy. The frameworks used are very flexible in this sense, and they offer sound explanations as to why a firm would seek to change its strategy.

Furthermore, identifying patterns indicates consistency among the cases studied in various fields (Chambliss & Schutt, 2019). The connectedness between the observations and the theory is palpable, and it is possible to derive meaningful parallels across the cases and secondary data sources (Miles, Huberman, & Saldaña, 2014).

3.7 Limitations

The principal limitation of the study is in the sampling. A larger sample or a more homogenous one could yield more relevant results for one or another type. In an ideal setting and with enough time, this study could have focused on one specific type of digital business or one specific country, which would have generated a higher degree of specificity. Because our sample is so varied, we consider this dissertation more valuable for theory building than for solid practical advice to managers.

Additionally, a more significant focus for specific industries could reveal patterns and factors that are more industry-specific rather than country- or type-specific. The data collected from one of the participants seem to indicate so. One could also expect that more complex industries

would have a different set of challenges, even though they are under the same jurisdiction or legislation as other digital industries.

The level of detachment in the study is high but not perfect. As mentioned, at least one of the participants was contacted through personal connections. This convenience sampling became necessary because of the overall difficulty in finding participants, given the current limitations imposed by the pandemic and the time constraints of the study. Because this could be an issue for validity and reliability, precautions were taken to increase the detachment level. The researcher, who was not personally acquainted with the participant, conducted the interview. No previous information about the interview guide or the research was given to their participant before the interview.

4 Analysis and Discussion

This chapter is divided into two parts. The first focuses on the within-case analysis, where the models presented in chapter 2 are applied as part of the case analysis. A summary of this information can be found in Table 2 in chapter 3 and Table 3 presented below. The last part offers a cross-case analysis with an in-depth discussion of the findings and their implications concerning the research question presented in chapter 1.

4.1 Results and Analysis

Out of the eight interviews conducted, a total of ten hours of video and audio records were produced. These were transcribed, and from the transcription, a summary was produced for each case. This summary contains the company's background, an analysis of its strategy using the AAA framework, and an analysis of its relationship to digital regulations aided by the models presented by Rugman and Verbeke (1998 and 1998b).

In Appendix A, it is possible to see a detailed account of the steps taken. The part presents the three different interview guides, which was an adaptation necessary to guarantee the relevance of the outlier and the trade association questions. Following the interview guides, it is possible to observe the variable-by-variable matrix (see Table 5) used to identify each firm's strategy. Lastly, a detailed application of the Rugman and Verbeke (1998 and 1998b) models is made by placing the firms in the correct classification within the models. The within-case analysis presented in the following sections is the fruit of this approach. The summaries sent to the interviewees to validate our interpretation of the facts are presented in Appendix B with a visual representation of each firms' AAA triangle - a chart derived from the AAA framework by coding the answers in a semi-quantitative approach. Besides serving the purpose of quickly identifying the central strategy of the companies, it also offers a clear visualization that pursuing more than one strategy is possible and often done to different degrees.

Table 3. Interviewed companies, their opinion on the nature of digital regulations, their current strategy according to Ghemawat's (2007) AAA Global Framework.

Company	Business type	Current international strategy	Regulation
Advagym (SE)	Type 2 and 3	AA (Aggregation, Adaptation)	Complementary
Chainvine (UK)	Type 4	AA (Aggregation, Adaptation)	Complementary
hiveonline (DK)	Type 4	AA (Aggregation, Adaptation)	Both
Simplygon (SE)	Type 3 or 4	A (Aggregation)	Neutral
Smint.io (AT)	Type 3	A (Aggregation)	Conflictual

Tubics (AT)	Type 3	AA (Aggregation, Arbitrage)	Neutral
Veeva Systems (US)	Type 3	AAA (Aggregation, Adaptation, Arbitrage)	Both

AT = Austria, BE = Belgium, DK = Denmark, SE = Sweden, UK = United Kingdom, US = United States

4.1.1 Advagym Solutions

Background. Advagym is a company owned by Sony, located in Lund and with customers all over the world. It offers retrofit solutions to digitize gyms (Advagym Solutions, 2018). Their products range from devices and sensors installed in gyms for measuring performance to a platform where personal trainers can create their workout programs for followers and gym members. Although some parts of the gadgets are produced abroad, most are made, and all are assembled in Sweden. The software development is also concentrated in their headquarters in Sweden. Advagym is autonomous in its decisions and has its strategy, but it still needs to report and has obligations towards Sony. Being a Sony company, they have their terminologies for the positions within the company, and Henrik Bengtsson is the head of Advagym. To simplify things, we chose to use the title of CEO when referring to him since there is an equivalence, but that is not their official terminology.

In the Beaumier et al. (2020) classification, Advagym can be categorized as type 2 and type 3 businesses. The classification as type 2 relies on the fact that it sells gadgets that are an integral part of its digital products. The devices do not work without Advagym's software, and they are a crucial part of their business model. Additionally, they offer gyms and customers a platform, categorizing them as a type 3 business.

...In one extreme, it is just software. It is not hardware at all. And that is just used by personal trainers and gyms to coach members digitally, and without even having to be at the gym, there is no hardware. And in one extreme, it is just the hardware. The user does ... the training himself. And the third offering is that we are just measuring how the equipment is used at the gym... (Henrik Bengtsson, CEO)

International Business Strategy. Strategy-wise, Advagym tries to keep as standardized of a product as possible. This standardization already rules out an essential aspect of adaptation strategies, although another aspect would be the adaptation of management practices on a country basis. The fascinating factor here is that throughout the research, it is possible to observe that most digital businesses pursue standardization; however, in most cases, it is more a matter of pursuing scales than an active decision. That is not the case with Advagym.

...We have slightly different price lists in different markets, but basically, it is the same product, and also it is intentionally so that we haven't customized the product for anyone really. ... We are keeping it all together, and we are listening to all the customers, and we are making sure that you get the customized experience at least at the gym, ... but it is the same product, it is the same platform. (Henrik Bengtsson, CEO)

There is no attempt to arbitrage labor cost differences or production advantages in specific markets. Practically all production and development is in Sweden, and their operations abroad are usually conducted by sales teams or local distributors.

...the production is in Sweden. Parts of the things that are within the hardware are certainly produced in other countries, but the full assembly and production of the hardware is in Sweden. Most of it, there are some components that we sell that are made in China, but the software development, all of that is done in Sweden, in Lund. I'm very careful of putting resources in other places because when you run an early startup like this one, you want to have things very close, and you want to make quick decisions and have full insight into all the details, so that is it. (Henrik Bengtsson, CEO)

On that, they mainly pursue an aggregation strategy. Still, in the end, the management of these operations depends a lot on their relationship with the local distributors. Different management styles are then necessary for some regions, except where a country is managed as a single market.

...In many European markets, we have different relations to different distributors. Some of them we have synchronization meetings every second week, and very, very close contact and understanding very well what is going on. But, for example, in Germany, I think we have six distributors, and it differs a lot. In Japan we have a very skilled team, we are working with that distributor, and they are very good, but that is more of a happening, it is not like from the start we decided like "in Japan, we will work like this, in Germany like that," that is just the way it became. (Henrik Bengtsson, CEO)

Therefore, it is possible to affirm that Advagym primarily pursues an Aggregation strategy with some relevant Adaptation elements. This type of AA strategy "requires considerable organizational and material innovation" (Ghemawat, 2007, p.63), something that both the CEO's experience and the resources from the parent company can help achieve. The pursuit of these strategies simultaneously implies a paradox since standardization seems, at first, to be opposed to adapting to several different national regulations when under the assumption that the international regulatory environment in this field is somewhat heterogeneous.

Regulation. Regulation is a different affair for Advagym than for standard software companies because of its gadgets. Because the devices are material products, they are subject to traditional regulations from the industrial economy (custom fees, certifications, etc.). Dealing with conventional regulations in an international context makes the company more experienced with dealing with a diverse regulatory environment. While they see that new digital regulations may affect them someday, that is not the case currently, except maybe for GDPR, given the fact they store and analyze personal data.

... since we sell hardware, we have to comply with all the rules for hardware, for example. Electrical safety, and material, we're not allowed to use some materials, and that could differ from country to country, and absolutely you must have such regulations, and we always have to comply with it. But there are others, like the GDPR, of course, and privacy things, and many things that you have to comply with. (Henrik Bengtsson, CEO)

An interesting point brought by Henrik during the interview was that sometimes a digital idea might place the product under the regulatory reach of other agencies. This could be an industry-specific issue (given that Advagym products may have some effect on one's health). Still, it could also be an issue specific to digital technologies of type 2 in the Beaumier et al. (2020) classification, meaning that the existence of gadgets through which digital services are enabled may increase the complexity of the regulatory environment for that specific company.

... I'm not sure if this counts to GDPR ... If we would recommend the user to, for example, automatically say, "yeah, it's probably about time to increase your weights," and he does

that, and then he gets injured because we recommended that, there is always this risk that you fall into another regulation, for example, the FDA. (Henrik Bengtsson, CEO)

Advagym sees digital regulations as an opportunity (complementary) because they are good at dealing with them. Part of the success of dealing with these technologies has to do with their affiliation to Sony. This affiliation offers them legal experience and resources to deal with these regulations. Of course, Advagym has its system for it too, where they consider regulatory compliance as part of quality assurance. Still, where they fail to see a regulatory trend coming, they are shielded by their parent company. This shielding does not come without a price since they must work much harder to be consistently compliant with all technologies and follow company-specific standards. For example, startups like Advagym usually would not care about compliance to the same extent, but since they are a part of Sony, they obligatorily must. As mentioned before, this can give the company an edge even more because the resources are most likely coming from the parent company; however, it also imposes extra work and concerns on the companies.

4.1.2 Chainvine

Background. Chainvine is a digital platform that uses Distributed Ledger Technology (DLT) to enable paperless international trade. DLT is a blockchain technology that promotes safe and permanent storage of transactional data allowing for highly secure interactions between different industries. Chainvine has been working closely with the wine industry and various governments worldwide to push for the modernization of customs procedures globally (Chainvine, 2021). Their headquarters is in the UK, but they have a subsidiary in Sweden and a development office in India. They have provided their services to companies in many countries, including Australia, Seychelles, and the US.

Although Chainvine offers digital services, the use of DLT denotes a business model based on highly decentralized digital technology. This combination of highly decentralized and immaterial natures are the criteria used to identify type 4 businesses in the Beaumier et al. (2020) model. While they are a type 4 company, the data implies that they are also affected by regulations aimed at type 3 companies, which raises the question of whether type 4 businesses invariably accumulate some of the challenges of both type 3 and type 4 technologies.

International Business Strategy. Chainvine pursues an aggregation strategy primarily, but it also has relevant elements of adaptation. They want to have as standardized a product as possible, and their cooperation with different governments is an example. Custom procedures vary significantly around the world. They are often redundant, with various documents containing the same information being asked by different agencies. Therefore having a standardized system for tracking documents can significantly reduce costs in international trade, but some adaptation is inevitable when dealing with different customs procedures.

...We work with HMRC in the UK, so they pretty much tell us what the regulations are. How can your data be compliant? Well, we need this information, that information, that. ... So, a lot of it is trial by error, and then knocking out those errors and standardizing the platform as we're doing now. (Oliver Oram, CEO)

Although they have physical locations in other countries, those are more because of personal connections and potential markets than for arbitrage. They consider that opening offices just for arbitrage can be tricky without having local knowledge or understanding the local business culture. Their

HQ does the management with some trim level of autonomy on day-to-day operations, and it works well because they have a good business culture.

... But I wouldn't try and probably set up the kind of shop we've got there [in India] without somebody who had a cultural understanding of where we're doing business. ... We have a subsidiary in Sweden because I've lived there. And we were working with some Swedish companies, and we just thought it was better to have a subsidiary... (Oliver Oram, CEO)

Their aggregation strategy does not group by region but rather by industry. The specifics of the wine industry are analogous or very similar across the whole world. Therefore it makes more sense for Chainvine to treat the customers based on this common factor. Although they are scaling, they are open for adaptations for larger players, mainly because these adaptations could be offered to smaller customers.

... the sectors are so intertwined on import-export goods, so you could be moving wine, say from Australia, but it would go via South Africa. You could actually be drinking wine in Sweden, Norway, Denmark, that actually [comes] from South Africa, Australia, but it's been bottled in the UK. (Oliver Oram, CEO)

Chainvine seems like a company organized enough and with enough drive to pursue the innovations necessary to carry out an AA strategy. Adapting for larger players can be an excellent strategy to guarantee new capabilities that could become part of the standardized products. Additionally, given that they work with customs procedures, some level of local adaptation will be necessary. The challenge, in this case, is balancing the pursuit for economies of scale with the necessity for local adaptations.

Regulation. As an international company, they must deal with different regulations worldwide, but maybe the most challenging ones are employment rules. Additionally, based on their business model, they must deal with the multitude of customs laws worldwide. They see the regulation of the digital economy as something necessary and positive since the lack of regulation can create distortions and uncertainties, especially when considering international trade.

... if you just look at employment rules, for one, you have different employment rules. So obviously, you have to treat your employees differently, and according to local law, so that's one of the regulations you deal with. On a business side, there's, you know, export systems can differ from different input systems. So, you have to marry the two of those and make sure that you are carrying all of the data that's required. ... the more international business you do, the more different processes you're going to have to deal with different regulations, which can be costly. (Oliver Oram, CEO)

Most digital regulations affect them in one way or another. As expected, GDPR (and its counterparts in other regions of the world) pose a particular challenge given the different requirements each country has. They see it as challenging because firms often will not even have complete control or knowledge of all the data stored, and the right to be forgotten can be particularly hard to comply with, so they do the best they can to comply. However, they consider that working with large companies and governments is a positive experience because their specific rules make the work more accessible and straightforward.

If you're working with a large corporation, they probably have most of that in place for you anyway because they'll be used to dealing with third-party vendors, software vendors, if you like. So, they understand the rules and regulations of having to use a platform. And

mainly, actually, when you engage with these corporations or governments, they will have a set of rules for you, and it's a lot easier. (Oliver Oram, CEO)

They see the cost of compliance as an investment because it can give them an edge over competitors. They believe that DLT is the way to answer many questions, such as GDPR, money laundering, payment providers, etc. Additionally, Chainvine chose to go beyond the requirements of regulations to make it a selling point of their product by competing to be one of the most transparent and trustworthy services on the market.

So, I think the way the platform was designed was to actually deal with these identities and assets in a very granular way, a very exact way, and a very secure way. So, we actually wanted to create a platform that went further than all of this and said, “actually, if you really want to manage your identity and your assets better, come to us” ... (Oliver Oram, CEO)

However, it can take a long time for the development to come to fruition, even more, when a great degree of adoption and collaboration from governments is necessary to create the network that would enable this technology.

4.1.3 DIGITALEUROPE

Background. As a trade organization, DIGITALEUROPE represents more than thirty-five thousand companies and thirty-nine national trade associations from twenty-eight European countries (DIGITALEUROPE, 2021). While slightly out of the sample focus of this study, their opinion on the matter is considered one of the most valuable given their close contact with the very institutions that regulate the digital economy.

