The man who will use his skill and constructive imagination to see how much he can give for a dollar, instead of how little he can give for a dollar, is bound to succeed.

Henry Ford

Chapter Objectives
1. To understand the development of convergence as a concept and its interconnection with earlier business activities
2. To understand the complexity of business model concept
3. To understand that business models in modern businesses presume convergence of technology, stakeholders and value creation
4. To be able to create an appropriate business model for a convergence-based company

2.1 Introduction: A Morning with Convergence

On a fine spring morning a runner is preparing for a work-out. He still munches his energy bar as he steps out of the door; the sky is almost cloudless and his running path brings him high up to the hills. Now and then he is checking his progress on his watch. It’s a fairly complex device, which shows altitude, a runner’s position, speed, heart rate and what not; oh, and it looks stylish enough.

Now it’s time for a rest and early morning news, so our runner stops and switches his smartphone from playing music on his Spotify playlist to FM-radio mode. In the wide world everything is as it used to be, but here, high above the small city the...
scenery is so beautiful and serene that our runner cannot help taking a picture. With his smartphone, of course. Then a squirrel’s antics catch his eye, so for a minute or two the phone’s camera is switched to video mode.

His morning tour complete, refreshed and energised, the runner is on the way home.

Suddenly he recalls that he has run out of orange juice. Luckily, a small petrol station is just behind the corner; our hero steps in and quickly picks up a carton of fortified juice. The small shop is full of people, majority of them buying fresh rolls and pastry for breakfast; to kill time while waiting in line the runner plays with his smartphone again. This time he is in the mind for newspapers...

Now, let us for a moment forget about the runner and discuss the previous paragraph. It demonstrated several examples of convergence, including convergence of industries and convergence of devices/products. Moreover, in our examples we could see convergence of both media and non-media related issues.

2.1.1 Convergence of Device or Product

Examples of convergence products (or convergence devices) are quite numerous; you can easily identify them in the description above: it is, of course, a smartphone which combines the functions of mobile telephone with the possibility to take photo and video pictures, listen to FM-radio and access the Internet. If proper apps are installed, it becomes possible to use Spotify or read newspapers online. In other words, a convergence product, as a smartphone, is “a digital-platform product bundle that physically integrates two or more digital-platform technologies into a common product form.” (Han et al. 2009, p. 97)

Quite often convergence products also involve convergence of media. For example, an online newspaper can be quite different from its paper counterpart. First and foremost, it is often interactive. One click will bring you from the text of an article (which is quite similar to a paper version) to the comments, where you can interact with other readers (something which is quite impossible for the “old media”). Majority of online newspapers and magazines now incorporate video and audio clips, blogs and multimedia charts; most of them also provide apps to be accessed from smartphones and tablet PCs. Here we can also see convergence of content, as well as of media: news, sports, weather forecast, book reviews etc., and everything is (or can be) interactive.

However, convergence products do not necessarily presume convergence of media. Let us take as an example the sport watch from the runner’s story above. This is a digital device which incorporates a watch, a stop-watch, a GPS, a calorie-counter, a transmitter and receiver (e.g. for exchanging data with the heart-rate measuring device), a USB port, etc. Usually such watches are controlled by special software which should be downloaded to your PC and which provides an array of extra opportunities: from devising your favourite running tours to creating a workout programme (which is an example of content convergence).
2.1.2 Convergence of Industry

So, the characteristic feature of convergence products like those described above is incorporating several devices in one. Often enough all these constituent devices are products of the same (digital) industry; yet at times they come from industries as different as TV production, software engineering and newspaper printing, as in case of online newspapers, and then we can speak of industry convergence. According to Bröring et al. (2006, p. 487), “industry convergence, defined as a ‘blurring’ of boundaries between industries, induced by converging value propositions, technologies and markets...lead to the emergence of inter-industry segments.” Although industry convergence has been mostly studied in the fields of computing, communication and consumer electronics (Wirtz 2001; Chon et al. 2003), convergent industries and products they produce are much more numerous. Prahalad (1998) mentioned the emergence of personal care products, such as body lotions, and the so-called “cosmeceuticals”. These products appeared as results of convergence with the pharmaceutical industry, when manufactures of personal care products emulated technologies and industry norms of pharmaceutical industry.

