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The Seven Steps of the RESTART Framework

If you ask the executives of the shipping company Wilhelmsen Ship Services (WSS), the fourth industrial revolution has already begun, and it is allowing the company to reduce its footprint significantly. This is evident when looking at the innovations put in place by WSS in 2017 alone. Several such innovations have been developed in collaboration with the company Pracademy. For example, WSS has introduced a drone service that delivers documents, money, medicines and other small packages from ports to WSS's ships. Historically, the ships have had to enter the ports for such purposes, which increases emissions close to land and which is also more costly for the company. WSS has furthermore developed "intelligent ropes"—that is, ropes with sensors that let operators know when they are about to be destroyed or worn out, thus avoiding risky and damaging situations caused by ropes breaking. Moreover, WSS has started three-dimensional (3D) printing of spare parts in strategically positioned ports around the world, rather than having to stock parts and to travel back and forth to get them. Thus, the footprint of providing these parts is reduced while provision is more efficient. And finally, by using the so-called Internet of Things (IoT) sensors in the kettles aboard its ships, operators at WSS's headquarters can monitor

and manage pH levels and temperature in the kettles. This makes it unnecessary for staff on the ship to carry out this risky job that—when managed insufficiently—can lead to dangerous situations that can ultimately result in injury or casualties. By introducing innovative new technologies in their operations, then, WSS also changes the work-life for its workers on ships, in ports and elsewhere in its global supply chain.

As discussed in the previous chapter, our book's point of departure is that three concurrent major trends indicate the need for a RESTART—that is, for sustainable business model innovations. These three are all reflected in the innovations by WSS outlined above. First, we are facing a massive sustainability problem (e.g., Rockström et al. 2009), which we will illuminate throughout this book. The comprehensive social and environmental issues comprised in the sustainability problem are simultaneously a threat and a source of opportunities for companies. In both ways, sustainability issues are drivers of innovation (cf. Nidumolu et al. 2009). Second, the technological revolution we are facing has a double effect: it renders old business models obsolete and it creates huge possibilities for creating value in new ways. Increasingly, the technological opportunities comprised in the digital and physical technologies, often referred to as the fourth industrial revolution (Schwab 2016), have enabled the development of smarter and leaner business models that can have a lesser footprint while remaining equally good customer experiences. Finally, changes in consumer preferences, lifestyles and consumption patterns help make new types of value creation possible—for example, through sharing-economic business models, access-based services and so on.

2.1 A RESTART for Business Models of the Future

In the expectations of future business models articulated by managers, academics and other pundits, we are already seeing the contours of how these three trends may shape the ways value will be created, delivered and captured in the future. How many years will it, for instance, take before we no longer own our own car, but rather subscribe to a shuttle service based on a fleet of driverless cars? How long will it take until we

rent a drill whenever we need one and get it delivered at home within minutes by the same driverless cars? And how should the car industry prepare itself for this transition, or any other industry for that matter?

At which point will we be sitting at home browsing Facebook with our Virtual Reality (VR) goggles, looking at clothes that are digitally generated, customized to us, and we will simply say: “Order the shirt. Charge my Bitcoin account”. Will the shirt be 3D printed and flown to our homes by a drone that picks up the shirt from a warehouse with no people involved, while payment is executed automatically? When will we put our laundry in the washing machine and the clothes will have sensors that tell the machine the garments’ washing instructions? And how long will it be until we get smart light bulbs, clothes, carpets and other products for “free” because they are linked to the Internet and are financed by generating valuable data about us for energy companies and others who benefit from this information?

When will we scan products in the grocery store with our smartphones or augmented reality devices, upon which we are instantly told in detail how the products were made, from where their components originate, how far the products have traveled, what impacts they will have on our bodies and the environment, and so on? This extreme traceability and transparency are expected to become a reality in the not very distant future, due to the combination of increased consumer expectations, technological opportunities related to IoT sensors, blockchain-based and other information systems and digital interfaces that allow consumers access to the right information at the right time. Again, we see how such a future is simultaneously driven by the sustainability problem, the technological opportunity space and changing consumer preferences.

In recent years, we have seen that what a few years ago almost appeared as science fiction is becoming more science and less fiction. Just look at how quickly companies like Alibaba and Amazon have built their gigantic ecosystems online, through which they offer more products and services than what we thought possible only a short time ago. For instance, Amazon and Fiat Chrysler recently began working together to sell cars online at heavily discounted prices, and Amazon has purchased Whole Foods, thus making a move to enter the food industry. Another example is Apple’s new wireless headphones, which according to the World

Economic Forum constitute the first step toward integrating our mobile phones in our bodies. When you speak, the wireless earpiece can “hear” you, and it has software that removes noise and makes your voice clear. This makes it possible for you to ask Siri to send a message to a colleague or to order goods for you on Amazon, or you can ask your thermostat from Nest to turn down the heat in the room or turn on the alarm system in selected parts of your house. That is, of course, if you need it, with the recent developments in artificial intelligence and machine learning, the different bots in our surroundings will know who you are, if you want the alarm off or on and what temperature you like in which parts of the house at different times of the day.

The same kinds of developments are taking place with production processes that allow companies to reduce their footprints. Think about how 3D printing has quickly enabled companies to produce in ways that significantly reduce excess materials from manufacturing, since more and more products are 3D printed “from scratch”, rather than carved out of a piece of metal, wood or other materials. In addition, this allows for printing on demand, which makes it unnecessary to keep large inventories of products that can be printed when needed. Similarly, virtual reality and augmented reality technologies are allowing health care providers to treat stroke patients in rehabilitation through Virtual Reality (VR) where they reside, thus eliminating the need for comprehensive transportation services of those patients to and from health care facilities. The list of such solutions that allow for product and service delivery of high quality, but with very significant reduction of footprints, is growing steadily.