Unsurprisingly, DIGITALEUROPE cannot be placed into any category in the Beaumier et al. (2020) model. The contribution of DIGITALEUROPE in this study comes in the form of a more holistic view of regulations. Additionally, DIGITALEUROPE’s perspective enriches the discussion about the government-business interface and IBV theory because it has a first-person account on the matter.

Regulation. The relevance of DIGITALEUROPE’s opinion regarding regulations is unquestionable, but a few remarks can be made regarding strategy. Even though trade associations are not so concerned about how each company strategizes, their work can still influence these aspects. For many companies, particularly the small ones, trade associations are the main point of communication with formal institutions. It is expected that large multinationals will be able to handle most regulations and costs arising from them. They are the target for these regulations. The trade associations are an essential factor in the government-business interface because they allow SMEs to be relevant and enable their participation in the political market. Evidence of that is the European Commission’s (EC) overall care when planning these regulations not to hurt SMEs.

... the regulations that are so difficult to take for SMEs etc., in the long run, ... they are not intended to hamper European business because the Commission and the national governments, they absolutely don’t want to harm their businesses. They may do so inadvertently, but they don't want to harm their businesses. (Patrice Chazerand, Director of Policy)

Patrice continuously emphasized the EU's efforts to ensure that every voice within a business environment was heard. He said it is also part of why it is such a time-intensive process for the EU to

formulate new legislation. Even in the case of individual EU member countries preparing their DSTs, for example, he assured that all stakeholders were very much included in the discussion.

... I see a very, very acute interest in codesigning the legislation, and it's more or less without mentioning the name, more or less what is happening. Because, of course, the colleges are Council and Parliament officially, but below the surface, nothing is done that has not been, whose impact has not been assessed and discussed again and again, and it is not just position papers. For example, there are a lot of events, so you put together panels of businesses, Commission, Parliament, Council. So, it is very democratic, I'd say, discussed all along. (Patrice Chazerand, Director of Policy)

When talking about the reception of these regulations, Patrice made a parallel of it with REACH compliance. The chemical industry was apprehensive initially but realized the positive impact that clear standards would have on their business. In a way, these standards would benefit even more small companies because they have the least resources and capacity to comply and thus more vulnerable to uncertainty. Some friction may arise because many of these regulations are designed in independent silos in the EC. The lack of communication between silos may create unwanted distortions harmful to SMEs. Still, there is a lot of effort from the EC in assessing the possible outcomes.

Another effect that these regulations may have is on the viability of some strategies. The logic behind DSTs will, for example, erode the idea of tax havens which might deem some arbitrage efforts pointless. Increased digitization of regulations and business practices may also reduce the possibility of arbitrage in employment practices too. It is not unimaginable that if Chainvine's products become an industry standard, they could be expanded to other international trade sectors such as labor.

I think tax havens are in trouble. Because I mean, we know well Pascal Saint-Amans, the director in charge of tax at the OECD, and he keeps saying the only people who will lose out are the tax havens, that's really the target... (Patrice Chazerand, Director of Policy)

This new regulatory logic considers the intended user of the tool rather than the country where the product provider is mostly a reaction to the blurring of borders. This blurring of borders could be considered in many ways as a sign of increased integration that would lead the world to a heightened sense of globalization, as presented by Ghemawat (2003). This new regulatory logic works to reinforce the idea of national sovereignty and borders, thus pushing international trade back into a state of semiglobalization, with a high risk of an overly complex global regulatory environment. Although an excessively complex global regulatory environment may be undesirable, it may also be necessary to some extent, given that this blurring of borders is also identifiable between sectors.

... you have also these blurring of borders between AI, leading-edge technologies, civilian and military use ... This is another kind of border that has been blurred, and you cannot, for using AI technology even if a small part of it, you cannot ignore that this can go back to you in the form of swarms of killer drones... So, it's a way of telling business you have more responsibilities ... (Patrice Chazerand, Director of Policy).

4.1.4 hiveonline

Background. hiveonline is a startup that offers solutions for agricultural communities in developing countries through blockchain technology (hiveonline, 2021). They are physically located in Denmark,

Sweden, and Rwanda, and most of their customers (or projects) are in Mozambique, Zambia, Uganda, and Honduras. They have two products that work as a platform for producers to account for their yields, expenses, and gains and validate their performance to build a reputation score that enhances their access to credit and new customers.

In the Beaumier et al. (2020) classification, hiveonline can be categorized as a type 4 company because its products are based on blockchain technology. Of course, it can be argued that part of what they offer could classify them as a type 3 digital business too. However, wherefrom the user perspective, they can be a type 3 business; from a regulatory perspective, they will be considered a type 4.

International Business Strategy. hiveonline focuses on working with those countries where a profit can be made because of their startup status. Additionally, it makes sense to be physically located in the region with so many African projects to keep development close to customers. Therefore, there seems to be a level of arbitrage where the Rwanda office was chosen for its proximity, political stability, resources available, and labor cost. The international operations are fully managed by the headquarters, though, leaving the branches with minimal autonomy. There is an overall goal of standardizing the products as much as possible. Still, given that the product is offered to agricultural communities in developing economies, tailoring to cultural aspects becomes necessary. Since the startup is still young and there are not many projects, the management is done on a project basis (indicating an adaptive strategy). Still, they plan to build a large enough scale that will allow them to standardize as much as possible to allow for some aggregation.

... We're trying as much as possible to standardize ... but it's a constant fight in keeping that standardization, where you also need to have some specific cultural, local tailoring for specific use-cases as well. That's a battle that we're always fighting about because ultimately, standardization keeps our costs low and allows us to scale, but we also need to obviously meet what the customers need, and hence need to do some level of customization on top as well. (Matthew Mims, COO)

In conclusion, there are arbitrage elements, but they are somewhat detailed and shy compared to the aggregation and adaptation elements. This lack of arbitrage elements classifies hiveonline as pursuing an AA strategy with challenges like Advagym. The issue here is that hiveonline does not have the luxury of the large set of resources and capabilities of a larger company, making it harder to successfully pursue two strategies. However, a positive contributing factor can be the executives' professional experience, which might help them deal with the strategic challenges and the regulatory ones, given they seem to be authorities within the blockchain sector.

Regulation. As an international company, they must deal with different regulations worldwide, especially in what concerns employment. Additionally, blockchain technology is still a touchy issue in some countries that are cautious about the technology's decentralized nature. Besides these, hiveonline has been affected by GDPR. Although they consider it to be like other governmental regulations worldwide, the GDPR-like regulations have led them to choose some countries over others, indicating some impact on their business strategy. Notably, Matthew points out that GDPR has set a precedent for protecting consumer data that regulators in African countries want to match.

... especially when you're being a financial organization but also dealing with customer data, we need to be compliant with GDPR. The nice thing is that GDPR is somewhat seen as the benchmark or core principle for a lot of other nations to adopt as well. So, data regulations that are coming out from some of the African states where they are looking at

them tend to, in large part, echo principles coming from GDPR, which makes a lot of sense. (Matthew Mims, COO)

They try to build scale, especially when working with developing countries that have lower purchasing power. Therefore, they need to be careful about where to have operations because a too-adapted strategy reduces their possibility to scale up, thus increasing the costs of the product. GDPR then is not necessarily in conflict with their business model. As a company that values transparency and safety, hiveonline has welcomed the regulation; the issue is that being fully compliant is indeed a challenge for startups, given the complexity imposed by full compliance. It then becomes a matter of how far they can implement the compliance requirements without making it too costly. In a way, GDPR-like regulations are a two-edged sword. They help build a reputation - something which was also observed in environmental regulations, as shown by Rugman and Verbeke (1998) - but they also generate very relevant costs for startups. The costs to comply are considered relatively high because they incur in an earlier stage, and the benefits are only reaped when a particular scale is reached.

I think, especially working in countries where there isn't as much focus on GDPR, also, on data protection generally, being able to say, “well, we're based in the EU, and hence, we are GDPR compliant and have to be, etc.” I think it's a benefit for when we're working with NGOs, for example ... But there are other pieces that do cause sort of overhead, and challenges, and additional costs, and how we do things that make that more challenging as well. (Matthew Mims, COO)

Regulation is seen as of extreme importance to their business strategy. The current lack of regulation generates much uncertainty both for the business and for the customers. Especially when it concerns their e-money platform, regulation is necessary to build more trust in the technology by both customers and governments alike. While seen as very important, there has not been any significant change in regulations to change their business strategy yet.

4.1.5 Simplygon

Background. Simplygon is a Swedish company wholly owned by Microsoft but operates with a great degree of independence. The decisions made in the company regarding its activities and operations are created internally, but they still have directions from and obligations towards the HQ. The responsibility for dealing with regulations or legal matters lies solely on Microsoft. Simplygon itself is the product it sells, an on-premises software for optimizing 3D games content promising higher performance and lower production time and costs. It sells globally, and its technology has been used in more than 450 world-famous games (Simplygon, 2020).

The classification of Simplygon in the Beaumier et al. (2020) model is rather challenging. Its product is immaterial, and it creates value from intellectual property. It can also be considered highly centralized since it is an “on-premises” software. This combination should be sufficient to classify Simplygon as a type 3 business. However, the software is not centralized by Simplygon itself. The on-premises status means that each user is his server, and from this perspective, Simplygon could be considered a type 4 business given its immaterial nature and decentralized level. The issue here is that Simplygon is not affected by the same regulatory challenges as blockchain technologies are. Simplygon is an exciting outlier because it raises the question of where the line between a digital product and digital service is drawn. It also implies that the framework presented by Beaumier et al. (2020) is more relevant when the

company (or technology) is highly dependent on user data or user networks, which is not Simplygon's case.

International Business Strategy. The on-premises digital technologies are still subject to regulations but in a way that resembles the traditional industrial economy. It is subject to specific regulations and taxes often applied at customs or guarantees of quality that may have national character but are still based on a harmonized logic globally. This harmonized logic and the nature of software allow Simplygon to pursue an aggregation strategy with a small developing team based in one country with some salesmen worldwide. Markets are grouped in regions, and the product is globally standardized, with English being the only language of support (except in Japan and Korea). Simplygon has no interest in adapting its product, bringing it up to the customer whether it works for them or not. As an established company, it is unlikely to change its strategy for an arbitrage or adaptation one.

Our product is completely in English, but it is on the customer to decide whether that works for them. We are not negotiating those things. Other than that, of course, if we sell to a new country, now we are part of Microsoft and Microsoft has practices in all countries which means we can follow that... (Samuel Ranta-Eskola, Principal Programme Manager)

About the strategic management of their operations abroad, he continues:

... we group by North America, Asia, Europe, and that would be three main markets. Then we have, we don't look too deep on the others because those are more sporadic. But actually, we separate Japan, Korea, and China in Asia because since we have a representation in Korea and Japan, we track them separately. (Samuel Ranta-Eskola, Principal Programme Manager)

Regulation. As mentioned, Simplygon is not affected by digital regulations in a significant way. However, Samuel hypothesized that had the company been created today, it might have been more vulnerable to these new regulations since it could have been developed as a SaaS product instead of an on-premises one. For reference, Simplygon has been around since 2005, a time when SaaS was still in its infancy and cloud services were not nearly as relevant as they are now.

Their product's nature limits how they are affected by regulations and how much their parent company is affected. However, as a global digital player, Microsoft has both the experience and the resources to deal with new regulations. In that sense, being part of a giant corporation works as a shield against complex regulatory environments. It is possible to say that, on a general scale, Simplygon is not so affected by digital regulations. Therefore, they do not have any significant impact on how they strategize their international operations.

I wouldn't say there are that many heavy regulations that we have to think about in terms of when we do our day-to-day business. Sure, the GDPR has, of course, affected us over the last years in terms of when we do web pages or, since we have a customer database to keep track of licenses, we also have to be careful to make sure we don't store unnecessary data. We can't do mass emails without people's consent, but that is a minor thing for us. (Samuel Ranta-Eskola, Principal Programme Manager)

4.1.6 Smint.io

Background. Smint.io is an international company headquartered in Austria with customers in at least four countries. The company is small and has a small set of products. Given the digital nature of these products and customers' localization, there is no (or little need) for adapting the products. Their products offer companies a solution for purchasing creative content in a legally compliant way. It “integrates with a lot of content providers, and allows [companies] to easily search, find and purchase image, video and other content types from all of them” (Smint.io, 2020).

There is no doubt about the classification of Smint.io as a type 3 business. Its product is a digital service platform that derives value from immaterial capital in a centralized way. To make its services and products available globally, Smint.io uses cloud service providers, which is itself a very centralized type of technology.

International Business Strategy. All (or most) of the development is done in-house in Austria, and given the customers they currently have, there is no need to adapt their products to different markets. Based on this, it is possible to say that Smint.io pursues an aggregation strategy according to the Ghemawat (2007) model. The choice for standardization serves as evidence for the aggregation strategy. So does the platform-like structure they use and the management style treating the world (or regions) as larger market sets (rather than a complex myriad of small markets). Much because of the company's size and the nature of the products offered, there seems to be no arbitrage strategy for taking advantage of resources in other countries.

[The product is] a multi-cloud SaaS service, so we don't even have an individual implementation on an infrastructure basis. So, all you do is you open up your tenant, you configure it, you put in your parameters, but it runs on the same infrastructure as for anyone else, and we scale it via the cloud infrastructure in the back end without the customer realizing it. (Gert Fahrnberger, CCO)

Pursuing a single strategy can be especially advantageous for startups in the seed phase like Smint.io. The choice for a multi-cloud SaaS service is also interesting because it helps them deal with regulations indirectly. They are still liable if they do not comply, but the compliance is more a matter of whether their suppliers are compliant with the rules of the countries in which they operate. However, this dependency on suppliers' compliance can become an issue if their supplier refuses to comply and if there is no European substitute for that specific service.

... we take it very seriously to be compliant with GDPR, but it's not easy to be. Namely, because if you are a SaaS platform, what is pretty common is that you're using third-party services that add to your service, without which you couldn't operate or you wouldn't be as competitive ... and most of those platforms are from the US, so it's simply impossible to either be competitive or operate a SaaS service today as a small startup without those services and given that the privacy shield dropped through the famous Schrems lawsuit ... and most American companies, especially when they're small ... still rely on the privacy shield, so your service with any of those companies would now be illegal... (Gert Fahrnberger, CCO)

Regulation. While the company perceives regulation of the digital economy as necessary, they are under the impression that said regulations present challenges that are particularly hard to overcome for SMEs instead of larger, already established companies. Specifically, GDPR is an example of an extra burden and uncertainty that generates unnecessary anxiety and risks for the company. The issue here is an underdeveloped industry of service providers in Europe, forcing European companies to depend on

North American services that are not always willing to comply with European regulations. These are considered vital for their business model. In this sense, foreign companies (especially the North American ones) would be advantageous compared to their European competitors. According to Gert, the dependence of European companies on the services of American data centers is in direct conflict with GDPR, as the American government can access any data stored in these centers upon request ever since the American Patriot Act was passed. This uncertainty affects Smint.io's strategy, as they target customers outside of the EU and do not apply to requests for proposals of public entities.