Also a new segment, the so-called nutraceuticals and functional foods are results of convergence between the food industry and pharmaceuticals. Manufacturers in the emergent convergence sector would apply similar (or the same) technologies, similar regulatory requirements and even pharmaceutical-style clinical trials.

Figure 2.1 can provide more examples of industry convergence.
2.2 Convergence: Back to the Future

Convergence is a fairly modern idea; however, its underlying principles may be 1,000 years old. Modern examples, such as nutraceuticals and functional food (energy bars and fortified orange juice), which provide additional nutrition and health benefits, are sophisticated products of convergence in two industries: pharmaceutical and food industry.

Still, foods do not necessarily have to undergo complicated technological process to become especially nutritious or to obtain medical properties. A carrot becomes rich of vitamin A and a lemon is rich of vitamin C without any additives and, as such, both are particularly beneficial for health.

Chinese diet therapy (which is at least 3,000 years old) has always considered nutritious and medical property of all food stuff; therefore Chinese nutritionists would recommend appropriate foods depending on the age (childhood, middle age or advanced age) and time of the year (as each season had its specific characteristics, foods were to offset their potential negative influence and bring a person in harmony with the nature) (Kastner 2009).

Convergence products, even though they are a fairly recent phenomenon, have a clear predecessor in business strategy called product bundling. According to Bakos and Brynjolfsson (1999, 2000), bundling is especially efficient for digital “information goods,” like software, which also have close to zero marginal cost. When you buy Microsoft Office software package, you buy a product bundle of a word processor, a spreadsheet, a database, a presentation software, etc. Similarly, Windows operative system is a bundle of an operative system proper and a web browser.

Yet product bundling occurs not only in software industry. This strategy is common whenever manufacturer can exploit economies of scale and scope, with low marginal costs of bundling and high costs of production set-up. Here come more examples familiar to everybody: cable TV providers, which bundle different channels into a package or travel agencies, such as ClubMed, with all-inclusive holiday packages which bundle travel, airport transfer, accommodation, food, drinks and entertainment.

Since we have already mentioned industry convergence, let us point out that it is not entirely novel either. Although not as old as Chinese philosophy and diet therapy, business activities similar to industry convergence were in use since about a century ago. Henry Ford’s strategy would provide a striking example.

Henry Ford is by right considered one of the fathers of modern automobile industry. According to King (2008), in October 1908 Ford announced his intention to “build a car for the great multitude.” At the same time the Ford Motor Company started manufacturing its first mass-produced automobile called the Model T, which revolutionised transportation and much of the American industry.

Fifty years prior to Ingvar Kamprad and IKEA, Henry Ford had shipped his cars disassembled, in kits, to be assembled on regional sites in large cities. Later on Ford had innovated the manufacturing and started shipping complete cars; yet
convergent thinking stayed on his mind and in his business philosophy (or became part of his business model, as we would say today).

Ford sold his cars through an extensive franchise system, and a dealership existed all over North America and in major cities all over the world. Customers who could not afford the price of the car could take a loan from the business’s financial division, which Ford had created to cater for such needs (King 2008).

### 2.3 Convergence Today: New Technologies, New Thinking, New Business Models

And yet, even if processes similar to convergence, like product bundling, are not especially novel (or, sometimes, are really ancient practices), it would be rash to assume that modern convergence is entirely similar to the predecessors. In fact, it is quite different. Convergence products are more complex and sophisticated than product bundles. Compare, for example, a sport watch described in the Introduction section with a Microsoft Office package, even though both are, in a way, digital products. In a similar way, we cannot really compare a bundle of TV channels from a cable TV provider with such a complex product as an online newspaper, which is a result of sophisticated technology (e.g. software engineering and computer TV) and complex interactive content.