These technological changes are occurring at record speed, and consequently current business models must change rapidly (Teece 2010). Had we written this book a few years ago, for instance, we had not been familiar with Tesla’s new strategy. The company’s new cars will have an app that allows car rental by neighbors or others without the car owner being involved. Allegedly, the new Tesla cars already have hardware to enable self-driving functionality when legislation allows the implementation thereof. Both Google and Apple are expected to produce such cars in the not too distant future. These cars are almost like rolling smartphones, and given that we will continue to buy our own cars, we will likely not pay much in advance. Instead, we will pay per kilometer and perhaps for

different services we access while being driven around by our cars. In this way, we can reduce the “structural waste” that surrounds us everywhere; that is, the overcapacity in all the things we already possess (e.g., Morlet et al. 2016). Why build new cars, when most existing cars stand idle most of the day (and have available seating most of the time while they are in motion)? By simple app-based sharing models, we can instead exploit the capacity of the cars we already have. The same is true for office space, agricultural equipment like tractors, slalom skis and drills in our houses and so on.

These radical technological changes, which can help mitigate the sustainability problem, imply that the fourth industrial revolution is already ongoing (Schwab 2016). This concept refers to the almost all-encompassing transformation characterized by new technologies like artificial intelligence, robotics, the IoT, 3D printing and advanced materials. It further comprises the emergence of autonomous vehicles, new forms of energy, genetic engineering, nanotechnology and drones (see, e.g., Kelly 2016). In parallel with these technological developments, online solutions and platforms that bring together suppliers and demanders of goods, services and social capital also challenge traditional business model (Choudary et al. 2016). Moreover, new sharing-economic and circular-economic business models are deviating from conventional business thinking (see, e.g., Botsman and Rogers 2010; McDonough and Braungart 2010). Overall, these trends point toward a comprehensive transformation of current business models that imply new ways of producing, transporting, consuming and reusing materials, components and products (e.g., Bocken et al. 2014; Boons and Lüdeke-Freund 2013; Jørgensen and Pedersen 2015). These smarter business models will enable more efficient resource use and customization of products and services in a way that can improve the offering to customers while reducing the footprint thereof.

In this book, we investigate such developments in business models. We shed light on changes that have already taken place, we illuminate business model innovations that are ongoing at the time of writing and we even attempt to “look into the crystal ball”. Thereby, we offer some indications of what the business models of the future might look like if we take the three developments outlined above and their implications into account.

2.2 A Brief Introduction to the RESTART Framework for Sustainable Business Model Innovation

In Part II of the book, we will dig deeper into the RESTART framework. Briefly put, RESTART is an acronym of seven letters that correspond with seven features of more sustainable business models. They can meaningfully be categorized into three groups of features (“RE”, “STA” and “RT”, respectively), and the framework was designed with these three in mind.

The first category, “RE”—*redesign* and *experimentation*—relates to the development that companies are increasingly faced with the need to redesign their business models (see, e.g., Johnson et al. 2008), which in turn necessitates controlled experimentation (Andries et al. 2013; McGrath 2010). The second category, “STA”—*service-logic*, *the circular economy* and *alliances*—reflects three central developments in contemporary business modeling for sustainability: the emphasis on services rather than products (or functionality rather than ownership; cf. Bocken et al. 2014), on circular business models rather than linear ones (see, e.g., Bocken et al. 2016; Linder and Williander 2017) and on alliances and collaboration rather than single companies competing in isolation (e.g., Kiron et al. 2015). The third category, “RT”—*results* and *three-dimensionality*—relates to the governance and control challenges associated with implementing a sustainable business model, which are crucial for its success (e.g., Eccles et al. 2014; Perrini and Tencati 2006).

We contrast each of the seven features with their opposites, all of which are arguably characteristics of business-as-usual. In this way, the framework highlights seven main changes that can make business models smarter and more sustainable:

REDESIGN rather than standstill
 EXPERIMENTATION rather than turnaround
 SERVICE-LOGIC rather than product-logic
 THE CIRCULAR rather than the linear economy
 ALLIANCES rather than solo-runs
 RESULTS rather than indulgences
 THREE-DIMENSIONALITY rather than one-dimensionality

Based on these seven characteristics, we will argue throughout the book that the business models of the future are likely, in systematic ways, to look very different from the business models of the past. Specifically, we suggest the following propositions about the business models of the future:

...they will require frequent REDESIGN,
...which necessitates controlled EXPERIMENTATION.
...and be characterized by SERVICE-LOGIC
...based on ideas from THE CIRCULAR economy.
...which will make ALLIANCES even more important,
...in order to achieve the right RESULTS
...in a world where the scorecard is THREE-DIMENSIONAL.

More and more companies are trying to make the world more sustainable. But not only that: they are trying to make money while doing so. If companies embrace these opportunities and take on this responsibility, we might be able to achieve the so-called green growth: economic growth while reducing the use of resources and thus the emissions that contribute to a worsening climate (e.g., Ekins 2002; Popp 2012). There will arguably still be a need for solutions that go beyond what companies can achieve on their own since not all problems can be solved in a manner that is consistent with profitability and some problems arguably need regulation and other solutions. The opportunity space for solutions by companies is still immense, but it is not going to be a walk in the park. It will require major transformation of corporate activities, and hence our way of life—as customers, employees and contributors to the economic engine. We need smarter manufacturing, logistics and transport, packaging, consumption and reuse. We argue that this requires a RESTART.

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