I think the main issue with the GDPR thing is that the American patriot act enables the American government to access whatever data an American company has company at their will, basically, and this is a blatant conflict with GDPR. So, this fact leads to all sorts of issues with European companies when we say our service runs on Microsoft Azure. Even though the data center is in Amsterdam, so it is in the EU, Microsoft would be compelled to deliver data to the American government under the patriot act if so required, and only this fact brings us at a disadvantage with European companies in terms of competitiveness. So, if, for example, we take part in an RFP ... with most state bodies, it's simply impossible to offer our services simply because it runs on Microsoft Azure data centers. However, there are no European services that would be competitive with them. (Gert Fahrnberger, COO)

The new regulations affect the risk position and cost structure of Smint.io, but less than more prominent companies. Based on the experience with GDPR and the failure of the EU-US Privacy Shield, regulations are seen as conflictual with their business strategy. The redemption, in this case, is that even big companies are supposedly in the same situation, which then "shields" SMEs from government prosecutions. Because of this conflictual nature, there are no regulations to which they adhere voluntarily. Lastly, there is no perceived gain in capabilities or resources (flexibility) in complying with these regulations, except maybe that, given the harshness of GDPR, Smint.io is better prepared to deal with GDPR-like regulation in other countries when the time comes.

4.1.7 Tubics

Background. Tubics is an international startup with customers in at least four countries. They offer a SaaS solution for performance analysis and engagement enhancement for YouTube videos (Tubics, 2021). Their only office is in Austria, but they seem to be engaging more in virtual office activities since the pandemic. However, with activities in different countries, the effect of regulations on them is more nuanced regarding the choice of cloud services to supply customers in each specific region.

Much like the previous case, there is no doubt about Tubics classification as a type 3 business. The SaaS model consists of cloud technology to make digital services available anywhere while still centralized in physical servers in select countries. Tubics' platform is considerably different from that of Smint.io, however. While the former offers analytical services to improve YouTube performance, the latter works as a two-sided platform connecting content creators and companies looking for content.

International Business Strategy. Tubics pursues an AA strategy, i.e., aggregation and arbitrage strategies. Although this combination seems to imply another paradox, Ghemawat (2007) explains that the secret to the successful combination of these strategies is the scale of global and regional centers.

Combining an aggregative approach when serving customers while simultaneously having medium-scale regional centers addressing select capabilities and challenges is possible.

Some of the main identifiable elements of an aggregation strategy are the heavily standardized product, an attitude that treats the world as a single market, and the grouping of crucial markets in larger sets. Additionally, they attempt to take advantage of arbitrage opportunities that a globalized business environment brings, for example, hiring a workforce physically located in other countries. While some arbitrage elements are visible, their primary strategy seems to be one of aggregation.

Currently, and I think this is also a consequence of the SaaS approach, our product is globally standardized. (Dieter Rappold, Interim CEO)

Concerning the arbitrage opportunities, he states:

It's funny because just yesterday, we signed a contract with an experienced software developer located in Pakistan who ... asked [for a salary] 6 times the average income in Pakistan, and for us, it is a fifth or a sixth of the average cost of a developer in Austria. So, we signed that contract based on that amount, so yes, we take advantage of that. (Dieter Rappold, Interim CEO)

Regulation. It is possible to make a comparison between Tubics and Smint.io in their approach towards regulations. Their products are similar and their challenges too. Tubics' product is very dependent on a third-party platform, namely YouTube. In that sense, they consider being more vulnerable to Google's regulations than to national ones.

... we are talking about the importance in the role of the digital economy of governmental rules and regulations, but the fact is if you talk to entrepreneurs, the rules and regulations imposed by the global leading platforms ... are more important than the rules and regulations of the governments. (Dieter Rappold, Interim CEO)

They see government regulations as a cost-adding aspect to the license "to conduct a business," be that cost implicit or explicit. Rather than finding it necessary to regulate the digital economy, they think it is more critical to set reliable frameworks that give clear rules that guarantee competition among the different regions in the world while allowing more freedom for companies to innovate. Other than that, they do not seem so concerned about additional regulations, seeing them more like one of the layers or a set of rules of the game inherent to the business environment. That being so, regulation (especially government ones) does not seem to be a driving factor or a heavily analyzed aspect in their strategy. Given that their service is offered through cloud services, part of complying is transferred to these cloud companies.

... it is a beauty of the development of cloud software infrastructure and cloud business. You don't have to deal with dozens of different legislations as with on-premises software, but you are bound to your cloud server and take it from there. And then, I think that it creates enormous opportunity for startups because you are not stuck in the and fed up with tons of stuff you need to deal with, which are not your core business. (Dieter Rappold, Interim CEO)

An exciting example of regulation given, which we have not studied so far, is the uncertainties regarding foreign labor employment in a virtual setting. Free movement of labor is often touted as one of the marks

of a fully integrated, globalized economy. While it is still not as common as one would expect, the possibilities of virtual offices may increase them. Nevertheless, the lack of regulation or “reliable frameworks” creates many issues for the equal treatment of employees within the same company.

Tubics does not see GDPR and other digital regulations as conflictual or complementary to their business models. As mentioned before, as these regulations are just a part of the business environment, there is little concern about whether these regulations shape their strategy or business model.

[Regulations] are not in conflict, but in our specific case, they are not so complementary but rather neutral. I'd say that is part of the framework, and if you want to play in the framework, you have to comply with it. It is very pragmatic. (Dieter Rappold, Interim CEO)

4.1.8 Veeva Systems

Background. Veeva is a global company working with SaaS applications for the pharmaceutical and life science industries. Its solutions cover various sectors in these industries going through R&D, Regulation, and Quality Assurance (Veeva Systems, 2019). They have about 4.5 thousand employees, of which about half are outside of the Americas. Today they serve 19 out of the 20 top pharma companies as a matter of reference. As an example of where they are physically located, there are offices in 5 different European countries, Japan, Korea, Singapore, Sydney, and two more in India.

Veeva is undoubtedly a type 3 company too. At the same time, it offers products, services, and platforms with cloud technology; it also supplies other platform businesses with cloud services. This classification as a service provider is a rather exciting fact because, much like Microsoft and Amazon, Veeva's services enable digital business models. This classification also implies that complying with regulations is categoric if Veeva wants to continue supplying these services to smaller companies.

International Business Strategy. Although Veeva has offices in several places worldwide, it does not necessarily take advantage of arbitrage opportunities. Those offices are focused on serving local customers rather than taking advantage of specific resources available in the region. Production and development are often clustered in particular areas due to proximity with customers, implying a somewhat decentralized approach. Their management style seems to follow a logic of adaptation in the first phase (when serving a small set of customers in an infant market). As it matures, it becomes more of a global organization style. Their product seems to be very standardized (but open to customizations), but the way the products are managed and sold are more sector- and industry-specific than country- or region-specific. In this sense, the product managers have a considerable amount of power.

... it depends on the function of the offices. As far as if it's a development office, you know, you tend to be somewhere where there's a university that has a good you know, good technological courses ... or, you know, a hub of, there's a lot of technology companies clustered in this area. So that means that we'll have a, you know, a good pool of potential candidates once we start expanding the team. ... So, I would say that you know, the kind of cluster effect is quite important, both from the academic, as well as the local business. (Andreas Fjellner, Director of IT Operations for Europe and Asia)

Veeva seems to pursue an AAA strategy. It clusters its customers into larger groups, has a defined platform and function, and works with a somewhat standardized product globally (all being an aggregation strategy element). However, it also offers customizations of its product, and in some aspects

- especially in new markets - it has a more adapted management approach. Lastly, some offices exist solely for development (in which case they are placed next to a university), sales, among others, which denotes some degree of arbitrage.

... for each main product line, I would say that we have the developers kind of clustered to some extent because a lot of that process is ... in the proximity of an office ... So, they spend most of their time out with customers, but every quarter they get together in one location and kind of plan out ... So, I mentioned this earlier as well, one of the goals is that the product itself should be configurable or customizable enough so that it doesn't put barriers for ... a local requirement. (Andreas Fjellner, Director of IT Operations for Europe and Asia)

To illustrate it better, he goes on to give a hypothetical example:

... let's say that there's a local regulation in Japan. The Japanese professional services team might have a set of pre-configured modules that are already kind of, "here's, here's what you need to do, you know, you copy this, you do this," like a checklist, and now the customer's environment is compliant with the local regulations. So, there is a division there between kind of what is in the core product and what is customizing and configuration. (Andreas Fjellner, Director of IT Operations for Europe and Asia)

Pursuing an AAA strategy is no easy feature. There are severe risks of fragmentation of the business culture. The competition getting an edge by challenging the company in one of the As where it might be potentially weaker or even straight out the tension between the strategies are very plausible risks. The success of an AAA strategy depends then on large-scale economies and structural advantages that competitors might not possess. Veeva seems to be well established in these aspects.

Regulation. Much like some other companies interviewed, they view regulations as more of an inherent aspect of the business environment. As providers of cloud services, Veeva tries to comply to the extent that their customers see necessary. Therefore, even though a diverse regulatory environment could increase the level of complexity for Veeva, they share the responsibility of compliance with their customers.

When asked about Veeva's opinion on regulations:

It is what it is, right? It's the environment where you have to operate. So, it's like complaining about the weather. It is what it is, right? And that's the context that you have to have to operate within. (Andreas Fjellner, Director of IT Operations for Europe and Asia)

The digital economy needs to be regulated, but it is a moving target where regulators are often lagging. The uncertainty and complexity just make it harder for business. Still, considering the number of regulations already existing in the pharmaceutical industry, Veeva's customers are well experienced in dealing with regulation. It seems that once a company has dealt with enough regulations, it just stops being concerned about new ones. They just take it as they come and comply as fast as possible.

They do not see a significant impact of regulations on their overall strategy, which makes sense given how they comply with new regulations by assessing their customers' needs when it comes to these regulations. The impact, which is more observable in this case, is a change in prioritization of

development, but that in no way affects their overall strategy, much less the international one. While they see some of these regulations as hard to comply with, the capability and resources generated by these specific developments are seen as opportunities, especially when aligned with their pharmaceutical experience. Not only will they be prepared to serve any customer with those needs, but their reputation might also be increased regarding the safety of working with Veeva concerning regulations.

When asked whether regulations conflict or complement their business model:

I would say that's the opportunity for us. So, I talked a little bit about the sales process in Pharma being different, too, right? That gives us a niche that gives us a USP in that we support this sales model, this sales process out of the box. Now, we've touched on it earlier, you know, a lot of this is because of regulations. So, I think that's the way I would describe it, it is an opportunity for us, because we're focused on this small area, as opposed to, say, someone that tries to do a little bit of everything, right? It gives us the edge, in a lot of competitive bake-offs ... (Andreas Fjellner, Director of IT Operations for Europe and Asia)

4.2 Discussion

When it comes to international business strategy, as Ghemawat (2007) presented, it is possible to observe a predominance of Aggregation strategies. One of the possible reasons for this is the very nature of digital businesses. Digital products are arguably more globalized, reducing the need for adaptations based on cultural or aesthetic preferences, although language adaptations are still necessary in most cases. Another reason - which may also be due to our limited sample - is that most companies have minimal resources. Therefore, they have an incentive to pursue economies of scale, which may not be possible if the product suffers too much adaptation. The size of companies also offers another incentive in the same way. With a reduced staff number - typical of startups - it may be too complex to manage a wide array of products (or adaptations in a product). A common factor with all companies was a small number of highly standardized products, for example.

In these cases, it is also important to emphasize that many of the practices that constitute the mentioned broad strategies are more of a happening rather than well-thought-out actions. This case can be observed even in larger companies such as Veeva or Advagym. This type of “accidental” strategizing is standard for companies, especially when they are young, since many decisions are taken based on the managers’ intuition or even on the opportunities that arise. These opportunities shape the operations and decisions of the company when it gets enough resources to plan out each action.

Comparing the aggregation strategies adopted by the studied companies, there are two major groups. The first group aggregates by region or culture and usually has one or another specific country managed separately from the rest. The second group aggregates by industry. These management differences are explained by the findings in the previous paragraph and by differences in business models. We expected to find patterns based on the Beaumier et al. (2020) technology types, but maybe due to the limited sample size, no meaningful pattern can be drawn in this regard.

Still on the two different styles of aggregation mentioned previously, we identified Veeva and Chainvine to adopt the second style, i.e., aggregation by industry. The cases that adopted this management style indicate that as digital companies gain size and become more global than simply international, they also

manage operations by their similarities rather than differences. One of the reasons for this is that some industries follow international standards or a harmonized logical system that allows companies to assume that their requirements and regulations will be similar worldwide.

The effects of regulations on these strategies do not seem to be taken at much importance by the interviewed companies, with some rare exceptions. In some cases, it was possible to observe that there were indeed effects that changed one or another aspect of a strategy, but they were so small that the firm did not consider them the actual reason for the change. As mentioned before, regulation is often regarded as just an inherent aspect of doing business. Therefore, it is just taken as one of the ordinary daily operational tasks.

In some other cases, for example, with hiveonline and Smint.io, it is possible to say that some regulations have a barrier effect for certain markets. Some companies avoid entering markets with specific regulatory hurdles, but that might be more a matter of finding a revenue stream convincingly big enough. This type of barrier effect is only problematic when there might be a straight-out ban for a particular technology type. hiveonline has expressed such concerns:

We do have countries that we know we're not going to work with because ... we do blockchain - the platform is built on blockchain. There are some countries which just will not work with that right now. They're not sort of supportive of blockchain. (Matthew Mims, COO of hiveonline)

The data seems to point to some general trends. These trends are observed in different scales depending on the subject in question. From a regulatory perspective, the data appears to point to a varied perception of centered regulations, an overall vulnerability to specific decentered regulations depending on the business model, and on different techniques used by companies to deal with these regulations. These techniques have implications for several aspects of international business strategy. Furthermore, the data suggests the predominance of one type of strategy over the others. However, this predominance must be taken cautiously because of the dubious generalizability potential of the data. The data must be considered an indicative direction for further studies, given that the trends observed are often circumstantial and specific to the particular context of the studied companies.

One trend that becomes apparent when analyzing Table 5 is that all four companies that find the regulatory environment complementary or complementary and conflicting to their business strategy pursue a strategy of aggregation and adaptation. As previously mentioned, all interviewed companies pursued an aggregation strategy to an extent; thus, this aspect can be neglected. However, this may indicate a correlation between digital businesses either pursuing an adaptation strategy or combining an adaptation and aggregation strategy and finding regulations to the digital economy to complement one's business strategy. One could argue that the decentralized aspect of the adaptation strategy and the focus on establishing oneself in specific national markets may aid companies in dealing with the complexity of disharmonious regulatory environments associated with operating in particular industries. The aggregation strategy relies on a certain level of centralization, a focal point from which international operations are coordinated. Dealing with the particularities of dynamic, complex local regulatory environments of numerous markets that an international digital business operates in may present itself to be more challenging than establishing local subsidiaries that can make related decisions based on a certain level of autonomy.