In other words, what makes industry or product convergence so different from previously existing phenomena is entirely new thinking. Convergence industries and convergence products are not mere results of radically novel technologies; most importantly, they support innovative business models. 3D printing would be an ultimate convergence example, because it does not just bring together several industries (i.e. design and manufacturing, while radically transforming the latter), but it also incorporates consumers into the very process of manufacturing, turning them into “prosumers.”

Product bundling offers another example. As we already mentioned, bundling is most beneficial for high volume and high margin products, especially when demand is heterogeneous. In this case, the manufacturer does not have to be especially customer-oriented; in fact, a bundle of products with inferior quality can drive off the market a bundle of superior quality products (Bakos and Brynjolfsson 1999, 2000). In oligopolistic and monopolistic markets, where bargaining power is shifted towards manufacturer, bundling can become an abuse of market power, due to the limited choices available to consumers.

On the contrary, convergence products are often customer-centric and presume integration of several technologies. As such, they are products of entirely different business models, which are based on value creation not only for the focal firm, but for all its stakeholders (i.e. suppliers, partners and customers). Such business models often incorporate innovative technologies, but for them technological innovation is no longer the core; rather, all business model components can become innovative (Amit and Zott 2001).
2.4 Business Models: Convergence of Technology, Stakeholders and Value Creation

So, to begin from the beginning—what is a business model? According to Henry Chesbrough and Richard Rosenbloom, a business model performs the following functions:

- "Articulates the value proposition (i.e. the value created for users by an offering base on technology)
- Identifies a market segment and specifies the revenue generation mechanism (i.e. users to whom technology is useful and for what purpose)
- Defines the structure of value chain required to create and distribute the offering and complementary assets, needed to support position in the chain
- Details the revenue mechanism(s) by which the firm will be paid for the offering
- Estimates the cost structure and profit potential (given value proposition and value chain structure)
- Describes the position of the firm within the value network linking suppliers and customers (incl. identifying potential complementors and competitors)
- Formulates the competitive strategy by which the innovating firm will gain and hold advantage over rivals." (Chesbrough and Rosenbloom 2002, p. 529)

So far, so good; yet other research of business model would provide quite different definitions. This is unfortunate, because business model is a concept highly relevant for practitioners; let us now find out what is going on in the research field of business model and why this concept seems to a certain extent under-researched.

2.4.1 Business Model: Research Overview

The most comprehensive literature review on business models has been very recently published by Zott et al. (2011). The authors arrived to the conclusion that the study field, despite being in existence for about 20 years is still quite dispersed. The number of research papers in peer-reviewed (especially high-ranking) journals is still insufficient to create an ample body of research and enable theoretical integration and conceptualisation of the field, although practitioner-oriented publications target a broad array of sectors, technological innovation and management taking a prominent place.

Another factor which makes theoretical conceptualisation of the field more difficult is disjointed empirical contexts of studies. Indeed, the biggest part of the extant literature on business models examines the field of e-commerce, other industries and business sectors being somewhat neglected.

The third factor which categorises business models as a research field still in emergence is the absence of a clear, universally accepted definition. According to Zott et al. (2011), more than one-third of the articles the authors surveyed did not provide any explicit definition of the concept and quite often, while referring to business model, different authors actually mean different concepts. In other words,
“the business model has been referred to as a statement (Steward and Zhao 2000), a description (Applegate 2000; Weill and Vitale 2001), a representation (Morris et al. 2005; Shafer et al. 2005), an architecture (Dubosson-Torbay et al. 2002; Timmers 1998), a conceptual tool or model (George and Bock 2011; Osterwalder 2004), a structural template (Amit and Zott 2001), a method (Afuah and Tucci 2001), a framework (Afuah 2004), a pattern (Brousseau and Penard 2006) and a set (Seelos and Mair 2007)” (in Zott et al. 2011, p. 1022).

All these issues point out that the field requires (a) growing body of research which would investigate the concept of business model across a variety of empirical contexts (and not only within e-business) filling in multiple research gaps; (b) conceptual consolidation and theory-building growing from the cumulative body of research and (c) methodological rigour, including operationalization of the concept.