Two more explanations can be offered for this pattern. At first, it is necessary to consider the international spread of the firms. It makes sense for Tubics, for example, to pursue a pure aggregation strategy since they primarily serve customers within Europe. In this case, very little adaptation is

necessary since the institutions, cultures, and preferences are relatively closer. Firms with a more global approach, such as hiveonline, Veeva, and Advagym, are more likely to pursue an adaptation strategy because their products also enable other firms' business models rather than just being a service offered to end consumers. In this situation, they are more vulnerable to regional preferences and requirements. Of course, Advagym does not customize its products for its customers, but it must do so for some national regulations.

The second explanation covers the existence of types of products or technologies that are less conflictual with regulation. Platform businesses are more likely to derive economic benefits from regulations if their product enables compliance for other firms. Veeva is an excellent example of how complying with regulations can generate new capabilities and resources, increasing their reputation and allowing them to serve more industries and customers.

The data also seems to confirm some views presented by the comparative capitalism theory and reinforces the semiglobalization ideas presented by Ghemawat (2003). These have a high degree of influence on the institutions of different regions, which will affect businesses according to the institutional environment of that region. DIGITALEUROPE, for example, makes it clear that American firms are less satisfied with the regulatory movements in Europe.

... to give you an idea of the complexity of things within DIGITALEUROPE and within US-headquartered companies, they don't see eye-to-eye on taxation... (Patrice Chazerand, Director of Policy for DIGITALEUROPE)

Applying the idea of comparative capitalism as presented by Jackson and Deeg (2008), it is possible to see that collectivist capitalist countries (like France and Germany) will have a different ideological stance than those individualist capitalist countries (like the US). There are divergences even within the EU because of the great diversity of countries and "capitalisms" within the block.

... obviously, the US-headquartered members were supportive of the US positions of the OECD, and the members headquartered in Europe depending on the position of where the headquarters were, because even within the EU - and that is why there was no agreement - you have different views on this ... (Patrice Chazerand, Director of Policy for DIGITALEUROPE)

The digital economy is in an exciting position, where most of the regulation affecting companies is not accessible through any political market. Large platform companies' internal policies and regulations are more relevant to multinational companies than centered regulations in an international context. The implication of this is that firms are more dependent on the platforms than on government licenses. DIGITALEUROPE confirms this aspect of digital regulation covered by academic literature (Black, 2002; Lambell et al., 2008). Once a government monopoly, the power to regulate is being diluted by powerful corporations and global platforms. With more business models depending on these platforms and the ever more constant abuses enabled by them, one can expect an increased movement towards a complex global regulatory environment for the digital economy. An example within the sampled customers was presented by Dieter Rappold, the interim CEO of Tubics, who commented that Tubics' business model is very much reliant on being integrated into major existing platforms, most importantly YouTube. Thus, new digital regulations that may affect Tubics are considered by Dieter as "rules to play the game." However, being compliant with YouTube's internal regulations is of much greater importance to the success of Tubics.

It is worth mentioning that the OECD is working to achieve a harmonization of various regulatory practices, at least in what concerns the DST. This harmonization is quite important because it avoids an

overly complex regulatory environment, at least in the global north. The challenge here lies in the ideological views behind these tools. The US seems to adopt a stance of free market and competition. In contrast, the logic in Europe seems to be that the value creation made possible by European data needs to be shared with Europeans. Still, the regulatory tools used for that purpose have been carefully crafted not to affect European firms. The notion of avoiding an overly complex regulatory environment was supported by Patrice Chazerand, director of policy for DIGITALEUROPE, as it is in the interest of European businesses to avoid the necessity of additional resources allocated to compliance with the regulatory environment.

... the DSTs actually implemented are all different. I think Poland insisted on Advertising, it's broader in France, and it could change all the time; it could be hell for business, and that's why I was so surprised that our members were taking the risk by killing the EU plan. (Patrice Chazerand, Director of Policy for DIGITALEUROPE)

GDPR, in this case, can be used as evidence that the EU is not using these regulations as a protectionist tool. GDPR has created a distortion where more prominent companies are in a better situation than small ones, as the interviewees of Hiveonline and Smint.io suggest. An additional point raised by Gert Fahrnberger, CCO of Smint.io, is that with the additional challenges imposed upon startups in the EU through the regulatory environment, businesses of similar size in less regulated countries, in the example mentioned by Gert, the US, have a competitive advantage. They can save resources in labor hours or substantial costs of hiring a legal team just to be able to operate within the market legally concerning national operations. In this sense, the DST could be a very efficient tool to fix this distortion by tapping into the value created by European data and creating an incentive to develop local capabilities.

This distortion created by GDPR hints at a significant effect that regulations might have on SMEs. Where they are working in constant uncertainty due to a semi-compliance state, they see themselves forced to accept the risk and hope that the EU would sue non-compliant large companies first or to seek to do business outside Europe primarily, or joining a larger company to have access to resources that will allow them to be compliant and even be able to outsource the processes of becoming compliant to a dedicated legal team, as, for example, Advagym which Sony owns.

In a sense, [regulations are] an opportunity because we are very good at [them]. Being Sony, we have all lawyers, we've done our homework, and we can benefit from that. If you're a small company, you might run into trouble when you want to expand your business, and you don't have all those things in place. So, I think it rather benefits us, yes. (Henrik Bengtsson, CEO of Advagym)

Just because that is one of the options, it does not mean that small firms are actively trying to be owned by larger corporations to shield themselves, but rather that being part of a larger company allows them to do so. Based on the data collected, the regulations' effect on international business strategy seems indirect in most cases. Firms are rule-takers because they just take compliance as an inherent aspect of the business environment in most cases. Given that most small firms focus their resources on building competencies, it is unlikely they will actively seek to comply or do more than necessary. On the other hand, our data imply that companies affected by the new digital regulations can dedicate specific resources toward a specialization on regulation to gain a competitive advantage. This advantage can be achieved either by going beyond compliance and using that as a selling point, as is the case with hiveonline or by having a specialized role (or team) that corresponds with governmental bodies and trade associations in the attempt to have their interests represented in the formulation process of new regulations that may affect the company. DIGITALEUROPE provides evidence for the latter.

I think that what I see is a major interest in shaping these regulations. So, they do their best to, it's a two-way street, of course, lobbying, but it would be best to say, "look if you do this - because there is a draft - this is the consequence, I can tell you because this is my company, etc." and the commission would listen ... (Patrice Chazerand, Director of Policy for DIGITALEUROPE)

A different example of generating a competitive advantage out of imposed regulations is Veeva. They do not focus so much on the regulations that impact them as a digital business but rather create a revenue stream out of helping their customers with being compliant to their complex regulatory environment, which predominantly operates within the pharmaceutical industry.

In this sense, the ideas presented by Rugman and Verbeke (1998b) offer a very pertinent analysis of the digital regulation environment (see Figures 4 and 5 in Appendix A). First, it is necessary to wonder what the drivers of compliance behavior are. Our data seems to offer evidence for the two factors presented in the model, i.e., whether the driver of compliance is an overall contribution to industrial performance (hiveonline and Veeva's cases) or whether it is driven by administrative enforcement (almost all other cases). The second factor considered in the model is the net economic benefits of compliance. The combinations of these factors determine whether companies will choose to comply partially, entirely, or go beyond compliance requirements.

The same model presents another element that influences corporate strategy. A firm may have different strategic responses to national and international regulatory pressures regarding the commitment of resources and development of capabilities. This conceptualization implies that a firm chooses to build regulatory capabilities specifically for a national or international environment (or both in some cases). This conceptualization is an exciting development of the model because, as mentioned before, one of the direct effects of regulation on international business strategy is market choice. Smint.io, for example, prefers non-European customers because serving them results in fewer regulatory uncertainties. It is possible to say then that if the international regulatory pressure is smaller than the national ones, a company may have a more robust resource-based response to international regulatory pressures.

As the Rugman and Verbeke (1998b) model suggests, a firm's success in navigating this myriad of regulations has much to do with the home-host regulatory differences. Most of the companies studied are European, and the effects of having a European home are evident in the sense that Europe is leading the digital regulatory effort. As complex and costly they might be, it is unlikely that European companies will encounter harsher regulations elsewhere. European firms based in small markets (like Sweden or Austria) will be faced with restructuring their models to serve a market that is likely inexpressive to their revenue or to focus on structuring their models to serve customers in larger countries. The EU offers an advantage here (at least for GDPR). It provides a single framework for the whole block, meaning that structuring a business model to comply with home regulations is an investment that can be used for serving other European countries. The benefits of a harmonized DST, at least on the EU level, become apparent then. Additionally, it is our opinion that the EU is wise in anticipating these regulations because it is very likely that other countries will follow their model. In this sense, the EU is indirect - and formally - setting the global standards for regulation, in a context where the US indirectly - and informally - sets the international standards for digital regulations in the form of US firms' internal policies.

Matthew Mims, COO of hiveonline, provides an example of governments looking towards Europe to formulate new digital legislation.

The nice thing is that GDPR is somewhat seen as the benchmark or core principle for a lot of other nations to adopt as well. So, data regulations that are coming out from some of the African states where they are looking at them tend to, in large part, echo principles coming from GDPR, which makes a lot of sense. (Matthew Mims, COO of hiveonline)

Europe's influence over the global standards can mean several things for digital businesses' digital businesses surrounding digital regulations. Specifically, for the case of GDPR, one can see that being within the EU and having to be compliant with GDPR sets a basis of trust for international customers outside of the EU. Additionally, suppose a global consensus surrounding the protection of personal data is reached, and at the very least overlaps to a large extent with GDPR. In that case, European companies may generate a first-mover advantage and use already built competencies and processes to develop a competitive advantage over their international counterparts outside the EU.

It is important to emphasize that the EU is not an all-knowing infallible institution. It can and most likely will make mistakes when introducing these regulations and standards, but there is a considerable effort by the EU in assessing the possible outcomes. Additionally, the EU actively seeks the opinion of firms when planning these regulations. Where they fail to seek opinions, they still get them given the government-business interface is mature enough in Europe to allow for (mostly large) firms and trade associations to make their voices heard.

We must also clarify that most discussions regarding digital regulations have gravitated around the GDPR and the DST. These two regulations are currently implemented in Europe; however, only GDPR affects all participants, though in varying degrees. Although the DST is already in action, the threshold to be affected by it is so high that none of the companies studied here were affected directly. We tried to include in our research some considerations about the new DSA and DMA. While they are of primary interest to some of the interviewed companies, they are still being discussed, and it is uncertain if the European Parliament will even approve them.

The findings in this section seem to indicate steps for future research. Observing what is happening in Europe regarding the DSTs and seeing how GDPR-like regulations are sprouting worldwide, one could expect the global digital regulatory environment to be just as rich and complex as it is for custom rules. Even if the OECD manages to establish a standard or harmonization, there will likely be structural and ideological differences from country to country. It could be interesting to understand how much of these differences stem from the different types of capitalism or whether they are based on cultural aspects (or both).

Lastly, the implications of this to international business strategy are three-fold. In the first scenario, companies operating internationally will be forced to comply with many rules and regulations, significantly increasing their cost and complexity. In a second scenario, clear groupings will arise. In this second scenario, the groups could be an effect of similar capitalisms or similar cultural aspects. In this case, global digital companies would still be able to aggregate and manage their operations based on industry or region. The third implication is something that could happen simultaneously to the presented scenarios. The harmonization and digitization of regulatory processes worldwide can give rise to a state of highly integrated semiglobalization, allowing for increased trade, labor movement, and capital (Ghemawat, 2003). There are some hints that this might already be happening. Some examples are the new digital currencies being introduced by major economies, the efforts that Chainvine is making towards a globally digitized custom practice, and how blockchain may enable more manageable and straightforward procedures towards hiring a foreign workforce. This third implication could mean

arbitrage strategies will face new challenges in tax evasion but will be facilitated regarding access to resources and technologies.

The presentation of the cases and the careful analysis shows that regulation has a more subtle impact on international business strategy. It is hard to generalize from the data presented here, but some trends are observable. Furthermore, it seems clear that to understand the impacts of regulations on international business strategy fully, one must take into consideration several different factors such as business model, type of product, size of the home country, size of the host country, regulatory maturity of home and host countries, among other elements.

5 Conclusion

This chapter summarizes our research findings while judging to which extent our aims and objectives have been fulfilled. The following sections cover practical implications that can be derived from the findings. A final section proposes themes for future research that could improve our findings and push forward the subject of the effect of regulations on the digital economy.

5.1 Research Aims & Objectives

While regulation of the business environment is not an unsaturated topic in existing research, there is often little focus on the international aspects of such, let alone the impact their dynamic nature has on MNEs and their strategy. Existing literature on business strategy focuses on external and internal factors, some of which focus on the international perspective, yet fewer attempt to combine all of these facets. Even fewer link said facets to the digital economy or regulation. Out of these identified gaps in existing research and the aim of this study is crystallized: To aid firms operating in the digital economy with navigating the complex regulatory environment they find themselves in. We wanted to investigate that by asking the following research question:

“To what extent do regulations for a global digital economy influence international business strategy?”

In order to examine this question, we chose to employ iterations of previously employed international business strategy frameworks in the form of RBV and the “AAA” global framework, each adapted to the specific case of the digital economy. We adopted the holistic, decentered perspective on regulation that Black presented.

A qualitative study based on a multi-case analysis has yielded satisfactory results for theory building. Although the sample focuses primarily on European companies, one could expect that the results indicate worldwide effects given that the digital technologies are highly standardized - as the data indicates. Based on the data presented here, the extent to which digital regulations affect international business strategy is felt mainly regarding the firm's products' adaptation (or lack thereof).

A lack of harmonization in digital regulations is driving companies to focus their attention on non-European markets. However, the data also indicates that those companies that embrace the challenge are more likely to derive economic benefits from this regulatory wave. By choosing to comply, international businesses can build reputations and capabilities that could give them an edge over competitors abroad. This opportunity for new capabilities becomes even more

relevant when considering that since Europe took the lead with the GDPR, many countries worldwide created their versions. In many ways, Europe is setting the new global standards for the digital economy, and European firms should take advantage of that.

5.1.1 Findings

Firstly, an overlap between all interviewed businesses became apparent at a glance in that all of the interviewed companies pursued an aggregation strategy in one way or another, which may be attributed to the nature of digital business, as economies of scale are more easily reachable with the level of standardization digital products can enjoy, which simultaneously minimizes operational complexity. The aggregation strategies employed by the interviewed companies could be grouped in two types: Aggregating by region or culture or aggregating by industry. Chainvine and Veeva, the two companies utilizing the latter aggregation strategy, appeared to specialize in particular industries that enjoyed somewhat harmonized regulations worldwide to achieve scalability.

All in all, the consensus between the interviewed companies was that, for the most part, regulations are just an inherent aspect of the business environment, a fact of life. Thus, many decision-makers did not consider it to play a significant role in strategizing international operations. Nevertheless, contrastingly, we observed impacts that regulations may have had on one or another aspect of companies' strategies. For example, hiveonline and Smint.io have decided not to enter some markets over others due to differences in the regulatory environments but remain opportunistic if revenue streams are sizable.

Another trend to be observed is that different companies, which may pertain to the type of digital company or industry, have varied perceptions on regulation in general, some giving more weight to centered regulations and others to decentered regulations, each resolving these challenges differently.

Perhaps the most meaningful trend found in our data is an apparent correlation between seeing regulations as complementary to any extent, whether it also presents itself as conflicting or not, and having both an aggregation and adaptation strategy, the adaptation aspect playing a more significant role in this case. An explanation for this trend may be the decentralized nature of pursuing an adaptation strategy that may allow companies to specialize in local regulatory environments rather than dealing with a plethora of complex regulatory environments in all international markets a company operates in from a singular centralized entity. Another explanation lies in where the geographical focal point of a company's customers lies. A company that serves mainly European customers, for example, is less likely to require a significant degree of adaptability to accommodate specific regional preferences and requirements of customer demands, as opposed to a company whose customers are spread globally. Lastly, this trend can be explained by certain types of products or technologies being less conflictual with regulation. For example, SaaS platforms allow firms to comply with regulations in their industry at a lower cost, such as Chainvine and Veeva.

Our data also reinforces some aspects of the comparative capitalism theory and semiglobalization ideas presented by Ghemawat, Jackson, and Deeg. The extent to which businesses are affected by regulation is determined by the institutional environments they find themselves in. This effect of institutional environments is observable, for example, in the discrepancy in the ideological stances toward regulation between the US and Germany.

Governments no longer monopolize the power to regulate. Large platforms have the power to dictate their regulations, set their standards for companies that want to access it, and whose business models depend on it in some cases, e.g., Tubics relying on being integrated into YouTube.

Furthermore, we found out that businesses currently suffer from having to deal with a diverse and complex regulatory system that the OECD is attempting to harmonize with the example of the DST. However, the challenge in harmonizing the regulatory environment lies in the diversity in ideologies toward regulation in general, where significant discrepancies seem to exist between different governments. Based on the idea of comparative capitalism, our data gave us reason to believe that digital businesses may obtain competitive advantages in the global market from being located in countries that have a more liberal approach to regulating the digital economy over ones that are not, at least on the short term. On a similar note, regulations may disproportionately affect SMEs to an extent. Interviewed SMEs that larger companies wholly owned found themselves shielded by just that aspect, yet had to comply with internal regulations.

Another point that can be made is that our data validate the ideas presented by Rugman and Verbeke that allow the categorization of firms' motivations behind their strategic approaches to regulation. Additionally, it explains the strategic responses of companies based on national and international regulatory pressures. We found evidence for such a dynamic as companies based within the EU expressed that they almost automatically comply with similar regulations worldwide due to the harsh regulations they have to comply with within their home countries. Thus, the EU can be seen as a global leader in setting a standard for regulations of the digital economy that legislators in Africa, for example, strive to match in the formulation of new regulations. It can be argued that European countries gain a first-mover advantage on complying with these new standards and generate an advantage based on these newly developed competencies over international competitors that may need to comply later.

Our research found the EU to practice a very democratic approach in formulating new legislation related to the digital economy, where the voices of all stakeholders are thoroughly considered, at the very least, when talking about the GDPR and the DST. Simultaneously, businesses are increasingly interested in co-designing regulations of the digital economy.

Uncertainty on regulations of the digital economy presents a significant risk for digital businesses, just as well as a complex, disharmonious regulatory environment. Thus, again, it is in the interest of digital businesses that regulatory processes worldwide are harmonized and digitized.

5.2 Practical Implications

Generalizability concerns aside, a few practical implications can be derived from our findings. First, managers should consider their international spread to define whether an adaptation strategy can be advantageous. Once defined, they should assess whether their products enable customers to pursue economic activities through them. If that is the case, compliance can be an excellent way to shield itself from problems in the home market while building capabilities for foreign markets that are likely to push for regulations. Furthermore, firms located outside large countries or economic blocks have to decide whether they should comply with international and national regulations or focus on only one aspect. In this case, the correct strategic posture may define how successful a relationship with foreign institutions a firm can have.

Lastly, firms should take into consideration the informal aspects of regulations. Where large platform's policies might not be open for negotiation, firms can still work with NGOs or other informal bodies to push for decentered regulations. The power to regulate has not been a government monopoly for quite a while, and firms should take advantage of that.

5.3 Future Research

This study has several issues with generalizability; however, it shows the relevance of the data analysis methods applied. In this sense, future research should focus on increasing the generalizability of the data to find more precise patterns. A suggestion would be to focus on one specific digital business type, or one specific region, or even a specific type of business model. Checking for these variables individually could also point to their significance to the matter.

Furthermore, the establishment of the DSTs worldwide and DSA and DMA in Europe will allow future research to adopt a quantitative approach. As firms pay taxes or fill reports on content rule abuses, governments will be served a tremendous amount of data that could then be quantified. A quantitative study further enhances the comprehension that future regulations might have on international business strategy, and therefore, on the success rate of multinationals, especially the small ones.

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Appendix A

Table 4. Regulation: an ever-expanding concept (adapted from Black, 2002, p.16).

What is regulation?	Who or what does it?	What form does it take?	With respect to what actors or area of life?	How is it done, via what instruments / techniques?
A type of legal instrument				
<p>A process of:</p> <ul style="list-style-type: none"> • ‘controlling, governing or directing’ (OED) • ‘altering or controlling with reference to some standard or purpose’ (OED) • enabling / facilitating • co-ordinating • influencing • conferring a pattern on something, ordering • rendering constant and the process is: • intentional • goal directed, problem solving <p>An <i>outcome</i>: the result of the interaction of actors / networks / ‘forces’</p> <p>A <i>property</i> of self correction</p> <p>A <i>property</i> whereby the nature and growth of parts of an organism are interrelated so as to produce an integrated whole, enabling adapting, (biol.)</p>	State institutions (regional, national, ‘extra’ national)	<ul style="list-style-type: none"> • ministries, departments, agencies • supranational bodies (EU) • international bodies (eg WTO) <p>courts</p>	<ul style="list-style-type: none"> • economic (firms, markets) <p>any other family, education, health, government etc)</p>	<ul style="list-style-type: none"> • rules (legal, ‘quasi-legal’, non legal; universal, sectoral, bi-lateral) • other instruments (financial, market based, information) • monitoring sanctioning
<p>A process of:</p> <ul style="list-style-type: none"> • ‘controlling, governing or directing’ (OED) • ‘altering or controlling with reference to some standard or purpose’ (OED) • enabling / facilitating • co-ordinating • influencing • conferring a pattern on something, ordering • rendering constant and the process is: • intentional • goal directed, problem solving <p>An <i>outcome</i>: the result of the interaction of actors / networks / ‘forces’</p> <p>A <i>property</i> of self correction</p> <p>A <i>property</i> whereby the nature and growth of parts of an organism are interrelated so as to produce an integrated whole, enabling adapting, (biol.)</p>	Non-state institutions / actors	<p>Eg</p> <ul style="list-style-type: none"> • associations • committees • firms • individuals • epistemic communities • networks 	<ul style="list-style-type: none"> • economic • any other 	<ul style="list-style-type: none"> • rules (legal, ‘quasi-legal’, non legal; universal, sectoral, bi-lateral) • other instruments (financial, market based, information) • monitoring • sanctioning • trust
	Economic forces	<ul style="list-style-type: none"> • Market 	<ul style="list-style-type: none"> • economic • any other 	<ul style="list-style-type: none"> • interaction of rational actors
	‘Social forces’	<p>Eg</p> <ul style="list-style-type: none"> • norms • institutions • language • cognitive frames • culture • systems <p>networks</p>	<ul style="list-style-type: none"> • economic • any other 	<p>Eg</p> <ul style="list-style-type: none"> • structuring • framing • enabling • co-ordinating • ordering

				<ul style="list-style-type: none"> • translating • self-referential reproduction
	'Technologies'	<ul style="list-style-type: none"> • Understandings of and ability to manipulate physical and human environment 	<ul style="list-style-type: none"> • any 	<ul style="list-style-type: none"> • products of those understandings eg statistics, probabilities, engineering, IT

Each column represents a different aspect inherent to regulation (evidenced by the table's header). Regulation as a type of legal instrument is the simplest to understand, with no necessity for further clarification of what it does or how it works. Regulation as a process can be described in many different ways, as evidenced by the rich information in each cell.

1. The interview guide (general)

1. Name
2. Company
3. Position in the company
4. How big/important are the company's international operations? What countries does the company have customers in?
5. In what countries is the company physically located?
6. What is the company's opinion on government regulations?
7. Does the company have to deal with different regulations in many countries?
8. Do you think it is necessary to regulate the digital economy? If so, why? If not, why not?
9. What type of regulations affects the company the most, and in what way? (Laws, international standards, social norms)
10. Did any of the new digital regulations affect the company's business model? (GDPR, digital service tax, digital services act, digital markets act, country bans, data storage tax, blockchain regulations, etc.)
11. How did GDPR (or DST) affect your strategy? Does your industry have international standards you need to follow? Is there any other type of digital regulation you adhere to?
12. Once these regulations are introduced, how fast is the response time from management to make the necessary changes? Does the company try to do more than what is asked for, or does it try to do the minimum acceptable level?
13. What aspects of these regulations are most challenging to comply with?
14. Is the company compliant with any of these digital regulations now? Does it see these and future regulations as in conflict with the business model, or are they complementary (opportunities)?
15. Is there any type of regulation you adhered to voluntarily? If yes, which?

16. Do you consider the investments necessary to comply with these regulations to be high? Is it possible to comply with the regulations and at the same time use these costs to develop new resources within the company?
17. How difficult is it to use these compliance investments to develop new resources (products, services, organizational capabilities, etc.) for the company?
18. What is taken into consideration before selling to a new country? (Cultural proximity, language barriers, regulations, costs, the proximity of institutions, etc.)
19. Is there any attempt to take advantage of differences in labor cost or technology available around the world? For example, by setting the production of gadgets in another country, the software development in another, etc.
20. Based on the previous question, would you consider your supply chain to be diverse then?
21. What was taken into consideration when deciding where the physical locations abroad should be? (Ask if relevant)
22. Do the headquarters do all the international operations? What is the level of autonomy of international subsidiaries (if there are any)? (Ask if relevant)
23. Are the international operations managed by country, by group (region, customer, business, etc.), or with emphasis on function (different management for the countries that produce gadgets, the ones that develop software, and the ones that sell the products)?
24. Does the company pursue a product differentiation strategy? Do you prefer having a larger or a smaller selection of products?
25. Are the products adapted to each target country, or are they standardized (are the same for all countries)?
26. If the company must change operations and strategy because of regulation, who is responsible for it? Who are the decision-makers, and what is the decision process?
27. Does the company keep some level of communication with government agencies? How does the company communicate with agencies in different countries?
28. Is having a well-defined platform or function important for the company?
29. Does the company take into consideration the customers' opinion about the country of origin of the products? For example, do you consider country-of-origin bias (for example, to avoid the made in china label)? (Ask if relevant)
30. When choosing where to set operations internationally, are administrative issues considered (like taxes, regulations, security)?
31. Do you have a standardized system for dealing with new regulations?
32. Do you try to keep track of new regulations around the world that might affect your business model?
33. How do you think a data storage or data mining tax or regulation could affect your company?
34. How much importance does regulation have for your business strategy?
35. Has your company ever had to change a strategy due to a new regulation? (Ask if relevant)

2. The interview guide (on-premises software companies)

1. Name
2. Company
3. Position in the company
4. How big/important are the company's international operations? What countries does the company have customers in?
5. In what countries is the company physically located?
6. What is the company's opinion on government regulations?
7. Does the company have to deal with different regulations in many countries?
8. Do you think it is necessary to regulate the digital economy? If so, why? If not, why not?
9. What type of regulations affects the company the most, and in what way? (Laws, international standards, social norms)
10. Did any of the new digital regulations affect the company's business model? (GDPR, digital service tax, digital services act, digital markets act, country bans, data storage tax, blockchain regulations, etc.)
11. How did GDPR (or DST) affect your strategy? Does your industry have an international standard you need to follow? Is there any other type of digital regulation you adhere to?
12. Is the company compliant with any of these digital regulations now? Does it see these and future regulations as in conflict with the business model, or are they complementary (opportunities)?
13. Is there any type of regulation you adhered to voluntarily? If yes, which?
14. What is taken into consideration before selling to a new country? (Cultural proximity, language barriers, regulations, costs, the proximity of institutions, etc.)
15. Is there any attempt to take advantage of differences in labor cost or technology available around the world? For example, by setting the production of gadgets in another country, the software development in another, etc.
16. Based on the previous question, would you consider your supply chain to be diverse then?
17. Do the headquarters do all the international operations? What is the level of autonomy of international subsidiaries (if there are any)? (Ask if relevant)
18. Are the international operations managed by country, by group (region, customer, business, etc.), or with emphasis on function (different management for the countries that produce gadgets, the ones that develop software, and the ones that sell the products)?
19. Does the company pursue a product differentiation strategy? Do you prefer having a larger or a smaller selection of products? Are the products standardized for the whole world?
20. If the company must change operations and strategy because of regulation, who is responsible for it? Who are the decision-makers, and what is the decision process?

21. Does the company keep some level of communication with government agencies? How does the company communicate with agencies in different countries?
22. Do you try to keep track of new regulations around the world that might affect your business model?
23. How do you think a data storage or data mining tax or regulation could affect your company?
24. How much importance does regulation have for your business strategy?
25. Has your company ever had to change a strategy due to a new regulation? (Ask if relevant)

3. The interview guide (trade association)

1. Name
2. Organization
3. Position in the organization
4. How does the organization consider the new regulations for the digital economy?
5. Are these regulations going to affect small and big businesses differently?
6. What seems to be European businesses' general feelings about these regulations?
7. Do you think edge computing could be a reaction to the regulations that tried to centralize the data centers in specific regions? Or are they just a more efficient way of dealing with data?
8. Do you think an international standard could be achieved regarding these taxations and regulations?
9. Can these regulations affect the "international" character of the digital economy?
10. Do you know of any attempts to regulate data markets? (Some of the DSTs seem to cover that, but the rules seem a bit unclear still)
11. Has there been any disruptive regulation so far? One that has changed (or could change) the "rules of the game" for established business models?
12. Beaumier and some other authors mention that one way to implement regulation on digital technologies is by working with intermediaries. For example, monitoring through IP or using the material infrastructure. Do you think the importance of these intermediaries will change soon?
13. The public perception of cookies is changing since the GDPR. Google is trying to launch a new standard (Floc) of data mining for advertising, promoting more privacy while allowing companies to continue investing in personalized ads. This new standard is being met with skepticism and has even been denounced by some of Google's competitors. Could these changing standards be used to circumvent regulation? (given that technology evolves faster than people can regulate)
14. What aspects of these regulations are most challenging to comply with?
15. Does the EU consult firms or the organization when planning these regulations?
16. Are there informal regulations? Standards companies adhere to voluntarily?
17. Do you see Europe as a global leader in these issues?