2.4.2 Business Model Research: Conceptualising the Field

Business model studies can benefit from collaboration with other disciplines. Indeed, business model is a complex phenomenon, a dynamic combination of activities and agents, which is systemic by nature (Zott et al. 2011; Afuah and Tucci 2001). As it concerns not just the focal firm, but its boundary-spanning activities and numerous stakeholders, theoretical conceptualisation of the field might benefit from the following contributions, to name just a few (a) stakeholder theory, institutional theory and network theory, which would highlight the relationship component of the business model phenomenon; (b) transaction costs theory and Michael Porter’s concept of Five Forces, which shed light on the strategy aspects of business model concept and, finally, an overall paradigm of grounded theory could be successfully employed to investigate this complex, holistic and emergent phenomenon. Morris et al. (2005) provide similar arguments, as they conceptualise business models’ study through contributions from strategy [e.g. the value chain, value systems and strategic positioning concepts (Porter 1985, 1996); resource-based theory and competitive advantage (Barney et al. 2001), strategic network theory (Jarillo 1995), etc.

Another interesting example is found in the literature on business planning and entrepreneurship (cf. Ardichvili et al. 2003; Brush et al. 2001; Shane and Delmar 2004). Studies within the business planning literature treat the concept of business model in different way, even though they acknowledge (implicitly or explicitly) the interrelation between business planning and creation of business models. For example, Shane and Delmar (2004) pose that a business plan outlines the new venture’s business model; a business model which “makes sense” is an antecedent to successful business planning. Sahlman (1997) implicitly regards business model as a revenue model and a possibility for an entrepreneur to introduce key financial milestones for a business plan. Schwarz et al. (2007) also provide a practitioner-oriented discussion of business model as a part of a venture creation process. Finally, Ardichvili et al. (2003) introduce an all-encompassing approach to business
planning and business modelling; according to these authors, business model development is an antecedent to development of a business plan. Most importantly, the researchers view a business model as a holistic concept, which includes a financial model, and, most importantly, which estimates how the value will be created and distributed among a firm’s stakeholders. In turn, a business plan emerges when a business model is supplemented by more elaborate and formal means of analysis and forecast, such as, e.g. formal cash flows and marketing plans.

It is possible to conclude that although business planning and creation of business models are two closely interrelated and partially overlapping processes within new venture creation, they are, nonetheless, distinct from each other.

### 2.4.3 Business Model Components

Although empirically oriented papers describe components of business models, majority of papers still lack theoretical conceptualisation and analysis of these components. Papers remain to a large extent almost purely descriptive, especially as far as e-business is concerned. Moreover, analysis of business models’ components in other sectors is to a large extent lacking.

Unfortunately, business model studies also demonstrate little agreement as far as the number (and nature) of the business model components is concerned. According to a literature review provided by Morris et al. (2005), the number of business model components in different studies varies from four to eight; among the most frequently cited elements are the firm’s value offering, economic model, customer interface/relationship, partner network/roles, internal infrastructure/connected activities and target markets (Morris et al. 2005, p. 727). Surprisingly, sustainability as a business model component is only mentioned once, by Afuah and Tucci (2001). Yet a number of practitioner-oriented papers (cf. Nidumolu et al. 2009) regard sustainability as a key driver of innovation, both when innovative technologies and innovative business models are concerned. Table 2.1 provides an overview of business model components, compiled by Morris et al. (2005).

One of the best known and most widely used operationalizations of business models is provided by Amit and Zott in their paper of 2001. The researchers regard business model as an important locus of innovation and a crucial source of value creation not only for the focal firm but also for all its stakeholders, i.e. customers, suppliers and partners. The authors suggest that a business model incorporates four major sources of value creation: efficiency, complementarities, lock-in and novelty.

Efficiency implies that the cost of each transaction (broadly defined) decreases, i.e. the higher the efficiency of a business, the lower its costs and the greater its value. Efficiency includes: search costs, selection range, symmetric information, simplicity, speed, economies of scale, etc. (Amit and Zott 2001, p. 504).