18. How effective will DSTs be? Will there be more regulations and taxes for the digital economy?
19. Do you think that the overall inconsistencies between DSTs in Europe will be solved if the EU passes a directive for a unified DST?
20. Do these new regulations solve the possibility of "tax havens" or arbitrage?
21. Do you think the digital economy may become less globalized and more regionalized after these regulations?
22. Can firms take an active role in influencing regulation? (Suggesting methods and tools, adopting specific standards, etc.).
23. How do you think firms will adapt or have adapted their International Business Strategies to the implementation of the DST and the GDPR?
24. Do you think regulating the Digital Economy is necessary? What would be the long-term consequences of not doing so?
25. Who benefits the most from new regulations of the Digital Economy?
26. In your opinion, what aspects of already imposed DSTs could be changed for the better?
27. Do you think the imposition of a data storage/mining tax is likely? If so, how would you expect firms to adapt their strategy surrounding the collection and processing of data?
28. Do you think firms attempt to gain a first-mover advantage by adapting their business strategies to upcoming regulations as early as possible?

4. Applying the AAA framework

Ghemawat (2007) presented the matrix to help managers identify elements that indicate a strategy was used to formulate the questions in the general interview guide. Below, an adapted version of the matrix is presented with reference to the interview guide question connected to that specific element. Later, the interviewees' answers were codified so that each variable in the matrix was classified as a 0 or a 1. Based on the results, a visual representation of the AAA Triangle was created for each case, as shown in Appendix B.

Table 5. Matrix for identifying international strategies, adapted from Ghemawat (2007, p.61).

What Are Your Globalization Options?

When managers first hear about the broad strategies (adaptation, aggregation, and arbitrage) that make up the AAA Triangle framework for globalization, their most common response by far is "Let us do all three." Nevertheless, it is not that simple. A close look at the three strategies reveals the differences - and tensions - among them. Business leaders must figure out which elements will meet their companies' needs and prioritize accordingly.

	ADAPTATION	AGGREGATION	ARBITRAGE
Competitive Advantage Why should we globalize at all?	To achieve local relevance through national focus while exploiting some economies of scale Question 18	To achieve scale and scope economies through international standardization Question 18	To achieve absolute economies through international specialization Question 19

Configuration Where should we locate operations overseas?	Mainly in foreign countries that are similar to the home base, to limit the effects of cultural, administrative, geographic, and economic distance Question 21	In a more diverse set of countries, to exploit some elements of distance Question 21	
Coordination How should we connect international operations?	By country, with emphasis on achieving local presence within borders Question 23	By business, region, or customer, with emphasis on horizontal relationships for cross-border economies of scale Question 23	By function, with emphasis on vertical relationships, even across organizational boundaries Question 23
Controls What types of extremes should we watch for?	Excessive variety or complexity Questions 22, 24, 25	Excessive standardization, with emphasis on scale Questions 22, 24, 25	Narrowing spreads Questions 22, 24, 25
Change Blockers Whom should we watch out for internally?	Entrenched country chiefs Question 26	All-powerful unit, regional, or account heads Question 26	Heads of key functions Question 26
Corporate Diplomacy How should we approach corporate diplomacy?	Address issues of concern, but proceed with discretion, given the emphasis on cultivating local presence Question 27, 29 and context	Avoid the appearance of homogenization or hegemonism (especially for U.S. companies); be sensitive to any backlash Questions 27, 29, and context	Address the exploitation or displacement of suppliers, channels, or intermediaries, which are potentially most prone to political disruption Question 29
Corporate Strategy What strategic levers do we have?	Scope selection Variation Decentralization Partitioning Modularization Flexibility Partnership Recombination Innovation Taken from context	Regions and other country groupings Product or business Function Platform Competence Client industry Taken from context	Cultural (country-of-origin effects) Administrative (taxes, regulations, security) Geographic (distance, climate differences) Economic (differences in prices, resources, knowledge) Question 30, and context

A spreadsheet was created containing the collected data to compare the answers to the information given in each cell of the matrix in Table 5. If an answer matched that cell, it would be awarded a 1, and else it was given a 0. Since all three strategies can be pursued simultaneously, there was no need to normalize the results or account for mutually exclusive variables. In this sense, a threshold was established to consider whether a company pursued that strategy or not.

Out of 9 possible points, a firm needed to have at least 2 to be considered as pursuing any given strategy. Although the threshold is arguably low, it makes sense because no company managed to score 9 points in any strategy. The firms that had the highest score for any strategy got a 7.

Once each firms' score was established for the three strategies, a chart was generated inspired by the AAA triangle presented by Ghemawat (2007). These triangles can be observed in Appendix A together with the summary sent to the interviewees. It will become evident that very few companies score 0 points in any strategy, but there were some cases of that. Below, in Figure 1, one can see the AAA triangles of three different firms to compare the extent they commit to any of the strategies.

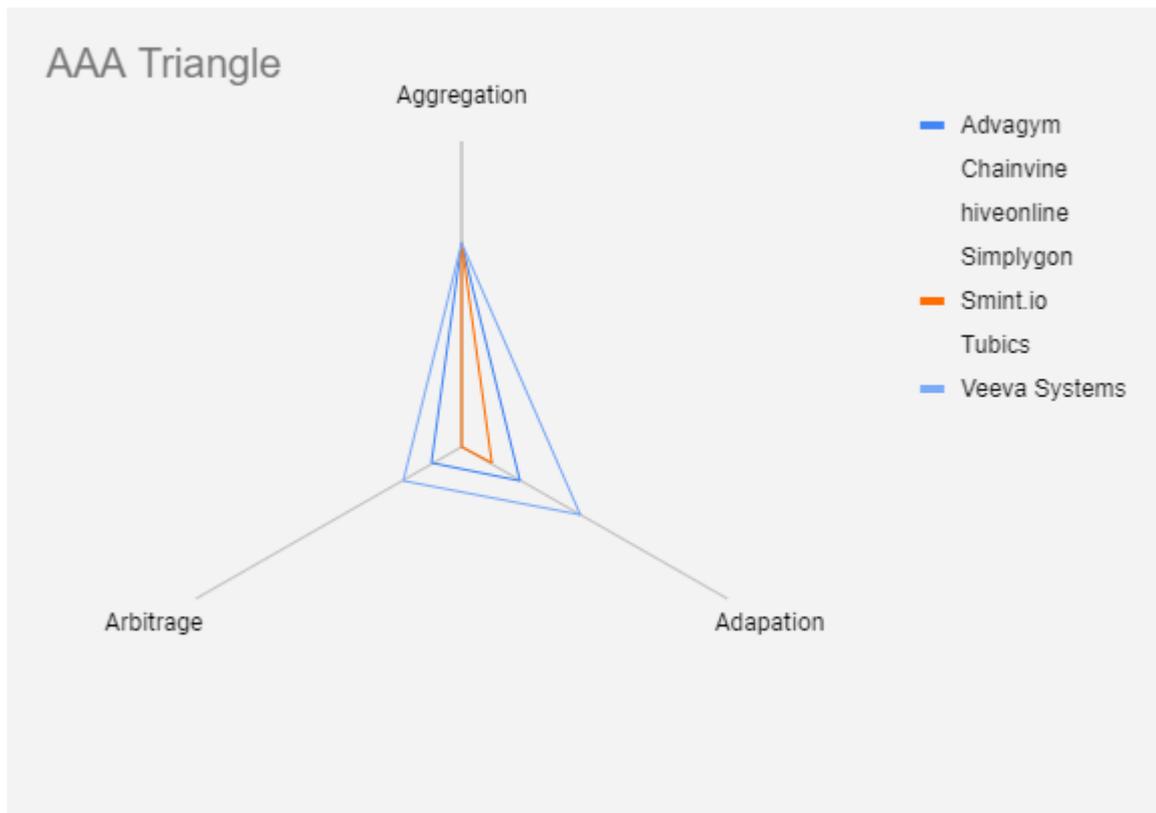


Figure 1. Juxtaposition of AAA Triangles for Advagym, Smint.io, and Veeva

5. Rugman and Verbeke's (1998) model for environmental policy

The following two models presented here are an adaptation of those introduced by Rugman and Verbeke (1998) in what concerns corporate strategies and environmental regulations. We purposefully adapt them to consider digital regulations instead. The disposition of the names also implies a specific scale based on the variables of the model. Hence, companies close to the center of the graph have a more neutral position.

Rugman and Verbeke (1998) explain that in Figure 2, the first quadrant represents the most conventional paradigms regarding environmental regulations, where they are imposed on companies. Companies in this quadrant tend to comply with the regulations, but they do not consider it advantageous to develop capabilities towards these regulations. The second quadrant represents companies that do not find it beneficial and actively make managerial efforts to minimize the negative impact of these regulations. Quadrant 3 represents a win-win spot because companies see it as advantageous to invest in new capabilities, but they do not actively develop innovative solutions. In this case, compliance is seen as good enough. Lastly, in quadrant four, companies try to actively develop innovative capabilities in offsets, often pursuing more ambitious standards.

Figure 3 quadrant 1 represents companies that often are afraid of committing resources because of uncertainty. It could be due to unclear government regulations, uncertainty about whether the regulations will become an industry standard, or even if customers' purchasing decisions will be affected. Quadrants 2 and 3 are intermediate cases, as they suggest. The factors that place companies in these quadrants tend to be very circumstantial, like a general managing approach or the very nature of the technologies they use. Quadrant 4 cases are digital success ones. They manage to comply and use the investment necessary for compliance to develop new capabilities to such an extent that they could influence industry standards and even government regulations.

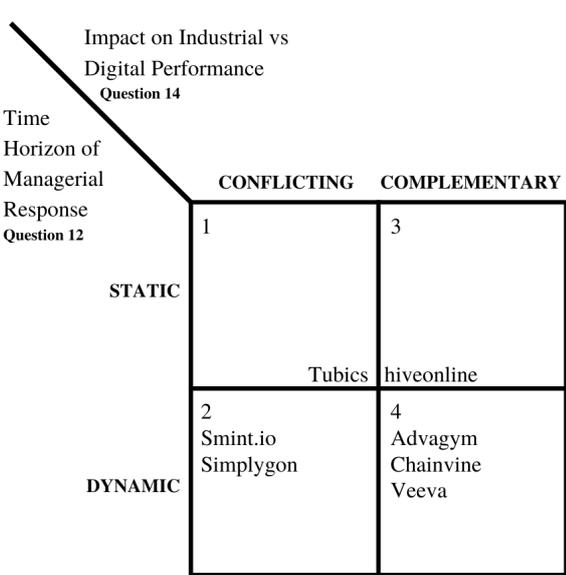


Figure 2. The impact of digital regulations on the firm: Four managerial perspectives. The questions from the interview guide used to collect the data for this model are presented under each axis title. Adapted from Rugman and Verbeke (1998, p.365).

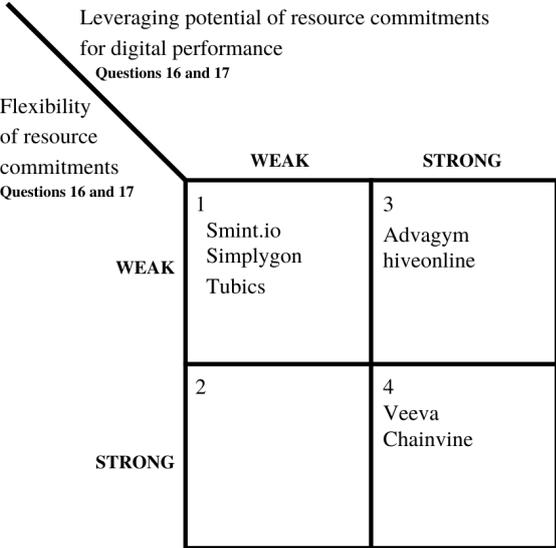


Figure 3. The development of firm-level digital capabilities. The questions from the general interview guide used to collect the data for this model are presented under each axis title. Adapted from Rugman and Verbeke (1998, p.368).

6. Rugman and Verbeke’s (1998b) model for international environmental policy

The following models are also an adaptation of Rugman and Verbeke’s (1998b) one to make it more relevant to the digital regulation aspect. These models expand the concepts of the previous ones by applying them to an international context and studying the possible strategies to tackle these challenges. Rather than a definite answer to the matter, these models were used as part of the analysis to enrich the perspective used to assess the effects of digital regulations on international business strategy.

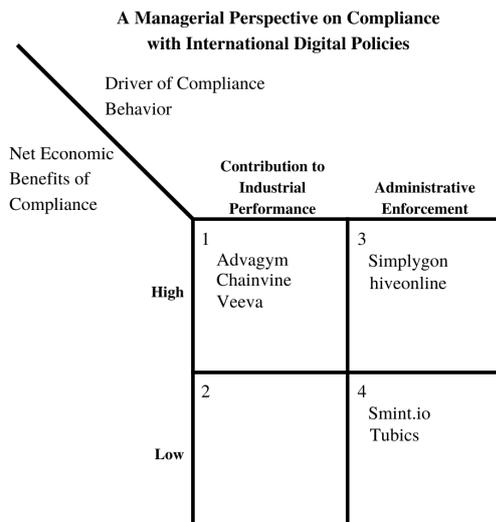


Figure 4. *A Managerial Perspective on Compliance with International Digital Policies. Adapted from Rugman and Verbeke (1998b, p.821).*

In this first model (Figure 4), the first quadrant represents performance-driven compliance. Within the national perspective, this quadrant can be identified with quadrant 4 in Figure 2. Quadrant 2 represents non-compliance, and neither of the companies studied was in such a state. Quadrant 3 represents enforcement-driven compliance; that is, a firm complies because it needs to, not because it might have economic benefits from it. Lastly, quadrant 4 represents conditional non-compliance. Firms in this quadrant adhere only to what is necessary, and they might be non-compliant in some aspects. The reasons for that being the low perceived economic benefits in complying. In some cases, this can be observed in companies with more operations in foreign, less regulated markets than at home.

Figure 5 shows a second model that tries to understand the strategies adopted by companies when faced with a national-international regulatory context. In this case, companies may choose to focus only on national, international, or both regulations at a time. Quadrant 1 represents firms that build international-based capabilities. Quadrant 2 shows companies that only try to comply rather than build capabilities from regulations. Quadrant 3 shows companies that pursue both national and international capabilities. Quadrant 4 shows firms that seek only national-based capabilities.

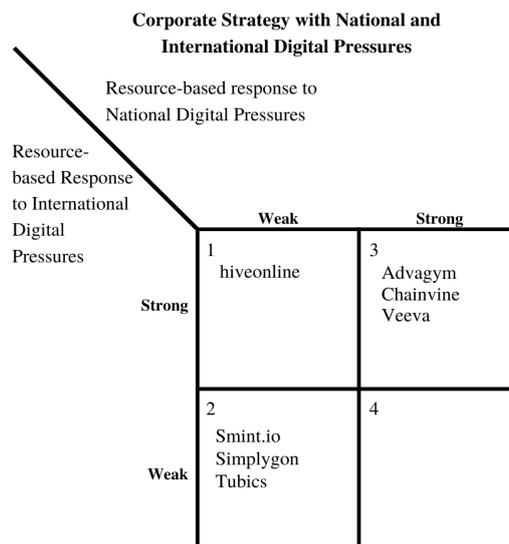


Figure 5. *Corporate Strategy with National and International Digital Pressures. Adapted from Rugman and Verbeke (1998b, p.824).*

Appendix B

1. Interview Summary: Advagym (Sweden)

Henrik Bengtsson (CEO) was interviewed on the 6th of May of 2021.