Complementarities mean that goods (or services) bundled together provide additional value compared to the total value of each of goods taken separately. Examples of complementarities would include after-sales services or one-stop shopping or cameras in mobile phones; in other words, these are also examples of
product or industry convergence. Complementarities are found: between products and services for customers; between on-line and off-line assets; between technologies; between activities, etc. (Amit and Zott 2001, p. 504).

Lock-in is a way to enhance a business’s value-creating potential by attracting customers to repeated transactions and by motivating partners to maintain and improve their co-operation. By increasing switching costs lock-in prevents customers and partners from migrating to competitors. Examples of lock-in activities are loyalty programmes, use of dominant design, trust, customisation, use of positive network externalities, etc. (Amit and Zott 2001, p. 504).

Finally, innovation is understood as Schumpeterian innovation, i.e. introduction of new products, services, methods of production, creation of new markets as well as innovative ways to conduct business; in other words, by pursuing innovative methods of transactions or creating innovative business models. Figure 2.2
demonstrates the interconnection between the four sources of value creation in a business model and also describes the ways by which each of them can be achieved.

2.5 Convergence: Which Business Model?

So, how can a convergence firm willing to implement an innovative business model find its way in the jungle of business model research? Which definition to follow? Which issues to consider? The present section will provide at least tentative answers.

2.5.1 The Tale of Two Models: Complementarity vs. Lock-in

Is Apple’s business model viable? Since the company is considered an innovation paragon, the first intuitive answer is very likely to be affirmative, yet let us consider a segment traditionally regarded as Apple’s core competence, namely, personal computers.

The company’s margin is about 30 %, which bodes well for performance; however, if we consider a market share, another important criterion for performance evaluation, the picture all of a sudden turns to the reverse. In 1999 Apple’s worldwide market share in personal computers was about 4 %; in 2006 it dropped down to 2 % and by the end of 2010 it rose again to slightly above 5 %.

However, there is a market where Apple performance just falls short of fantastic. This is a digital music market, where Apple in 2003 introduced a new product—iPod, a radically new service—iTunes . . . and a ground-breaking business model,
which combined the hardware, the software and service, making digital music downloads simple, easy... and legal. This kind of innovation yielded immediate and striking results: in just 3 years since its launch the combination came to account for about 50% of Apple’s revenue; in early 2011 iPod accounted for more than 70% of the market share within digital music player segment.

So, where lays the difference between immense success in one case and years of fruitless struggle—in the other? To make the matter even more complicated, let us bear in mind the fact that in both cases the company has employed an innovative, state-of-the-art technology. The answer is, however, quite unambiguous and spells out business model. Let us consider personal computers first. Even though Apple keeps pursuing technological innovation, which makes a component of the company’s business model, in general, the business model can be considered quite outdated. By linking hardware and software together, it narrows down consumers’ choice and requires them to keep paying Apple for the annual software updates, otherwise computer performance will suffer. Such a model was en vogue in the very beginning of personal computers’ era; nowadays no other software developer or hardware manufacturer uses it any longer. This model provides relatively high profit margins but discourages consumers and severely decreases sales volumes (and hence, market share). However, the model is well in line with the niche market strategy; yet it can be hardly recommended for mass market.

In the case of digital music players, the situation is exactly the opposite. Apple was able to unite innovative technology, as a component of its business model with innovative service, which provided added value for several important stakeholders. First, by creating a large and growing digital music archive and corresponding software (iTunes) Apple gave consumers a one-click possibility to download digital music, films, podcasts and Apps immediately transferrable to their iPods and iPhones as well as to other smartphones, mp3-players or PCs. Second, Apple created a new market segment for the artists and film-makers; as a result, this ground-breaking business model quickly became immensely successful and high market share and revenues followed suit.

So, what conclusions can we derive from the example above? First, that Apple, apparently, employs several business models, with different leading components, and that the same company treats convergence differently in different segments of its product range.

In its core segment—personal computers—Apple apparently leans on lock-in as the leading component of its business model. As was mentioned, such a business model would yield high profit margin, yet it is detrimental if a company strives for increased market share.