Advagym is a company owned by Sony, located in Lund and with customers all over the world. It offers retrofit solutions to digitize gyms (Advagym Solutions, 2018). Their products range from devices and sensors installed in gyms for measuring performance to a platform where personal trainers can create their workout programs for followers and gym members.

Regulation is a different affair for Advagym than for standard software companies, which is its gadgets. Because the devices are material products, they are subject to traditional regulations from the industrial economy (custom fees, certifications, etc.). This also means that the company is experienced with dealing with a diverse global regulatory environment. While they see that new digital regulations may affect them someday, that is not the case currently, except maybe for GDPR, given the fact they store and analyze personal data.

An interesting point brought by Henrik during the interview was that sometimes a digital idea might place the product under the regulatory reach of other agencies. This could be an industry-specific issue (given that Advagym products may have some effect on one's health). Still, it could also be an issue specific to digital technologies of type 2 in the Beaumier et al. (2020) scale, meaning that the existence of gadgets through which digital services are enabled may increase the complexity of the regulatory environment for that specific company.

Advagym sees digital regulations as an opportunity (complementary) because they are good at dealing with them. Part of the success of dealing with these technologies has to do with them being a part of Sony, which presents them with experience and resources to deal with these (in the form of a legal team, for example). Of course, Advagym has its system for it too, where they consider regulatory compliance as part of quality assurance. Still, where they fail to see a regulatory trend coming, they are shielded by their parent company. This shielding does not come without a price since they must work much harder to be consistently compliant with all technologies and follow company-specific standards. For example, startups like Advagym usually would not care about compliance, but since they are a part of Sony, they obligatorily have to. As mentioned before, this can give the company an edge even more because the resources are most likely coming from the parent company; however, it also imposes extra work and concerns on the companies.

Strategy-wise, Advagym tries to keep as standardized of a product as possible. They actively avoid doing customizations to any client. There is no attempt to arbitrage labor cost differences or production advantages in specific markets. Practically all the production and development is in Sweden, and their operations abroad are usually conducted by sales teams or local distributors. On that, they primarily pursue an aggregation strategy. Still, in the end, the management of these operations depends a lot on their relationship with the local distributors, which leads to different styles of management for different regions, with some exceptions, where a country is managed as a single market (the case of Germany). Generally speaking, digital regulations are not a critical (active) aspect of their strategy, and they have

not seen many decisions that “wouldn’t have [been] made if there wasn’t regulations” (Transcription of the interview, question 34).

AAA Triangle Advagym

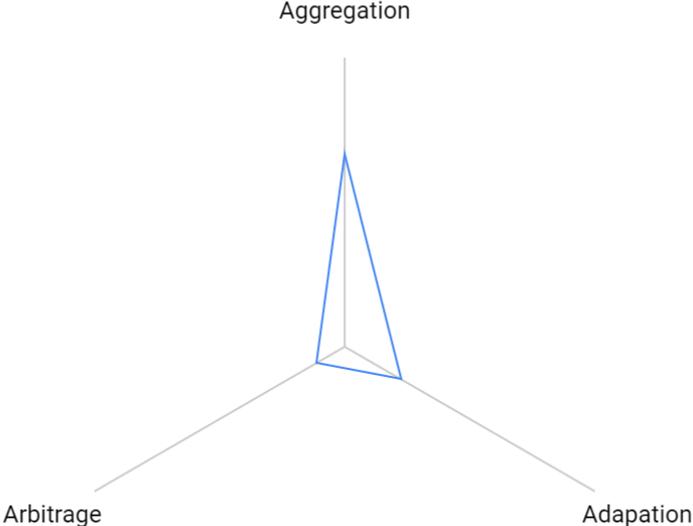


Figure 6. Graphic representation of Advagym’s international business strategy, adapted from Ghemawat’s (2007) AAA Global Framework.

2. Interview Summary: Chainvine (United Kingdom)

Oliver Oram (CEO) was interviewed on the 18th of May of 2021.

Chainvine is a digital platform that uses Distributed Ledger Technology (DLT) to enable paperless international trade. DLT is a blockchain technology that promotes safe and permanent storage of transactional data allowing for highly secure interactions between different industries. Chainvine has been working closely with the wine industry and foreign governments worldwide to push for the modernization of customs procedures globally (Chainvine, 2021). Their headquarters is in the UK, but they have a subsidiary in Sweden and a development office in India. They have provided their services to companies in many countries, including Australia, Seychelles, and the US.

As an international company, they must deal with different regulations worldwide, but maybe the most challenging ones are employment rules. Additionally, based on their business model, they have to deal with many custom laws worldwide. They see the regulation of the digital economy as something necessary and positive since the lack of regulation can create distortions and uncertainties, especially when considering international trade.

Most digital regulations affect them in one or another. As expected, GDPR (and its counterparts in other regions of the world) pose a particular challenge given the different requirements each country has. They see it as challenging because firms often will not even have complete control or knowledge of all the data stored, and the right to be forgotten can be particularly hard to comply with, so they do the best they can to comply. However, they consider that working with large companies and governments is a positive experience because their specific rules make the work more accessible and straightforward.

They see the cost of compliance as an investment because it can give them an edge over competitors. They believe that DLT is the way to answer many questions, such as GDPR, money laundering, payment providers, etc. However, it can take a long time for the development to come to fruition, even more, when a great degree of adoption and collaboration from governments is necessary to create the network that would enable this technology.

Strategy-wise they attempt to pursue an aggregation strategy with relevant elements of an adaptation strategy too. They want to have as standardized a product as possible, and their cooperation with different governments is an example. Custom procedures vary significantly worldwide, and they are often redundant, with different documents containing the same information being asked by different agencies. They see that being compliant with regulations like GDPR gives them an edge because they can help customers in other world regions to become compliant through their service.

Although they have physical locations in other countries, those are more because of personal connections and potential markets than for arbitrage. They consider that opening offices just for arbitrage can be tricky without having local knowledge or understanding the local business culture. Their HQ does the management with some trim level of autonomy on day-to-day operations, and it works well because they have a good business culture.

Their aggregation strategy does not group by region but rather by industry. The specifics of the wine industry are analogous or very similar across the whole world. Therefore it makes more sense for Chainvine to treat the customers based on this common factor. Although they are scaling, they are open

for adaptations for larger players, mainly because these adaptations could be offered to smaller customers.

Given its business model, Chainvine is very active in the government-business interface. They have worked closely with Lord Holmes, a life peer in the House of Lords, with the report on “Reducing Friction in International Trade (RFIT),” calling the UK government to action towards digitized customs practices. Lastly, they consider regulation to have a central role in their business strategy because new regulations are welcomed with open arms as they are likely to generate new revenue streams for the company. The way they see it, “standards and regulations have moved at speed, but the ability to comply with it hasn’t” (Transcription of the interview, question 34). Their business helps companies comply in a simple way, significantly reducing their costs.

AAA Triangle Chainvine

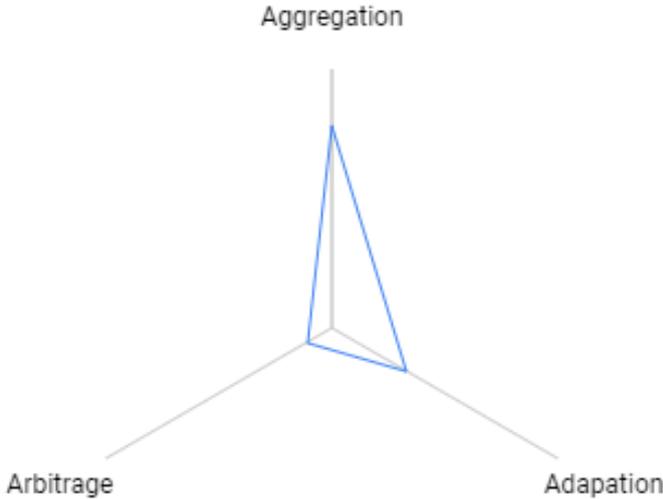


Figure 7. Graphic representation of Chainvine’s international business strategy, adapted from Ghemawat’s (2007) AAA Global Framework.

3. Interview Summary: DIGITALEUROPE (Belgium)

Patrice Chazerand (Director of Policy) was interviewed on the 3rd of May of 2021.

As a trade organization, DIGITALEUROPE represents more than 35000 companies and 39 national trade associations from 28 European countries (DIGITALEUROPE, 2021). While slightly out of the sample focus of this study, their opinion on the matter is considered one of the most valuable given their close contact with the very institutions that regulate the digital economy.

DIGITALEUROPE has supported these regulations for a long time and is a great advocate for international cooperation. This is of great importance, given that these regulations affect big and small companies differently. Still, according to DIGITALEUROPE, the EU is careful not to weaken SMEs, and that where it may happen, it does so inadvertently.

It is, of course, hard to summarize the general feeling of all members of the trade organization because of their sheer number and geographical spread. Since they have members from the US, one could expect that they will have a very different view regarding regulations than their European counterparts. There is some doubt whether international cooperation can be achieved, which would mean a very complex and potentially disastrous scenario for global business. On the other hand, the fear of retaliation from abusive practices may, in turn, balance even a very complex global regulatory system.

There seems to be some evidence that companies may try to find ways to comply with the regulation by creating new technologies or standards, which often can seem like an attempt to circumvent said regulations. However, DIGITALEUROPE sees them to facilitate compliance with rules and regulations - especially for SMEs that do not have the luxury of substantial legal departments. Additionally, public and private boundaries have become more blurred, with large corporations now owning infrastructure or dwelling with high military potential technologies. This implies greater importance of these intermediary services and service providers, requiring greater cooperation from the government-business interface.

SMEs especially have a more significant challenge to comply with these regulations because of the “volume of requirements of regulations coming on top of another” (Transcription of the interview, question 14). Because the European Commission often works in silos, there seems to be a suboptimal level of communication between these silos that makes it difficult to assess how these regulations will behave in the presence of already implemented, older regulations. This, however, does not mean the EU does not assess the impact regulations have on companies, especially SMEs. The contrary is the case with the Commission being almost obsessed with impact assessment, which, in turn, reduces the flexibility and celerity necessary to keep regulations up to date with technological advancement.

The government-business interface is a reality, and companies try to influence the outcome of these regulations by making clear what they think the impacts will be. It is a very democratic process and provides evidence that the institution-based view is critical for understanding business strategy.

These new regulations will most likely reduce regulatory arbitrage by digital companies because they are based on a profound paradigm shift regarding regulatory logic. Where before it was utterly location-based, it will now become user-based. Again, this imposes a great challenge for international business because it will demand international cooperation to harmonize and simplify the global regulatory

environment. Harmonization seems to be the key challenge, even for regional regulatory environments such as Europe. If a global standard cannot be achieved, Europe could have 12 to 20 different DSTs. For example, regional cooperation would be necessary for harmonizing it. While these regulations may present a burden to companies, once compliant, they will have much more straightforward frameworks to guide their practices which, in turn, increases the ease of doing business.

4. Interview Summary: hiveonline (Denmark)

Matthew Mims (COO) was interviewed on the 12th of May of 2021.

hiveonline is a startup that offers solutions for agricultural communities in developing countries through blockchain technology (hiveonline, 2021). They are physically located in Denmark, Sweden, and Rwanda, and most of their customers (or projects) are in Mozambique, Zambia, Uganda, and Honduras. They have two products that work as a platform for producers to account for their yields, expenses, and gains and validate their performance to build a reputation score that enhances their access to credit and new customers.

As an international company, they must deal with different regulations worldwide, especially in what concerns employment. Additionally, blockchain technology is still a touchy issue in some countries that are cautious about the technology's decentralized nature. Besides these, hiveonline has been affected by GDPR. Although they consider it to be like other governmental regulations worldwide, the GDPR-like regulations have led them to choose some countries over others, indicating some impact on their business strategy. They try to build scales, especially when working with developing countries that have a lower purchasing power. Because of that, they need to be careful about where to have operations because a too-adapted strategy reduces their possibility to scale up, thus increasing the costs of the product.

This, however, does not mean that GDPR is necessarily in conflict with their business model. As a company that values transparency and safety, hiveonline has welcomed the regulation. The issue is that being fully compliant is indeed a challenge for startups, given the level of complexity imposed by full compliance. It then becomes a matter of how far they can implement the compliance requirements without making it too costly. In a way, GDPR-like regulations are a two-edged sword. They help build a reputation (something which was also observed in environmental regulations), but they also generate very relevant costs for startups. The costs to comply are considered relatively high because they incur in an earlier stage, and the benefits are only reaped when a particular scale is reached.

Strategy-wise, hiveonline has chosen to focus on working with those countries where a profit can be made because of their startup status. Additionally, it makes sense to be physically located in the region with so many African projects to keep development close to customers. Therefore, there seems to be a level of arbitrage where the Rwanda office was chosen for its proximity, political stability, resources available, and labor cost. The international operations are fully managed by the headquarters, though, leaving the branches with minimal autonomy. There is an overall goal of standardizing the products as much as possible. Still, given that the product is offered to agricultural communities in developing economies, tailoring to cultural aspects becomes necessary. Since the startup is still young and there are few projects, the management is done on a project-based basis (indicating an adaptive strategy). Still, they plan to build a large enough scale that will allow them to standardize as much as possible to allow for some aggregation.

Regulation is seen as of extreme importance to their business strategy. The current lack of regulation generates much uncertainty both for the business and for the customers. Especially where it concerns their e-money platform, regulation is necessary to build more trust in the technology by both customers

and governments alike. While seen as very important, there has not been any significant change in regulations to change their business strategy yet.

AAA Triangle hiveonline

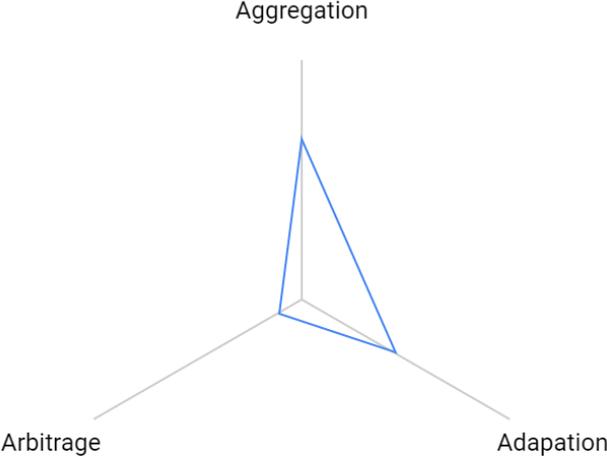


Figure 8. *Graphic representation of hiveonline’s international business strategy, adapted from Ghemawat’s (2007) AAA Global Framework.*

5. Interview Summary: Simplygon (Sweden)

Samuel Ranta-Eskola (Principal Programme Manager) was interviewed on the 4th of May of 2021.

Simplygon is wholly owned by Microsoft but operates with a great degree of independence, meaning the decisions made in the company regarding its activities and operations are made internally. However, they still have directions from and obligations towards the HQ. This means that the responsibility for dealing with regulations or legal matters lies solely on Microsoft. Simplygon itself is the product it sells, an on-premises software for optimizing 3D games content promising higher performance and lower production time and costs. It sells globally, and its technology has been used in more than 450 world-famous games (Simplygon, 2020).

The relevance of Simplygon for this study relies on the fact that, although a software company, it is not heavily affected by GDPR. It is unlikely it will be affected by the new regulations currently being introduced in Europe (such as DST, DSA, among other examples). The main reason for that is the “on-premises” nature of the product, meaning that they do not collect or process personal data (except where needed for validating the licenses for the product). This shows that some of the frameworks being used in academia today are incomplete or fail to see the digital economy in its entirety. Although Samuel has mentioned that had the company been created today, it might have been more vulnerable to these new regulations since it could have been developed as a SaaS product instead of an on-premises one. For reference, Simplygon has been around since 2005, a time when SaaS was still in its infancy and cloud services were not nearly as relevant as they are now.

The on-premises digital technologies are still subject to regulations but in a way that resembles the traditional industrial economy. It is subject to specific regulations and taxes often applied at customs or guarantees of quality that may have national character but are still based on a harmonized logic globally. This harmonized logic and the nature of software allow Simplygon to pursue an aggregation strategy with a small developing team based in one country with some salesmen worldwide. Markets are grouped in regions, and the product is globally standardized, with English being the only language of support (except in Japan and Korea). Simplygon has no interest in adapting its product, bringing it up to the customer whether it works for them or not. As an established company, it is unlikely to change its strategy for an arbitrage or adaptation one.

Their product's nature limits how they are affected by regulations and how much their parent company is affected. However, as a global digital player, Microsoft has both the experience and the resources to deal with new regulations. In that sense, being part of a larger corporation works as a shield against complex regulatory environments. It is possible to say that, on a general scale, Simplygon is not so affected by digital regulations. Therefore, they do not have any significant impact on how they strategize their international operations.

AAA Triangle Simplygon

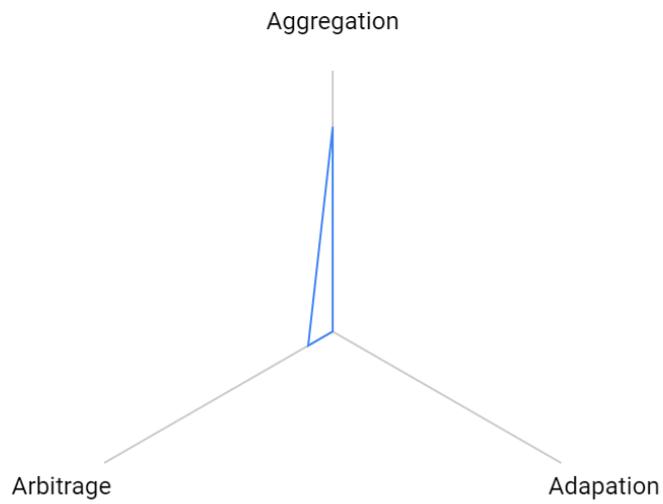


Figure 9. Graphic representation of Simplygon's international business strategy, adapted from Ghemawat's (2007) AAA Global Framework.

6. Interview Summary: Smint.io (Austria)

Gert Fahrnberger (COO) was interviewed on the 29th of April of 2021.

Smint.io is an international company headquartered in Austria with customers in at least four countries. The company is small and has a small set of products. Given the digital nature of these products and customers' localization, there is no (or little need) for adapting the products. Their products offer companies a solution for purchasing creative content in a legally compliant way. It “integrates with a lot of content providers, and allows [companies] to easily search, find and purchase image, video and other content types from all of them” (Smint.io, 2020).

The company perceives the necessity for regulation but considers that sometimes they represent a burden for SMEs. Specifically, GDPR is an example of an extra burden and uncertainty that generates unnecessary anxiety and risks for the company. The issue here is an underdeveloped industry of service providers in Europe, forcing European companies to depend on North American services that are not always willing to comply with European regulations. These are considered vital for their business model. In this sense, foreign companies (especially the North American ones) would be advantageous compared to their European competitors.

The new regulations do not seem to affect Smint.io due to their size, but based on the experience with GDPR, regulations are seen as conflictual with their business strategy. The redemption, in this case, is that even big companies are supposedly in the same situation, which then “shields” SMEs from government prosecutions. Because of this conflictual nature, there are no regulations to which they adhere voluntarily. Lastly, there is no perceived gain in capabilities or resources (flexibility) in complying with these regulations, except maybe that, given the harshness of GDPR, Smint.io is better prepared to deal with GDPR-like regulation in other countries when the time comes.

Based on the answers, the company seems to pursue an A strategy (Ghemawat, 2007). It does not pursue arbitrage, given that there is no need. All (or most) of the development is done in-house in Austria, and given the customers they currently have, there is no need to adapt their products to different markets. Based on this, it is possible to say that Smint.io pursues an aggregation strategy according to the Ghemawat model. This is evidenced by the choice for standardization, the platform-like structure they use, and the management style treating the world (or regions) as bigger market sets (rather than a complex myriad of small markets). Much because of the company's size and the nature of the products offered, there seems to be no arbitrage strategy for taking advantage of resources in other countries.

The company keeps contact with local institutions but more on an informative and support-seeking level rather than influencing regulations. There is also no current system for dealing with new regulations, primarily because of the company's size. Overall, regulation does not seem to significantly impact their business strategy or business model, except where it creates uncertainty and costs that would not exist otherwise.

AAA Triangle Smint.io

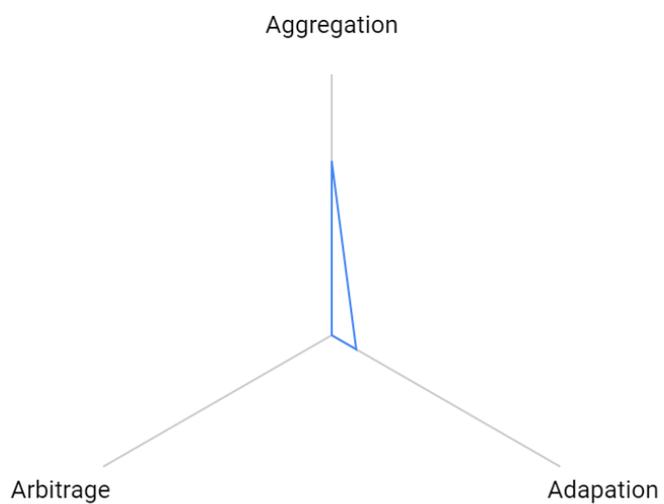


Figure 10. Graphic representation of Smint.io's international business strategy, adapted from Ghemawat's (2007) AAA Global Framework.

7. Interview Summary: Tubics (Austria)

Dieter Rappold (Angel investor and Interim Part-time CEO) was interviewed on the 6th of May of 2021.

Tubics is an international startup with customers in at least four more countries than Austria. They offer a SaaS solution for performance analysis and engagement enhancement for YouTube videos (Tubics, 2021). Their only office is in Austria, but they seem to be engaging more in virtual office activities since the pandemic. However, with activities in different countries, the effect of regulations on them is more nuanced regarding the choice of cloud services to supply customers in each specific region.

They see government regulations as a cost-adding aspect to the license “to conduct a business” (Transcription of the interview, question 6), be that cost implicit or explicit. Rather than finding it necessary to regulate the digital economy, they think it is more critical to set reliable frameworks that give clear rules that guarantee competition among the different regions in the world while allowing more freedom for companies to innovate. Other than that, they do not seem so concerned about different regulations, seeing them more as a layer or a set of rules of the game inherent to the business environment. That being so, regulation (especially government ones) does not seem to be a driving factor or a heavily analyzed aspect in their strategy. Given that their service is offered through cloud services, part of the responsibility or worry of complying is transferred to these cloud companies. An exciting example of regulation given, which we have not studied so far, is the uncertainties regarding foreign labor employment in a virtual setting. Free movement of labor is often touted as one of the marks of a fully integrated, globalized economy. While it is still not as common as one would expect, the possibilities of virtual offices may increase them. Nevertheless, the lack of regulation or “reliable frameworks” creates many issues for the equal treatment of employees within the same company.

Tubics does not see GDPR and other digital regulations as conflictual or complementary to their business models. As mentioned before, as these regulations are just a part of the business environment, there is little concern about whether these regulations shape their strategy or business model. Strategy-wise, they pursue a double AA strategy (in the Ghemawat framework). They pursue an aggregation strategy with a heavily standardized product, a “world village” approach to operations and a grouping of key markets in larger sets. Additionally, they attempt to take advantage of arbitrage opportunities that a globalized business environment brings, for example, hiring a workforce physically located in other countries. While some arbitrage elements are visible, their primary strategy seems to be one of aggregation.

Regulation has very little importance for their business strategy, and they are somewhat shielded against new regulations by their size. Once they reach a larger size, they will most likely be affected by the DSA, DSTs, and the data storage/mining taxes that are likely to develop from those. They depend a lot on other platforms like YouTube and Google Services, meaning they are particularly vulnerable to “informal” regulations stemming from these platforms. This way, government regulations are only concerned that they force these larger platforms towards changing their internal regulations.

AAA Triangle Tubics

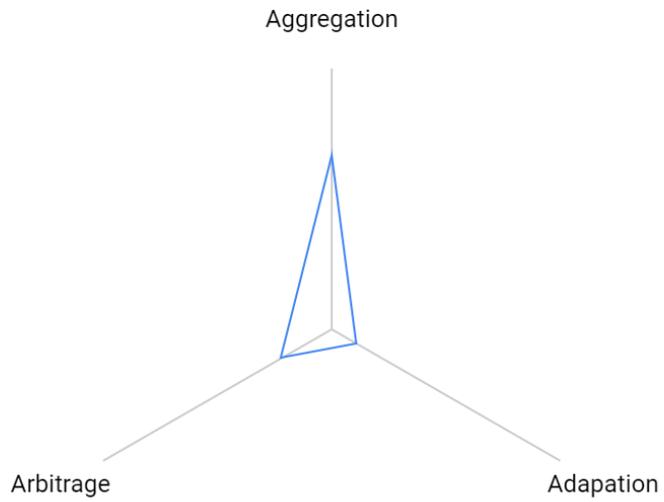


Figure 11. *Graphic representation of Tubics' international business strategy, adapted from Ghemawat's (2007) AAA Global Framework.*

8. Interview Summary: Veeva Systems (USA)

Andreas Fjellner (Director of IT Operations for Europe and Asia) was interviewed on the 7th of May of 2021.

Veeva is a global company working with SaaS applications for the pharmaceutical and life science industries. Its solutions cover various sectors in these industries going through R&D, Regulation, Quality Assurance (Veeva Systems, 2019). They have about 4.5 thousand employees, of which about half are outside of the Americas. Today they serve 19 out of the 20 top pharma companies as a matter of reference. As an example of where they are physically located, there are offices in 5 different European countries, Japan, Korea, Singapore, Sydney, and two more in India.

Much like some other companies interviewed, they view regulations as more of an inherent aspect of the business environment. As providers of cloud services, Veeva tries to comply to the extent that their customers see necessary. Therefore, even though a diverse regulatory environment could increase the level of complexity for Veeva, they share the responsibility of compliance with their customers. The digital economy needs to be regulated, but it is a moving target where regulators are often lagging. The uncertainty and complexity make it harder for business, but again, considering the number of regulations already existing in the pharmaceutical industry, Veeva's customers are well experienced in dealing with regulation. Once a company has dealt with enough regulations, new ones just stop being concerned; they just take it as they come and comply as fast as possible.

They do not see a significant impact of regulations on their overall strategy, which makes sense given how they comply with new regulations by assessing their customers' needs when it comes to these regulations. The impact, which is more observable in this case, is a change in prioritization of development, but that in no way affects their overall strategy, much less the international one. While they see some of these regulations as hard to comply with, the capability and resources generated by these specific developments are seen as opportunities, especially when aligned with their pharmaceutical experience. Not only will they be prepared to serve any customer with those needs, but their reputation might also be increased too regarding the safety of working with Veeva concerning regulations.

Although Veeva has offices in several places worldwide, it does not necessarily take advantage of labor cost differences. Those offices are focused on serving local customers rather than taking advantage of specific resources available in the region. Production and development are often clustered in specific regions due to proximity with customers, implying a somewhat decentralized approach. Their management style seems to follow a logic of adaptation in a first phase (when serving a small set of customers in an infant market). As it matures, it becomes more of a global organization style. Product-wise, the product seems to be very standardized (but open to customizations), but the way the products are managed and sold are more sector- and industry-specific than country- or region-specific. In this sense, the product managers have a considerable amount of power.

Veeva seems to have a well-defined system for keeping track of regulations and dealing with them (evidenced by the cooperation with customers and the newly added VP of Governmental Affairs position). To some extent, Veeva sees regulation as a fundamental aspect of their business strategy, for example, when it concerns the choice of industry. However, as mentioned before, regulation being an inherent aspect of the business environment, it is hard to distinguish between regulatory change or a business practice change. In the Ghemawat Framework, Veeva seems to pursue an AAA strategy. It clusters its customers into larger groups, has a defined platform and function, and works with a

somewhat standardized product globally (all being an aggregation strategy element). However, it also offers customizations of its product, and in some aspects - especially in new markets - it has a more adapted management approach. Lastly, some offices are opened solely for development (in which case they are placed next to a university, for example), or for sales, and so on, which denotes some degree of an arbitrage strategy.

Regulation, in this case, does not seem to necessarily affect international strategy but rather the product or industry strategy. This could mean a change of strategy in a country or region in some industries, but the pharmaceutical and chemical industries are a particular case. These industries have a somewhat harmonized regulatory environment worldwide, which in the end turns its regulatory management less of an international/regional case and more into an industry-specific one.

AAA Triangle Veeva Systems

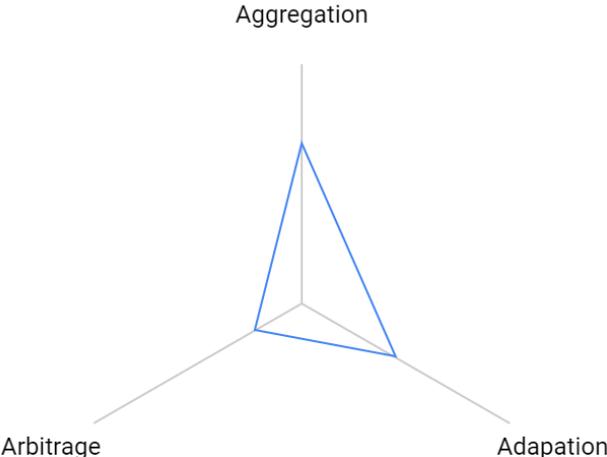


Figure 12. Graphic representation of Veeva Systems' international business strategy, adapted from Ghemawat's (2007) AAA Global Framework.