As far as the digital music player segment is concerned, Apple employs a radically different business model, with complementarity as the leading principle and a host of convergence products as a result.

Convergence in media would provide similar examples. Let us consider Huffington Post, an online newspaper with the headquarters in the USA and global aspirations, its story being vividly related by *The Economist*. The newspaper demonstrates convergence of media as well as convergence of concept: it
incorporates several different thematic sites (from the environment to weddings) and plans to add an online TV station, with possibilities to continuous studio chat. The newspaper’s business model evidently has complementarity as the leading principle, as it prompts the readers to contribute with blog posts (and viewer contributions). Convergence/complementarity principle can be clearly seen, when the newspaper collaborates with the French Le Monde, two Italian newspapers—La Repubblica and L’Espresso and a Spanish one—El Pais. Huffington Post contributes with the social media know-how and other newspapers provide access to their readers. And what are the results of the implementation of this business model? Explosive growth and profitability which are quite unlike the newspaper’s three main rivals online: the Mail, the Guardian and the New York Times.

2.5.2 Conclusion: A Word of Advice

So, a word of advice for a company engaged in any kind of convergence: mind your business model. Moreover, as we have seen from the examples, complementarity as the leading business model component paves the road to growth and profitability; complementarity here is understood quite broadly, as involvement of customers and other stakeholders.

In Amit and Zott’s (2001) model complementarity goes hand-in-hand with novelty or innovation. This would mean not only new technologies and new products, but most importantly, new transaction structures, new transaction contents and new participants (customers and other stakeholders). This is a revolutionary approach, as it permits firms to innovate regardless of their technology status; for example, it opens a road to innovation to service companies, and not necessarily to e-businesses only.

Complementarity and convergence eventually bring strange bedfellows to a firm, yet in the long run this experimentation may turn quite profitable. For example, Choi and Perez (2007) would suggest none the less than teaming up with online pirates. Although quite unorthodox, this advice makes good sense: first, online pirates are usually pioneers of new technology, such as file-sharing/file-transfer. Second, pirate communities, which mostly consist of early adopters, can become a valuable source of emergent market trends and other market insights. Third, online pirates are, in fact, active market creators, as they migrate from illegal use of copyrighted material to legitimate business (e.g. becoming users of legal Napster or iTunes). And, finally, the online piracy has motivated incumbent firms (albeit quite unwillingly) to creation of new business models. For example, online piracy spurred record labels to adopt Internet technology, create richer websites and engage in electronic distribution modes.

Now, a final word of advice comes from Henry Chesbrough, one of the most prominent business model researchers. According to him (Chesbrough 2010), companies should not be shy of experimenting with their business models. A necessary thing in this process is to differentiate “failures” from “mistakes”;

whereas “failures” are natural outcomes of experimentation which provide valuable learning insights, “mistakes” are poorly designed experiments which provide no learning.

Self-assessment Questions

1. What is a smartphone described in the Introduction section: a bundle of products or a convergence device?
2. Please provide own example(s) of functional foods and cosmeceuticals.
3. What makes 3D printing an ultimate convergence example?
4. Are convergence products manufacturer-centric or customer-centric?
5. What is the relationship (if any) between a business model and the revenue mechanism by which a company is paid for its offering?
6. Why are there so many different definitions of a business model concept?
7. What does efficiency mean in Amit and Zott’s (2001) model?
8. Would you see lock-in as an appropriate source of revenue for a convergence company? Why/why not?
9. How can legitimate firms learn from online pirates?

Food for Thought

1. How do you interpret Henry Ford’s words in the beginning of this chapter?
2. Why do some practitioners believe that technological innovation is no longer the core of innovative business models? In which industry (or industries) is this situation possible? Does his reasoning hold for a high-tech company in a convergence industry?
3. Why does Apple hold 5% of the world’s PC market and 70% of the digital music player market?
4. Does Spotify have a future? Can you foresee potential development of its business model?

References


Media and Convergence Management
Diehl, S.; Karmasin, M. (Eds.)
2013, XXV, 376 p., Hardcover
ISBN: 978-3-642-36162-3